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scarcity-induced temporal discounting“

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Statement of cooperation

This master's thesis is my own scientific work. Many of the scientific constructs are shared in the master's thesis of Dejan Tatić. In agreement with our supervisor and the Faculty of Psychology, we worked together in planning our research and gathering the data. We used the same dataset for different hypotheses. The analyses, interpretation of the data, and the composition of this thesis is my own, individual work.

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Abstract

People living in monetary scarcity show an increased focus on financial short-term improvements and tend to neglect their long-term financial situation. This causes forms of decision making that reinforce poverty in the long run. This thesis investigates psychological distance as a method to overcome this downward spiral. Through increased psychological distance to one's financial situation, a more abstract mindset and a focus on long-term improvements should be evoked. To investigate that assumption, two studies were conducted. Study 1 tested the efficacy of a monetary scarcity manipulation. This manipulation did not have a significant effect on the participant's profit orientation or their subjective monetary scarcity. Therefore, Study 2 used an improved version of that scarcity-manipulation, also manipulated the participant's psychological distance to their financial situation and tested the effects on the participant's discounting rates of future rewards. The improved scarcity manipulation increased the participant's subjective scarcity but did not lead to higher discounting of future rewards. The results also did not show an effect of increased psychological distance on the participant's discounting of future rewards. The psychological context of monetary scarcity was essential to the main research question, i.e., the investigation of the effect of psychological distance on scarcity-induced discounting of future rewards. Since it remained unclear if the scarcity-manipulation successfully created that context, the main research question could not be answered with the implemented test design. The findings' implications and suggestions for future research are discussed.

Keywords: monetary scarcity, psychological distance, temporal discounting, Construal Level Theory, financial decision making, poverty

Introduction

People living in poverty show tendencies for counterproductive behavior, which in the long run leads to financial losses and reinforcement of poverty. In particular, poor people tend to borrow money in form of payday loans (Bair, 2005; Skiba, & Tobacman, 2007; Stegman, 2007), often play lotteries (Barlock, Just, & Simon, 2007; Haisley, Mostafa, & Loewenstein, 2008) or, due to too lack of financial slack (Mullainathan & Shafir, 2013), fail to pay their bills on time, which results in additional fees (Edin & Lein, 1997). These behaviors have one thing in common: They indicate neglect of one's future financial situation for the sake of today's financial situation. In other words: Because of a strong focus on short-term expenses and improvements, poor people are less likely to weigh in long-term consequences of their financial actions (Mullainathan & Shafir, 2013). Therefore, living in poverty can create a feedback-loop, since it causes people to neglect their own financial future which further aggravates their monetary situation.

The thesis at hand investigates psychological distance as a method to overcome the downward spiral created by poverty by shifting focus to long-term financial improvements. Increasing psychological distance, which indicates the removal of a person from oneself in the current moment through temporal, spatial, social or hypothetical distance (Fukuhara, Ferguson, & Fujita, 2013; Trope & Liberman, 2000; Trope & Liberman, 2003), should trigger more abstract representations of one's financial situation and make people focus on their long-term goals.

Monetary scarcity

Living in economic poverty can entail a lot of fatal circumstances and outcomes, like having poor access to health care, living in squalor, being exposed to violence and crime, dying early and raising children who face similar prospects (Haushofer & Fehr, 2014). But the core feature of economic poverty is monetary scarcity, which occurs when one's financial resources are low in relation to one's needs (Shah, Shafir, & Mullainathan, 2015).

Consequently, a scarcity mind-set emerges, which leads to neglect of one's long-term financial situation and changes how one makes financial decisions (Mani, Mullainathan, Shafir, & Zhao, 2013; Mullainathan & Shafir, 2013; Shah, Mullainathan, & Shafir, 2012, Shah et al., 2015; Spears, 2011). One indicator of this short-term focus and decision making is temporal discounting, which occurs when people devalue a good or a reward for receiving it later, as opposed to an earlier time (Frederick, Loewenstein, & O'donoghue, 2002). Indeed, studies have shown that poverty is positively correlated with temporal discounting (Pender, 1996; Lawrance, 1991; Yesuf & Bluffstone, 2008).

In previous research, two different approaches, that might be complimentary, were taken to explain this shift of focus and behavior: The first approach is putting emphasis on cognitive load, which is caused by monetary scarcity (Mani et al., 2013), and the second approach is to investigate the influence of negative affective states on financial behavior (Haushofer & Fehr, 2014). Both these theories explain diminished behavioral control and short-sighted decision making.

Influence of scarcity on cognitive load and financial behavior. In our daily lives we have to deal with a lot of reoccurring expenses, like paying for housing, food, clothing, transport, and other needs. To people possessing enough monetary resources to cover these expenses easily, they do not pose a threat, rarely require attention (Shah et al., 2012) and are easily dealt with. For people living in monetary scarcity on the other hand, the lack of available resources makes these expenses appear larger and more pressing (Shah et al., 2012). Satisfaction of these needs can force them to manage sporadic income, juggle expenses, and make difficult tradeoffs (Mani et al., 2013). This constant engagement consumes a lot of attention by drawing people's focus (Shah et al., 2012). Since our cognitive resources are limited (Baddely & Hitch, 1974; Luck & Vogel, 1997), this means that living in monetary scarcity creates permanent cognitive load (Mani et al., 2013; Spears, 2011). In turn, less cognitive resources are left for other tasks and especially long-term problems, which are

therefore often neglected (Mani et al., 2013; Mullainathan & Shafir, 2013; Shah et al., 2012). A study investigating the effect of non-monetary forms of scarcity on decisions and borrowing behavior also showed support of this theory (Shah et al., 2012). In that study, participants with a scarce amount of resources like the number of allowed guesses, time, or attempts in a game, showed the same kind of behavior as people living in monetary scarcity. More precisely, they were more engaged with the games, showed neglect of future game rounds, and borrowed resources from future game rounds (Shah et al., 2012). This behavior indicates that participants with scarce resources have a high short-term focus, overvalue the present, and therefore show temporal discounting.

Influence of scarcity on negative affect and temporal discounting. Poverty and affect are closely linked to each other. Among others, various randomized field experiments showed that reductions in poverty had a positive effect on happiness and life satisfaction (Haushofer & Shapiro, 2013), and helped reducing stress (Baird, De Hoop, & Özler, 2013; Haushofer & Shapiro, 2013) and depression (Ssewamala, Neilands, Waldfogel, & Ismayilova, 2012; Ozer, Fernald, Weber, Flynn, & VanderWeele, 2011). On the other hand, increases in poverty through negative income shocks, increase stress (Chemin, de Laat, & Haushofer, 2013) and reduce family mental well-being (Mendolia, 2013). These findings suggest links between poverty, psychological well-being, and stress levels (Haushofer & Fehr, 2014).

As previous research showed, negative affect and stress lead to an increase of temporal discounting (Haushofer & Fehr, 2014). In one study, participants who viewed sad film clips showed higher levels of temporal discounting than participants who viewed disgusting or neutral film clips (Lerner, Li, & Weber, 2013), while in another study, participants who saw film clips, that were meant to induce positive affect, showed less temporal discounting than participants who saw neutral film clips (Ifcher & Zarghamee, 2011). Other studies also found that elevated stress levels increase participant's temporal discounting (Cornelisse, Van Ast, Haushofer, Seinsträ, & Joels, 2013). These findings suggest an influence of negative affect

and stress on financial decisions under monetary scarcity. In particular, this influence is an increased focus on short-term improvements.

Although there is no research examining the interaction between cognitive load and negative affect, it seems reasonable to assume that they both have their share in effecting financial behavior under monetary scarcity.

Psychological distance

One way to overcome the short-term focus created by scarcity could be an enhancement of psychological distance to a given problem. According to Construal Level Theory (CLT; (Trope & Liberman, 2000; Trope & Liberman, 2003; Trope & Liberman, 2010; Trope, Liberman, & Wakslak, 2007), the psychological distance to events determines whether people use concrete, low-level construals, or abstract, high-level construals to represent these events. Low-level construals, which are used to represent near events, are relatively unstructured and contextualized and include more subordinate and incidental features. In contrast, high-level construals, which are used to represent distant events, are schematic and decontextualized and contain the gist or core information of a given event (Trope et al., 2007). Therefore, as the psychological distance to an event, object, person or problem grows, we construe and represent them by their abstract and essential features (Trope & Liberman, 2003) and weigh their essential features higher (Trope & Liberman, 2000). Psychological distance can be increased by removing oneself from the current moment and situation. This removal can take place in multiple dimensions, such as temporal, spatial, social, and hypothetical distance (Bar-Anan, Liberman, Trope, & Algom, 2007; Fukuhara et al., 2013). For example, we represent our own, actual, and present financial problems by low-level construals, while somebody else's, hypothetical, and future financial problem would be represented by high-level construals because of its higher social, hypothetical, and temporal distance to us.

Psychological distance and cognitive load. Other studies indicate a possible reduction of cognitive load through an increase of psychological distance, which possibly

enhances financial long-term focus. Representing and recalling information by its gist rather than its specifics has been shown to reduce confusion and interference between information (Brainerd & Reyna, 1993). Representing a problem by its essential features, i.e., its gist, helps to organize and process information more efficiently, for example in the context of information overload (Fukuhara et al., 2013). Information overload occurs when people are being presented with more information than they can process, which causes poorer decision making (e.g., Malhotra, 1982). It has been shown, that this overload can be reduced by increasing the psychological distance to the current problem, which makes the information easier to organize and comprehend (Fukuhara et al., 2013).

Possibly, a similar link could occur between cognitive load under scarcity and psychological distance. Since scarcity directs focus to short-term pressing needs, which are highly contextualized and concrete, it can be argued that scarcity leads to the representation of a situation by its low-level construals. By increasing the psychological distance to the current situation, high-level construals are triggered. These should help to organize available information better, and thus unleash cognitive resources. These newly available cognitive resources could be used to process long-term problems and to keep the goal of long-term financial improvement in mind.

Psychological distance and temporal discounting. When people are confronted with the choice between an immediately available and a delayed option, they perceive these options differently. For example, it is easy to imagine the consequences of receiving a sum of money right away, but the option of receiving the same amount of money in one year cannot be experienced directly. Thus, the delayed option is psychologically more distant and construed in high-level, abstract representations (Trope & Liberman, 2003). The option of receiving an amount of money in one year is also afflicted with uncertainty, since the further away in the future an event is, the harder it becomes to predict. It seems plausible that temporal discounting is a reaction to this uncertainty (Baron, 2000), since people generally

prefer definite options (Kahneman & Tversky, 1979). This means, that while delayed options are mentally represented at an abstract and uncertain level, immediate options are represented at a concrete and certain level, which makes it difficult for people to compare both options (Kim, Schnall, & White, 2103). In support of this theory, Kim et al. (2013) found that when the psychological distance to an immediate option is increased, it is hence construed on a similar level of abstraction as the delayed option. Therefore, temporal discounting rates decrease, since the two options can be compared more directly.

Other findings suggest that an abstract processing mindset, which was evoked in previous tasks, transfers to subsequent decisions and makes people construe options more abstract while simultaneously decreasing temporal discounting (Malkoc, Zauberman, & Bettman, 2010). Furthermore, high-level construals, in comparison to low-level construals, increase people's prospective self-control (Fujita & Roberts, 2010) and lead people to more self-controlled decisions by making it easier to associate temptations with negativity and thereby resisting them (Fujita & Han, 2009; Fujita, Trope, Liberman, & Levin-Sagi, 2006). High-level construals also lead people to make choices that serve their desired self, instead of the current self's needs (Rogers & Bazerman, 2008).

Overall, these results suggest that people can be primed to have an abstract processing mindset, which will transfer to subsequent decisions (Malkoc et al., 2010). Thus, psychological distance to their financial situation, increased through priming tasks, could lead people in scarcity to lower temporal discounting and higher long-term focus when it comes to financial decisions. The examination of these assumptions was the main goal of this thesis.

Hypotheses

This thesis aimed to contribute to research in the domain of monetary scarcity, as well as in the domain of psychological distance in two forms: On the one hand, it sought to establish an experimental monetary scarcity manipulation and, on the other, investigated the effect of psychological distance on scarcity-induced temporal discounting.

First, I want to point out that there has not been a single method for experimentally manipulating monetary scarcity. Previous research has used different methods to divide participants into low- and high-income groups. One previously used method was the division of participants by a median split in income (Mani et al., 2013; Shah et al., 2015). Another study assessed poverty by inquiring the amount of assets participants called their own and whether participants wore dirty and torn clothes or not as indicators of poverty (Spears, 2011). Other studies have conducted field-experiments using positive income shocks, i.e., a certain sum of money, which was handed to a part of the participants in order to investigate possible effects of the improved financial situation (Haushofer & Shapiro, 2013; Mani et al., 2013). Further, one study (Mani et al., 2013) implemented a within-subjects design, comparing the cognitive performances of Indian farmers pre- and post-harvest. The authors of that study showed that the participants faced greater financial pressure pre- as compared to post-harvest and experienced monetary scarcity (Mani et al., 2013). Other forms of scarcity were experimentally manipulated by limiting the participants' resources in games, for example by allowing half of the participants less guesses or shots (Shah et al., 2012). Since those methods did not seem suitable for studies that only have homogenous samples available, one of this thesis' goals was to establish an experimental manipulation of monetary scarcity. This manipulation should have put the participants into a mindset of living in monetary scarcity, which then should have also transferred to subsequent tasks.

One main interest was the manipulation's effect on financial decision making. In Study 1, financial decision making was operationalized as long- or short-term profit orientation. Previous research showed that monetary scarcity evoked a financial short-term focus (e.g., Mani, Mullainathan, Shafir, & Zhao, 2013; Mullainathan & Shafir, 2013; Shah, Mullainathan, & Shafir, 2012). Therefore, a shift to short-term profit orientation was expected when monetary scarcity was induced ($H1_a$). Because this operationalization was too vague, Study 2 used temporal discounting as its main dependent variable. Since monetary scarcity

leads to higher temporal discounting (Pender, 1996; Lawrance, 1991; Yesuf & Bluffstone, 2008), the manipulation required to have the same effect to be deemed effective ($H1_b$).

$H1_a$: Induced monetary scarcity increases short-term profit orientation.

$H1_b$: Induced monetary scarcity increases temporal discounting.

Three additional measurements were taken to gather more information about the manipulation's effectivity. The first of these was cognitive load. It has been shown that living in monetary scarcity increases cognitive load (Mani et al., 2013; Mullainathan & Shafir, 2013; Shah et al., 2012). Therefore, the manipulation was expected to have the same effect ($H1_c$). Since monetary scarcity is also closely associated to negative affect (e.g. Chemin, de Laat, & Haushofer, 2013; Haushofer & Shapiro, 2013; Mendolia, 2013), a negative effect of the manipulation on the participants' well-being was also expected ($H1_d$). The third measurement was the participant's self-reported subjective scarcity, which was expected to increase when participants were assigned to the "scarcity" condition ($H1_e$).

$H1_c$: Induced monetary scarcity decreases performance in a cognitive load task.

$H1_d$: Induced monetary scarcity decreases well-being.

$H1_e$: Induced monetary scarcity increases subjective scarcity.

Second, there is no research on the effect of psychological distance on financial decision making under monetary scarcity. Previous research showed, that increased psychological distance, accompanied by a higher construal level, decreases temporal discounting (Malkoc et al., 2010). This thesis aimed to replicate that finding ($H2_a$). This effect, however, has never been investigated in the context of monetary scarcity. Therefore, the main research question was, if increased psychological distance to one's financial

situation aligns the level of temporal discounting of people under scarcity to those not under scarcity ($H2_b$).

$H2_a$: Psychological distance decreases temporal discounting.

$H2_b$: Psychological distance decreases temporal discounting caused by monetary scarcity.

Pilot Study

As part of the seminar “Theorie und Empirie wissenschaftlichen Arbeitens 2” at the University of Vienna, a Pilot Study was conducted by Alexander Hoffmann, Dejan Tatić and myself, on which this thesis is based upon. The purpose of that study was to explore the effectiveness of a monetary scarcity manipulation and the effect of psychological distance on scarcity-induced cognitive load. The following sections will give a brief overview of the methods and results without going into detail.

Method

To target the issues mentioned above, we tried to induce monetary scarcity through a manipulation, then manipulated the participants’ psychological distance to their financial situation, and finally measured their cognitive load. To induce monetary scarcity, we adapted a manipulation from Kim, Callan, Gheorghiu, & Matthews (2017), which suggested a bogus social status to the participants. A detailed description of this manipulation is displayed in the method section of Study 1, which also describes the changes between the Pilot Study and Study 1. To increase or stabilize the participants’ psychological distance to their financial situation, an Essay Task was used. In that task, participants were asked to write about improving their financial status in either the future, or right away. This task is described in the method section of Study 2 in more detail. To measure the participant’ cognitive load, we

employed a computerized version of the “Serial Sevens Task” from Kennedy and Scholey (2000), which is outlined in the method section of Study 1.

Results and discussion

The statistical analysis (ANOVA) showed no significant main effect of scarcity on cognitive load. This indicated that the manipulation failed to induce monetary scarcity. However, we found a significant main effect of psychological distance on cognitive load. More specifically, participants in the condition of increased psychological distance, showed lower cognitive load. This finding was consistent with previous research, showing that an increased psychological distance to a given problem helps to process information more efficiently (Fukuhara et al., 2013). The analysis also found a significant interaction effect between scarcity and psychological distance on cognitive load. We concluded that the Essay Task could have had a diminishing effect on monetary scarcity, regardless of being assigned to the “scarcity” or the “no scarcity” condition. Writing an essay forced the participants to elaborate on their financial situation and try to solve possible connected problems, which by itself could have caused a relief in terms of monetary scarcity.

Overall, these results were inconclusive and demanded further research. Therefore, Study 1 was conducted to test the effect of the monetary scarcity manipulation without manipulating psychological distance. Some changes were made to improve the manipulation’s credibility and manipulation checks were added.

Study 1

Method

Design. To test the direct effect of an experimental monetary scarcity manipulation on profit orientation ($H1_a$), cognitive load ($H1_c$), well-being ($H1_d$), and subjective scarcity ($H1_e$) we used a 2 (scarcity vs. no scarcity) x 2 (task order) between-subjects design. Participants were randomly assigned to either the “scarcity” or the “no scarcity” condition. Subsequently, they completed two tasks in randomized order to assess their profit orientation and their level

of cognitive load.

Participants. In total, 62 students were recruited at the University of Vienna via the LABS-system and participated in exchange of course credit. The only disqualifier was participation in our Pilot Study. Five participants were excluded for either expressing suspicion about our manipulation (one participant), or scoring +3 SD or –1.5 SD from the median score in the cognitive load task (four participants). These cutoffs were chosen unsymmetrically because while we only wanted to exclude extreme outliers in terms of scoring well, a score of –1.5 SD from the median indicated that the participant had either not understood the instructions or did not commit to the task or the study as a whole. Consequently, participants scoring less than seven correct answers were excluded from the analysis. Although it can be assumed that most low-scoring participants did not understand the instructions correctly, we could not clearly differentiate those participants from others, who did not fully commit to the study. Hence, we excluded them from all analyses, even from those in which the variable cognitive load was not used. The final sample consisted of 57 participants (30 female, 27 male; $M_{age} = 21.53$, $SD_{age} = 3.30$). The sample was highly educated since all participants were psychology students. Therefore, 82.5% reported to have graduated from high school and 15.8% already had an academic degree. Further, 57.9% were non-working at that moment and the average net income was 727.32€ ($SD_{INC} = 316.04$ €).

Procedure and materials. After entering the laboratory, the participants were assigned to a computer and asked to read and fill out a consent form. Subsequently, they were told that the study's subject was financial behavior and that we intended to upgrade our database of the University's students and employee's financial situation. Subsequently they were asked to fill out a computerized survey.

Induction of monetary scarcity and measurement of natural scarcity and subjective scarcity. To manipulate monetary scarcity, we used a method which has been developed to trigger social comparisons by convincing people that they had either a lower or equal

discretionary income compared to other people with the same socioeconomic and demographic features (Kim et al., 2017). Previous studies have shown that this manipulation increased resentment, a sense of unfairness (Callan, Ellard, Shead, & Hodgins, 2008), and lower subjective social status (Brown-Iannuzzi, Lundberg, Kay, & Payne, 2015). Therefore, it should trigger a mindset of living in monetary scarcity compared to others. We adapted this manipulation from Kim et al. (2017).

This manipulation was conducted in form of a survey, which, as the participants were told, had the purpose of giving them feedback about their financial situation. The participants were told that their data would be used to create their own financial profile, which in turn would be used to calculate their “Finanz-Vergleich-Index” (FV-Index) Score, originally termed “Comparative Discretionary Income Index” (CDI Index) Score (Kim et al., 2017). The survey itself contained a questionnaire about the participants’ financial beliefs, attitudes and behaviors (Barry & Breuer, 2012; Barry, Schiebe, & Breuer, 2013), which is a German alternative to the questionnaire (Callan, Shead, & Olson, 2011) used in the study by Kim et al. (2017). Furthermore, it contained a personality inventory (Gosling, Rentfrow, & Swann, 2003), and sociodemographic information, specifically age, gender, employment status, marital status, educational level, and whether they live at home. To complete their profile, participants had to report their monthly household income and average monthly spending on housing, utilities, food, clothing, transportation, debt, and other expenses over the previous six months.

Additionally, they were asked about their natural scarcity and their subjective scarcity. The participants’ natural scarcity was meant to function as an alternative independent variable and was measured by three questions like, e.g., “Your computer got broken. How problematic would it be to fund a new one?”, which the participants had to answer on a 6-point Likert-scale ranging from „Not problematic at all“ to „very problematic“. Later, a total natural scarcity score (NS Score) was calculated by adding the three scores. The participant’s

subjective scarcity was a manipulation check and was inquired by the question: “At the moment, do you feel poorer than other people in your age?”, which had to be answered on a 6-point Likert-scale ranging for “Not at all” to “Very” before manipulation. This question was repeated post manipulation, but due to a technical mistake only on a 4-point Likert-scale. However, we had the possibility to calculate the change of the participants subjective scarcity (SS Change), caused by the monetary scarcity manipulation. The natural- and subjective scarcity measurements were especially constructed for this thesis.

After the participants had completed the survey, they were shown a German version of the following information (Kim et al., 2017):

Based on the information you provided, we will now calculate your “Finanz-Vergleich-Index” (FV-Index). The FV-Index measures a person’s standing in terms of his/her average monthly discretionary income relative to the discretionary income of similar others. Based on the information you provided, the index will produce a score using your profile and the information in our StatsPlusTM database from people who match your profile. The score will tell you in Euro (€) how much average monthly discretionary income you have relative to people who match your profile. Depending on current database activities, the process may take up to a minute to complete.

After pressing the “Ok”-button, participants were shown a progressing loading bar. The purpose of this loading bar was to make the participants believe that their profile and their FV-Index Score were being calculated. After that, participants were shown a number, which indicated the percentage of people who had less financial means than themselves. Also, a colored indication bar, that represented the whole variance in financial means, and an arrow, illustrating the participant’s own financial status in comparison to others, were presented to them (Figure 1). Participants in the “scarcity” condition were shown a FV-Index of 11%, an arrow pointing in the lowest, dark orange area of the indication bar and the following information:

*Based on your profile, your Finanz-Vergleich-Index (StatsPlusTM) is: 11%
Of 350 persons in your age, 312 have more financial means at their disposal.*

How to interpret your StatsPlusTM - FV-Index Score:

The FV-Index-Score enables comparison to other persons that are similar to your demographic profile (e.g., age, educational status, gender). An above-average (>60%) FV-Index means, that you have on average more financial means than similar others. An average (40-60%) FV-Index means, that you have on average the same financial means than similar others. A below-average (<40%) FV-Index means, that you have on average less financial means than similar others.

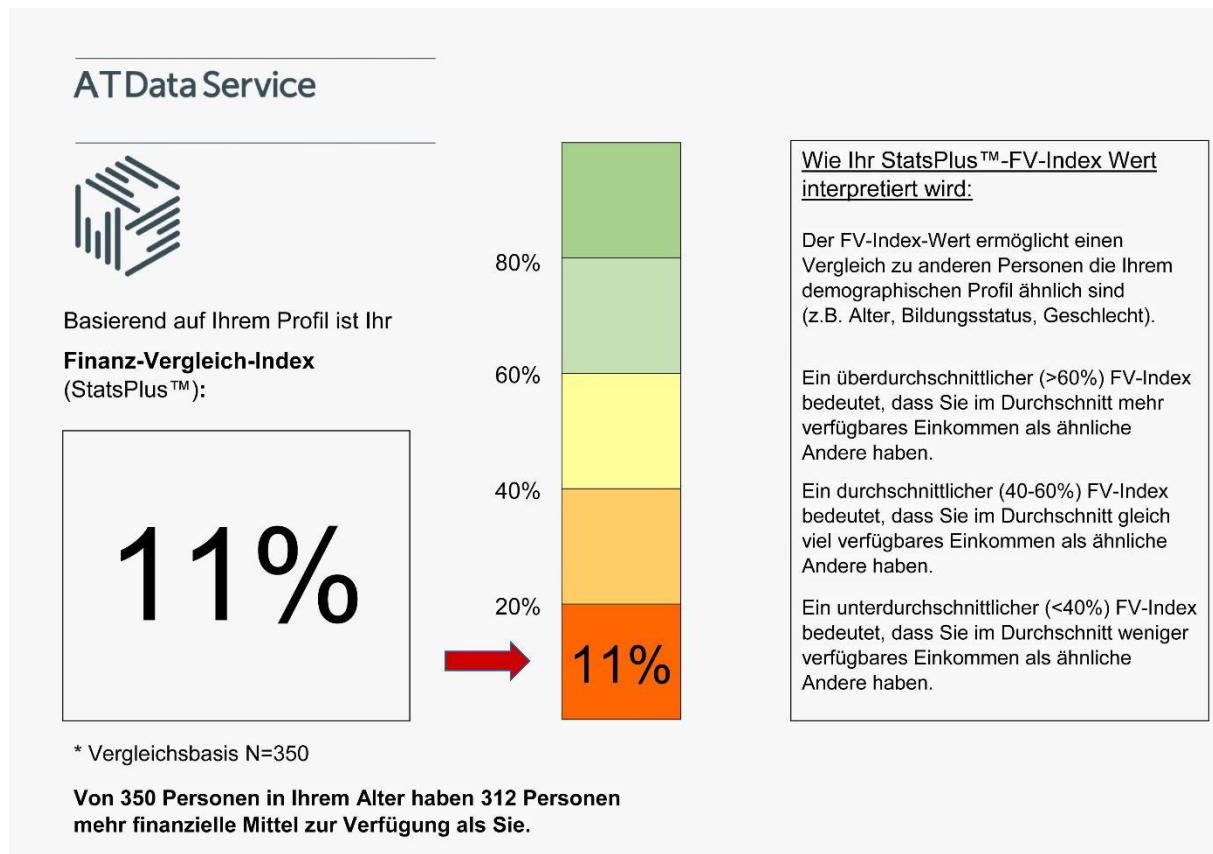


Figure 1. Presentation of the FV-Index Score in the “scarcity” condition

Participants in the “no scarcity” condition were shown a FV-Index of 54% and an arrow pointing in the middle, yellow part of the indication bar. Except for the first sentence, which was altered to “Of 350 persons in your age, 189 have less financial means at their disposal.”, the information stayed the same. The assignment to these conditions was randomly determined and the experimenter was blind to the condition. The presentation of the FV-Index as a percentage rank was a modification compared to the Pilot Study. In the Pilot Study, the

participants' bogus financial status was displayed as an absolute number, which indicated how much discretionary income they had compared to peers. The purpose of this modification was to minimize the possible scrutinization of the FV-Index by making it more abstract.

Following the induction of monetary scarcity, the participants completed two tasks to measure their profit orientation and cognitive load. To check for influences of one task on the other, the order of these tasks was randomly assigned.

Measurement of cognitive load. We used a computerized version of the “Serial Sevens Task” (S7 Task) from Kennedy and Scholey (2000). Participants were presented with a randomly generated 3-digit starting number between 900 and 999, from which they had to serially subtract seven within a timeframe of two minutes. To enter a number, participants had to select digit-buttons ranging from zero to nine and afterwards click the submit-button. They were able to correct their inputs until submitting. As an output, we got the number of responses and the number of errors. An error was recorded, when the difference between two entered numbers was not seven. Therefore, it was possible to calculate each participant's correct responses (S7 Score). High cognitive load was identified by impaired performance in this task, or in other words, a low S7 Score. In previous research, this task has already been used to measure cognitive load (Kennedy & Scholey, 2000; Scholey, Harper, & Kennedy, 2001; Reay, Kennedy, & Scholey, 2006).

Measurement of profit orientation. To quantify the participants' profit orientation, we used a computerized version of the Iowa Gambling Task (IGT; Bechara, Damasio, Damasio, & Anderson, 1994). In this task, participants were given a hypothetical starting budget of 2000€ and were shown four decks of cards. Their goal was to earn as much money as possible by turning over a total of 100 cards. In two of the decks (deck A and B), all cards carried an immediate reward of 100€, whereas the others (deck C and D), only carried an immediate reward of 50€. Some cards also carried an unpredictable penalty, which was higher in decks A and B. Because of those tendencies, turning solely cards from deck A and B lead

to an overall loss. On the other hand, turning solely cards from deck C and D, lead to an overall gain (Bechara et al., 1994). The participants were not told the tendencies of the decks, meaning they had to learn which decks seemed more profitable to them. Therefore, the first 20 cards selections were excluded from the analysis, since they were considered the learning phase. In order to be able to constitute a participants' profit orientation in a single score (IGT Score) we subtracted the total selections of cards from deck A and B from the total selections of cards from deck C and D. Therefore, a participant who chose cards primarily from deck A and B had a negative IGT Score and was considered to show short-term profit orientation, since those decks promised a faster accumulation of money. On the other hand, participants who chose more cards from deck C and D had a positive IGT Score and were considered to show long-term profit orientation, since money accumulation with selections from those decks was safer, but also took longer. In previous research, this task has been, among others, used to assess the effect of damages to the prefrontal cortex on decisions with future consequences (Bechara et al., 1994; Bechara, Damasio, Tranel, & Damasio, 1997), the effect of cocaine and marijuana use on decision-making performance (Verdejo-Garcia, Benbrook, Funderburk, David, Cadet, & Bolla, 2007), and age differences in affective decision making (Cauffman et al., 2010).

Measurement of well-being. After completing the IGT and the S7 Task, participants were asked about their well-being during the study, which they had to answer on a 4-point Likert-scale. This resulted in the variable "Well-being", which was used as an alternative outcome variable in the data analysis.

Measurement of Accuracy FV. Additionally, they were asked how accurate they thought the FV-Index was to their real lives, which also was answered on a 4-point Likert-scale. This variable was called "Accuracy FV". Participants were also asked to report possible suspicions about the hypotheses and about the purpose of the study. Finally, they were debriefed about the purpose of the FV-Index Score.

Results

When we calculated the necessary sample size using the software G*Power, medium effect sizes were expected, based on previous research (Kim et al., 2017). Based on these calculations we aimed for a sample size of 60 participants. All analyses described in the results section were conducted with SPSS software (version 23.0).

Effect of testing order of profit orientation and cognitive load. The first step was investigating the effect of the testing order of the two outcome variable tasks. Therefore, a one-way between subjects MANOVA was conducted to compare the effect of the testing order on profit orientation (IGT Score) and cognitive load (S7 Score) in “IGT first” ($n = 30$), and “S7 Task first” conditions ($n = 27$). There was no significant effect of testing order on profit orientation [$F(1,55) = .747, p = .391, \eta_p^2 = .013$] nor on cognitive load [$F(1,55) = .007, p = .932, \eta_p^2 = .000$].

To investigate possible interactions between the testing order and the scarcity manipulation, a two-way between subjects MANOVA was conducted. There was no significant interaction effect on profit orientation [$F(1,53) = .379, p = .541, \eta_p^2 = .007$] nor on cognitive load [$F(1,53) = .212, p = .647, \eta_p^2 = .004$]. Since these results indicate no influence of testing order on neither of the two outcome variables nor the effectiveness of the scarcity manipulation, the testing order was disregarded in all further analyses to improve the statistical power.

Effect of the scarcity manipulation on profit orientation. A one-way between-subjects ANOVA was conducted to compare the effect of the scarcity manipulation on profit orientation ($H1_a$), which was measured by the IGT, in “scarcity” ($n = 28; M_{IGT} = 7.36, SD_{IGT} = 7.12$) and “no scarcity” conditions ($n = 29; M_{IGT} = 6.14, SD_{IGT} = 7.00$). There was no significant effect of the scarcity manipulation on profit orientation [$F(1,55) = .015, p = .903, \eta_p^2 = .000$], showing no support of $H1_a$.

Effect of the scarcity manipulation on cognitive load. A one-way between-subjects ANOVA was conducted to compare the effect of the scarcity manipulation on cognitive load (HI_c), which was measured by correct responses in the S7 Task, in “scarcity” ($M_{S7} = 16.68$, $SD_{S7} = 1.05$) and “no scarcity” ($M_{S7} = 16.93$, $SD_{S7} = 1.03$) conditions. There was no significant effect of the scarcity manipulation on cognitive load [$F(1,55) = .029$, $p = .865$, $\eta_p^2 = .001$], showing no support of HI_c .

Effect of the scarcity manipulation on well-being. As an alternative outcome variable, the participants’ reported well-being after the manipulation was used. To compare the effect of the scarcity manipulation on well-being (HI_d) in “scarcity” ($M_{WB} = 2.36$, $SD_{WB} = .14$) and “no scarcity” ($M_{WB} = 2.03$, $SD_{WB} = .14$) conditions, a one-way between-subjects ANOVA was conducted. There was no significant effect of scarcity on well-being [$F(1,55) = 2.775$, $p = .101$, $\eta_p^2 = .048$], showing no support of HI_d .

Effect of the scarcity manipulation on subjective scarcity. Another alternative outcome variable was the change in the participant’s reported subjective scarcity (SS Change). Since subjective scarcity has been inquired on two different ranging Likert-scales before and after the manipulation, both responses had to be standardized before calculating SS Change. Afterwards, a one-way between-subjects ANOVA was conducted to compare the effect of the scarcity manipulation on SS Change (HI_e) in “scarcity” ($M_{SS} = -.09$, $SD_{SS} = .11$) and “no scarcity” ($M_{SS} = .11$, $SD_{SS} = .11$) conditions. There was no significant effect of the scarcity manipulation on subjective scarcity [$F(1,55) = .584$, $p = .448$, $\eta_p^2 = .011$], showing no support of HI_e .

Effect of natural scarcity on profit orientation. To have an alternative predictor for profit orientation, the participants’ natural scarcity was assessed. A simple linear regression was conducted to predict profit orientation based on natural scarcity (NS Score). The analysis found no significant regression equation [$F(1,55) = .336$, $p = .565$, $R^2 = .078$], which indicates that natural scarcity did not correlate to profit orientation.

Effect of income on profit orientation. The participants' reported income was used as another alternative predictor for profit orientation. Therefore, following previous research (Mani et al., 2013; Shah et al., 2015) a median-split in net income was executed, dividing the participants into the groups "low earning" ($n = 29$; $M_{INC} = 489.03$, $SD_{INC} = 208.58$) and "high earning" ($n = 28$; $M_{INC} = 974.11$, $SD_{INC} = 194.67$). This variable was called "income scarcity". Then, a one-way between-subjects ANCOVA was conducted to compare the effect of income scarcity on profit orientation in "low earning" ($M_{IGT} = 6.62$, $SD_{IGT} = 37.51$) and "high earning" ($M_{IGT} = 6.86$, $SD_{IGT} = 37.84$) conditions while controlling for the scarcity manipulation. There was no significant effect of income scarcity on profit orientation [$F(1,54) = .000$, $p = .983$, $\eta_p^2 = .000$], which means that the participant's income did not influence profit orientation.

Effect of the scarcity manipulation on subjective accuracy of the FV-Index. To compare how accurate participants in the "scarcity" ($M_{AFV} = 2.54$, $SD_{AFV} = .14$) and "no scarcity" ($M_{AFV} = 2.17$, $SD_{AFV} = .135$) condition thought the FV-Index was (Accuracy FV), a one-way between-subjects ANOVA was conducted. There was a marginally significant effect of the scarcity manipulation on Accuracy FV [$F(1,55) = 3.553$, $p = .065$, $\eta_p^2 = .061$], meaning that participants in the "scarcity" condition found the displayed FV-Index to be less accurate than participants in the "no scarcity" condition.

Discussion

Overall, the results of Study 1 indicate that the manipulation failed to induce monetary scarcity since, strictly seen, it had no significant effect on neither of the outcome variables. Nevertheless, the manipulation's effect on well-being was on a significance-level which, in previous research, has often been reported as marginally significant (Prischoff, Powell, & Horne, 2016). And indeed, if the exclusion criteria are softened and participants with low and very high S7 Scores are not excluded from the analysis, the effect becomes significant [$F(1,59) = 4.845$, $p = .032$, $\eta_p^2 = .076$]. This finding suggests a trend with the following

direction: Participants in the “scarcity” condition showed lower levels of well-being than those in the “no scarcity” condition. A likely interpretation of this finding is, that the diminished well-being is an effect of personal relative deprivation, which has been induced with a very similar manipulation before (Kim et al., 2017). Because of this result, we decided not to discard, but further improve the FV-Index-manipulation in Study 2. This improvement aimed to enhance the feeling of personal deprivation and lower subjective status.

As described in the results section, participants in the “scarcity” condition found the displayed FV-Index to be less accurate to their real-life monetary situation, although this effect was only marginally significant. This result raises the question, if this subjective inaccuracy also caused the participants in the “scarcity” condition to see through being manipulated, which, in turn, could have caused the manipulation to be malfunctional. However, only one participant was excluded for reporting suspicions about being manipulated which contradicts that assumption.

The analysis did not show an effect of the participants’ self-reported natural scarcity on profit orientation. This result did not confirm previous research, which found effects of monetary scarcity on financial decision making (Pender, 1996; Lawrance, 1991; Shah, Mullainathan, & Shafir, 2012; Spears, 2011; Yesuf & Bluffstone, 2008). There are three likely explanations for this result: Firstly, the validity of the natural-scarcity-measurement is questionable since it was used for the first time and therefore has never been validated. Because of that, the measurement simply could have failed to assess the participant’s natural scarcity. Secondly, the sample’s variance in terms of natural scarcity was small, since it consisted exclusively of students which had similar social and financial backgrounds. This might have complicated the statistical analysis since differences were less salient. Thirdly, as described above, the IGT Task might have not been suitable to assess profit orientation, which therefore might not have been measured correctly.

The analysis also showed no effect of the participant's income on profit orientation. This result indicates that the student sample had too little variance, in terms of income, to investigate effects of income in the field of monetary scarcity. This underlines the need for a reliable monetary scarcity manipulation for researchers in that particular field, who only have access to highly homogeneous samples. Based on these findings, the decision was made to continue and improve the manipulation in Study 2, instead of using another method to assess monetary scarcity.

Study 2

Introduction

The purpose of Study 2 was to improve the monetary scarcity manipulation and test its effect on temporal discounting, as well as investigating the influence of psychological distance on scarcity-induced temporal discounting. The implemented improvements and their reasons, as well as the reason for switching to temporal discounting as the main outcome variable, will be described below.

In Study 1, a limiting factor of the FV-Indexes' effectiveness might have been the Indexes' presentation in the "no scarcity" condition. While participants in the "scarcity" condition saw an arrow pointing to the lowest, dark orange area of the indication bar, participants in the "no scarcity" condition saw an arrow pointing in the middle, yellow area (see Figure 2). Since both these colors are often seen as a warning sign, this could have minimized differences of the two groups in terms of seeing their financial status as problematic. Therefore, the "no scarcity" group might have experienced personal deprivation and lower subjective social status, even though the manipulation did not aim to cause that effect. In Study 2, this problem was tackled by raising the "no scarcity" condition's FV-Index to 74%, which also caused the arrow to be pointing at the light green area of the indication bar and therefore not giving any warning signals to the participants (Figure 2).

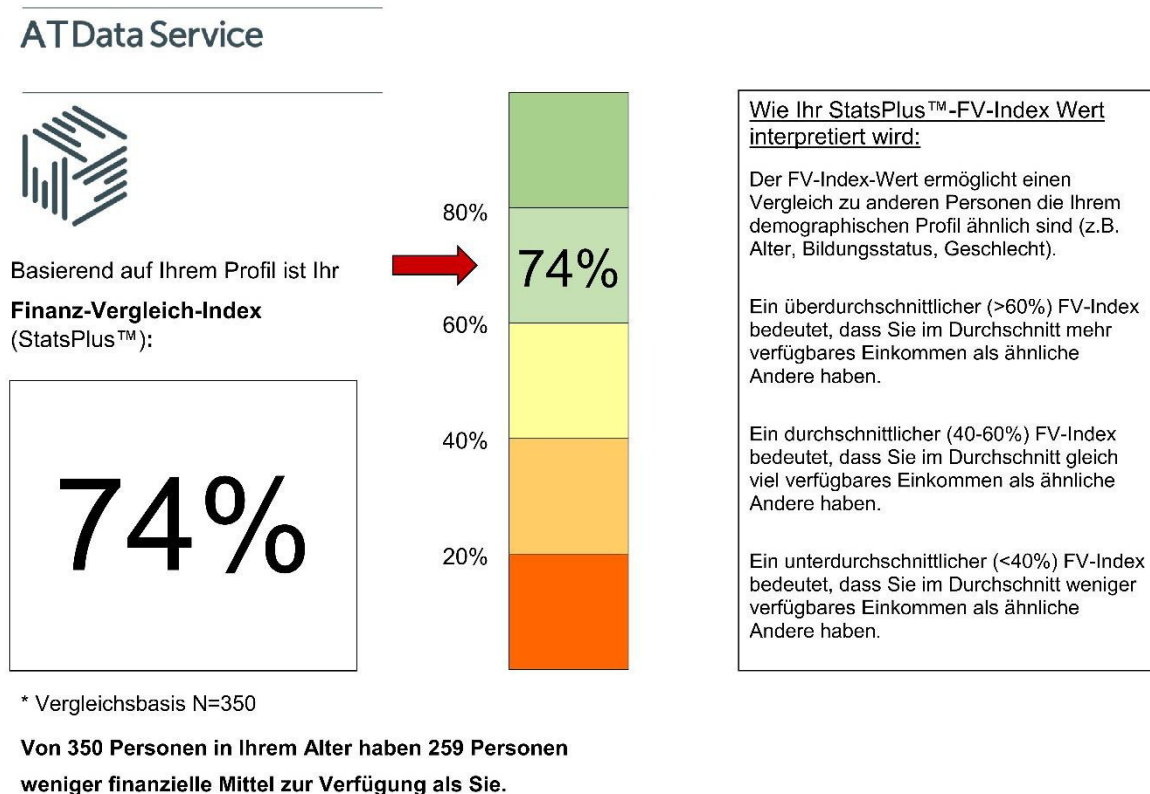


Figure 2. Presentation of the FV-Index Score to the “scarcity” condition

Since the results suggested that the manipulation failed to evoke a scarcity mindset, we decided to add another kind of feedback to the manipulation in form of an affordability task. The purpose of this task was to create a connection to the participants’ real-life purchase power, cause a feeling of having to manage scarce monetary resources in real life, and therefore evoke a scarcity-mindset. This affordability task is described in detail later on in this studies’ methods section.

Another problem in Study 1 might have been the validity of the IGT, which was used to measure profit orientation. Although it has been used to measure decision-making performance before, previous studies focused on the participants ability to detect disadvantageous decision strategies and adapt their strategy accordingly (Bechara et al., 1994; Bechara et al., 1997; Cauffman et al., 2010; Verdejo-Garcia et al., 2007). The task also deemed it impossible to have a positive end result, since it is programmed in a way that participants, who predominantly choose cards from disadvantageous decks, are bound to have

negative end results (Bechara et al., 1994). This implies a strong imbalance between the decision strategies, making it very obvious to the participants what the preferable strategy is. Therefore, the task was probably unsuitable to assess short- or long-term profit orientation, since it was more of a strategy-learning task. Consequently, I decided to drop the construct of profit orientation in Study 2 and specify the operationalization of the main outcome variable to temporal discounting. The advantages of this construct are that it is easily assessible and that it has been used in research on Construal Level Theory before (Kim et al., 2013; Malkoc et al., 2010), which makes it easier to implement potential findings of this thesis into the existing body of research.

Method

Design. To test the effect of a modified monetary scarcity manipulation on temporal discounting ($H1_b$) and cognitive load ($H1_c$) as well as the effect of psychological distance on scarcity-induced temporal discounting ($H2_a$ and $H2_b$), we used a 2 (scarcity vs. no scarcity) x 2 (future vs. present) between-subjects design. Again, the participants were randomly assigned to either the “scarcity” or the “no scarcity” condition and to either the “distant” condition, where psychological distance was induced, or the “near” condition, which functioned as the control group. Subsequently, the participants completed two tasks to assess their level of temporal discounting and their cognitive load.

Participants. A total of 187 people were recruited in and around the University of Vienna. Of these, 111 students were recruited via the LABS-system and participated in exchange of course credit, and 76 people participated in exchange for a chance to win one of eight gift coupons, each worth 10-50€. Participants of both the Pilot Study and Study 1 were disqualified from participating. In total, 31 participants were excluded from all analyses because they showed at least one of the following exclusion criteria: the expression of suspicions about one of the manipulations or the study’s purpose (nine participants), the use of less than four keywords or less than one sentence of 15 words, or only meaningless and

conceptual-free inputs at the writing task (three participants), being physically unfit to participate (one participant), or scoring too low or too high in the cognitive load task (18 participants). As in Study 1, the cutoffs for the score in the cognitive load task were set at +3 SD and -1.5 SD from the median score. After those exclusions, the sample consisted of 156 participants (98 female, 58 male; $M_{age} = 22.70$, $SD_{age} = 6.35$). Similar to Study 1, the sample was highly educated. 73.7% reported to have graduated from high school and 19.9% had an academic degree. Furthermore, 44.9% were non-working at that moment and the average net income was 858.47€ ($SD_{INC} = 407.09$ €).

Procedure and materials. As in Study 1, the participants were asked to fill out a consent form, received the same information about the study's purpose and were asked to complete a computerized survey.

Induction of monetary scarcity and measurement of natural scarcity and subjective scarcity. In this study, we used the same general method to induce monetary scarcity as in Study 1, but made some adaptations. We used the same questionnaires to assess the participants' financial beliefs, their personality and their demographic data. Additionally, we inquired their natural scarcity score and their subjective scarcity change using the same method as before. The FV-Index displayed to the "scarcity" condition stayed at 11%, while the Index displayed to the "no scarcity" condition was raised to 74%. Because of that, the arrow which illustrated the participants' financial status pointed at the light green area of the indication bar and the additional information was changed to "Of 350 persons in your age, 259 have less financial means at their disposal." (see Figure 2). The purpose of increasing the gap between the two groups was to make the differences between them more salient as well as not to give the "no scarcity" group feedback in the yellow area of the indication bar, because the color yellow could be interpreted as a signal for a problematic situation by some people.

In addition to the FV-Index, which was meant to manipulate the participants' subjective financial status, they received a second kind of feedback to their financial situation

in form of an Affordability Task. This task's purpose was to build a connection between ones' financial status and ones' purchase power in frequent purchases, by suggesting the participants that the items were easily affordable ("no scarcity" condition) to them or not ("scarcity" condition). The items that were used were determined by a pre-study ($n = 21$), in which the participants were asked to rate 30 items in both usability and desirability on an 8-point Likert-scale. The scores on both scales were added and the 10 highest scoring items were chosen for the Affordability Task. At the beginning of the task the participants were told that their daily discretionary budget was calculated by our database using the formula: $Budget = Income - (Spendings + Debt)$. After that, they were shown pictures of items (e.g., a water boiler), along with some additional specifics of these items, but not the price. Then they were asked to estimate how long they would need to save their discretionary daily budget to be able to afford that item on a scale ranging from "Immediately affordable" over "1 week", to "6 weeks", and "Not affordable". Following their own estimation, the participants in both groups received different fake feedback about an item's affordability. Participants in the "no scarcity" condition were told that four items were immediately affordable and in total six items were affordable after two or three weeks respectively. Participants in the "scarcity" condition, on the other hand, were told that they could not afford eight items at all and the remaining two items after four or six weeks (For an example see Figure 3). The suggested low purchase

Waschmaschine

- Fassungsvermögen: 6 kg
- Energie-/Wasserverbrauch pro Jahr (kWh/L): 146/9146
- Geräuschniveau Waschen/Schleudern: 57/74 dB(A)

Mit derzeitigem Budget
NICHT LEISTBAR



Figure 3. Example for affordability-feedback in the "scarcity" condition

power of the participants in the “scarcity” condition was expected to induce a mindset of being in monetary scarcity.

Induction of psychological distance. To manipulate the psychological distance to the participants’ monetary situation, the participants were randomly assigned to either the “near” or “distant” condition. While participants in the “near” condition were asked to write a short essay about their financial situation at the moment, those in the “distant” condition were asked to write about their financial situation in the future. Those being in the “near” condition were shown a German version of the following instructions:

Please take a moment to think about your financial situation and particularly how it can be improved. Then write a short essay (about half a page) on possibilities to cut your expenditures immediately and ways to improve your monetary situation without delay. You can use either full text or bullet points. You have 5 minutes to complete this task. Please use the entire time-interval.

Participants in the “distant” condition were shown a similar instruction, but instead of “immediately” and “without delay” their task was to think about ways to improve “in the year 2020” and “in the long run”.

Measurement of temporal discounting. Subsequent to the Essay Task, the participants completed a temporal discounting task (TD Task) to assess the point at which they were indifferent to a smaller, immediately available reward and a larger, but delayed reward. The task we used was similar to a method developed by Ungemach, Stewart, & Reimers (2011). In the utilized TD Task, the participants were asked a series of four questions with a similar structure. Although these questions were hypothetical, the participants were requested to treat the questions as if the outcome was real. The initial question was: “Given you could choose between receiving 500€ right away and receiving 1000€ in one year. Which option would you prefer?”, translated to German. While the second option (1000€ in one year) stayed the same throughout the task, the first option was (an immediately available amount of money) was adjusted after every trial. For example, if a participant chose 1000€ in the initial question, the first option was raised to halfway between the options of the initial question (750€). If the

participant then chose the new first option (750€), it would be adjusted back down to about halfway between 500€ and 750€. This way, the range of the participant's indifference point between the smaller, but immediately available amount of money and 1000€ available in one year got narrower with every trial. After four trials the procedure was stopped and the participants indifference point (TD Score) was recorded as the lowest amount of money chosen, meaning that participants with a low TD Score showed a high level of temporal discounting. Similar tasks have been used to measure temporal discounting before (Koffarnus & Bickel, 2014); Matthews, 2012; Ungemach et al., 2011).

Measurement of cognitive load. To assess cognitive load, we once again used the S7 Task (Kennedy & Scholey, 2000), since in both the Pilot Study and Study 1, it proved to be a dependable measurement.

Measurement of well-being. After completing the S7 Task, participants were asked about their well-being during the study, which they had to answer on a 6-point Likert-scale. This again resulted in the variable "Well-being".

Measurement of Accuracy FV and Accuracy Affordability. Additionally, they were asked how accurate they thought the FV-Index and the feedback in the Affordability Task was to their real lives. Both questions were answered on 6-point Likert-scales. These variables were called "Accuracy FV" and "Accuracy Affordability". After that, the participants reported possible suspicions about our hypotheses and about the purpose of the study. Finally, they were debriefed about the purpose of the FV-Index Score and the Affordability Task.

Results

When we calculated the necessary sample size using the software G*Power, medium effect sizes were expected, based on previous research (Kim et al., 2017). Based on these calculations we aimed for a sample size of 160 participants. All analyses described in the results section were conducted with SPSS software (version 23.0).

Effect of the scarcity manipulation and psychological distance on temporal

discounting. A two-way between-subjects ANOVA was conducted to compare the effects of the scarcity manipulation and psychological distance on temporal discounting ($H1_b$, $H2_a$, $H2_b$). The predictor “scarcity manipulation” featured the conditions “scarcity” and “no scarcity”. The predictor psychological distance featured the conditions “near” and “distant”. Consequently, the design consisted of four groups. The statistical data of each group can be seen in Table 1.

Table 1

Mean TD Score of the four groups

Psychological distance	Scarcity	<i>n</i>	M_{TD}	SD_{TD}
near	scarcity	39	775.64	245.66
	no scarcity	41	793.41	229.69
distant	scarcity	36	796.67	223.82
	no scarcity	40	861.25	193.56

There was no significant main effect of the scarcity manipulation on temporal discounting [$F(1,152) = 1.287$, $p = .258$, $\eta_p^2 = .008$], showing no support of $H1_b$. There also was no significant main effect of psychological distance on temporal discounting [$F(1,152) = 1.499$, $p = .223$, $\eta_p^2 = .010$]. The analysis also did not show an interaction effect of the scarcity manipulation and psychological distance on temporal discounting [$F(1,152) = .416$, $p = .520$, $\eta_p^2 = .003$]. These results neither support $H2_a$ nor $H2_b$.

Effect of the scarcity manipulation on cognitive load. A one-way between-subjects ANOVA was conducted to compare the effects of the scarcity manipulation on cognitive load ($H1_c$), which was measured by correct responses in the S7 Task, in “scarcity” ($n = 75$;

$M_{S7} = 15.21$, $SD_{S7} = .62$) and “no scarcity” ($n = 81$; $M_{S7} = 16.22$, $SD_{S7} = .59$) conditions.

There was no significant main effect of the scarcity manipulation on cognitive load [$F(1,154) = 1.385$, $p = .241$, $\eta_p^2 = .009$], showing no support of $H1_c$.

Effect of the scarcity manipulation on well-being. To compare the effect of the scarcity manipulation on well-being ($H1_d$) in “scarcity” ($M_{WB} = 2.93$, $SD_{WB} = 1.11$) and “no scarcity” ($M_{WB} = 2.43$, $SD_{WB} = .89$) conditions, a one-way between-subjects ANOVA was conducted. There was a significant effect of scarcity on well-being [$F(1,154) = 9.749$, $p = .002$, $\eta_p^2 = .060$], meaning that participants in the “scarcity” condition reported lower well-being, since high well-being scores actually indicated low well-being. This supports $H1_d$.

Effect of the scarcity manipulation on subjective scarcity. As an alternative outcome variable, change in the participant’s reported subjective scarcity (SS Change) was used. This time, other than in Study 1, subjective scarcity had been assessed on a 6-point Likert-scale both before and after the manipulation. Therefore, there was no need to standardize the responses before calculating SS Change. A one-way between-subjects ANOVA was conducted to compare the effect of the scarcity manipulation on SS Change ($H1_e$) in “scarcity” ($M_{SS} = .15$, $SD_{SS} = .94$) and “no scarcity” ($M_{SS} = -.46$, $SD_{SS} = .79$) conditions. There was a significant effect of the scarcity manipulation on subjective scarcity [$F(1,154) = 18.911$, $p < .001$, $\eta_p^2 = .109$], meaning that participants in the “scarcity” condition reported increased levels of subjective scarcity after the manipulation, while those in the “no scarcity” condition reported decreased levels, compared to the baseline-measurement which was taken before the manipulation. These results supported $H1_e$.

Effect of natural scarcity on temporal discounting. Similar to Study 1, the participants’ natural scarcity was used as an alternative predictor. A simple linear regression was conducted to predict temporal discounting based on natural scarcity (NS Score). The analysis found a significant regression equation [$F(1,154) = 21.876$, $p < .001$, $R^2 = .124$], meaning that participants with higher natural scarcity showed higher temporal discounting.

Additionally, a median split in natural scarcity (NS Split) was executed, dividing the participants into “natural scarcity” ($n = 84$) and “no natural scarcity” ($n = 72$) groups. To compare the effects in these groups, a one-way between-subjects ANOVA, which used temporal discounting as dependent variable, was conducted. There was a significant effect of NS Split on temporal discounting [$F(1,154) = 14.045$, $p = .000$, $\eta_p^2 = .084$], giving more evidence that participants with higher natural scarcity ($M_{TD} = 746.67$, $SD_{TD} = 23.74$) showed higher temporal discounting than participants with low natural scarcity ($M_{TD} = 877.64$, $SD_{TD} = 25.64$).

Effect of income on temporal discounting. As in Study 1, a median-split in net income was executed, resulting in the variable “income scarcity”, which divided the participants into the groups “low earning” ($n = 79$; $M_{TD} = 796.58$, $SD_{TD} = 236.09$) and “high earning” ($n = 77$; $M_{TD} = 817.92$, $SD_{TD} = 217.39$). This method has been used in previous studies before (Mani et al., 2013; Shah et al., 2015). A one-way between-subjects ANCOVA was conducted to compare the effect of income scarcity on temporal discounting in “low earning” and “high earning” conditions, controlling for the experimental conditions of the scarcity manipulation. There was no significant effect of income scarcity on temporal discounting [$F(1,153) = .112$, $p = .739$, $\eta_p^2 = .001$] after controlling for the scarcity manipulation, meaning the participant’s income did not influence temporal discounting.

Effect of the recruitment method on temporal discounting. To investigate the effect of the recruitment method on temporal discounting in “LABS” ($n = 96$) and “external” ($n = 60$) conditions, a one-way between-subjects ANOVA was conducted. There was a significant effect of recruitment method on temporal discounting [$F(1,154) = 5.623$, $p = .019$, $\eta_p^2 = .035$], meaning that externally recruited participants ($M_{TD} = 753.50$, $SD_{TD} = 277.41$) showed higher levels of temporal discounting than participants recruited via the LABS-system ($M_{TD} = 840.63$, $SD_{TD} = 181.69$).

Effect of the scarcity manipulation on subjective accuracy of the FV-Index and the affordability-feedback. To compare how accurate participants in the “scarcity” and “no scarcity” condition thought the FV-Index (Accuracy FV) and the feedback in the Affordability Task (Accuracy Affordability) was, a one-way between-subjects MANOVA was conducted. There was a significant effect of the scarcity manipulation on Accuracy FV [$F(1,154) = 36.222, p = 0.000, \eta_p^2 = .190$], meaning that participants in the “scarcity” condition ($M_{AFV} = 3.87, SD_{AFV} = 1.31$) found the displayed FV-Index to be less accurate than participants in the “no scarcity” condition ($M_{AFV} = 2.80, SD_{AFV} = .87$), since low scores meant high subjective accuracy. There also was a significant effect of the scarcity manipulation on Accuracy Affordability [$F(1,154) = 16.518, p = 0.000, \eta_p^2 = .097$], meaning that participants in the “scarcity” condition ($M_{AFF} = 4.11, SD_{AFF} = 1.44$) found the displayed affordability-feedback to be less accurate than participants in the “no scarcity” condition ($M_{AFF} = 3.27, SD_{AFF} = 1.12$).

Discussion

As in Study 1, these results indicate that the manipulation might not have induced monetary scarcity, since the participants did not show any change in their financial decision making, which should have been the case if a scarcity-mindset was successfully induced. The manipulation also did not induce cognitive load to people in the “scarcity” condition, which also indicates that no scarcity-mindset was induced. On the other hand, the scarcity-manipulation caused lower well-being and more subjective scarcity. These results suggest that the study replicated previously found effects of a similar manipulation on relative personal deprivation (Kim et al., 2017) and subjective social status (Brown-Iannuzzi et al., 2015).

The study found no effect of psychological distance on temporal discounting and therefore failed to replicate previously found effects in that respect (Kim et al., 2013; Malkoc et al., 2010). Additionally, an effect of psychological distance on scarcity-induced temporal

discounting cannot be claimed, since the manipulation probably did not induce monetary scarcity and psychological distance had no effect on temporal discounting.

Similar to Study 1, the participants in the “scarcity” condition reported lower subjective accuracy of the FV-Index and the affordability-feedback, but this time, these effects were highly significant, and the effect sizes were bigger (Study 1: Accuracy FV: $\eta_p^2 = .061$; Study 2: Accuracy FV: $\eta_p^2 = .190$, Accuracy Affordability: $\eta_p^2 = .097$). These results suggest that both the displayed FV-Index, as well as the affordability-feedback, might have seemed implausible to the participants in the “scarcity” condition, making it easier to see through being manipulated. Nonetheless, only nine participants (4.8% of the sample) were excluded for either expressing suspicions about being manipulated or correctly guessing the purpose of the study. To me, this rather low rate does not support the assumption that the manipulation was too easy to see through.

In Study 2, participants who reported higher levels of natural scarcity showed more temporal discounting, which confirms previous findings (Pender, 1996; Lawrance, 1991; Yesuf & Bluffstone, 2008) and validates the natural scarcity measurement used in both Studies 1 and 2.

Consistent with the results of Study 1, the analysis showed no effect of the participant’s income on profit orientation. This once again shows the unsuitability of the median-split-method for research in the field of scarcity, when only highly homogeneous samples are available.

Interestingly, an effect of the recruitment method on temporal discounting was found. Participants, who were not recruited via the LABS-system but participated for a chance to win one of eight gift coupons, showed higher temporal discounting. This result suggests that an inadvertent selection occurred through the recruitment process. Participation in the study might have seemed more rewarding for people with higher gambling-affection, since there was a small chance to win one of the gift coupons. Therefore, the externally recruited part of

the sample probably was not representative in terms of gambling tendencies which are generally correlated to higher levels of temporal discounting (Petry, 2001). To avoid this gambling effect in future studies, it is advisable to use set rewards as incentives for participation.

The next section discusses the studies' results from a more global perspective. It highlights its implications, takes the limitations into account, and shows directions for future research.

Overall Discussion

Implications

This thesis aimed to contribute to and combine two lines of research: Financial decision making under monetary scarcity on the one hand, and the Construal Level Theory on the other hand. With regard to monetary scarcity, the main goal was to test a manipulation which had the purpose of inducing a mindset of living under monetary scarcity. This goal was not achieved, since the manipulation did not influence the participants' financial decision making neither in Study 1 nor Study 2. Furthermore, it did not influence the participants' cognitive load. It had, however, an effect on the participants' subjective feeling of scarcity, as well as on their well-being. These findings suggest that the manipulation lowered the participants' subjective social status and induced relative personal deprivation, especially since the question, measuring subjective scarcity, asked how poor they felt compared to their peers. The effect on well-being can also be seen as an induction of confusion, since a lot of participants might have expected a different FV-Index and did not know how to interpret this feedback. My conclusion from these findings is, that the manipulation did not quite affect the core of living in monetary scarcity and thus failed to create real pressure on the participants' cognitive processing, but rather manipulated peripheral consequences of scarcity, like lower subjective status and a feeling of personal deprivation. Since this core, which implies the need to deal with scarce resources over a longer lasting time span, was not reached in our studies, a

scarcity-mindset was not induced. Therefore, in terms of the development of a scarcity-manipulation, a contribution to research cannot be claimed.

Apart from this, we developed a measurement for natural scarcity, which can be understood as the participants' insufficiency to fulfill unexpected financial demands. Participants with a high natural scarcity score also showed higher temporal discounting, which is the expected behavior of people with scarce resources. Natural scarcity was also correlated with subjective scarcity and negatively correlated with the participant's income, which also supports the validity of the natural scarcity measurement. Although overall, these results indicate the measurement's validity, further examination is advised, since a solid validation was not one of the thesis' main goals.

Regarding Construal Level Theory, this thesis aimed to replicate previous research, showing that higher psychological distance leads to lower temporal discounting (Kim et al., 2013; Malkoc et al., 2010). The results of this study, however, showed no significant effects that support the earlier research. The most likely explanation is, that the Essay Task might have failed to induce psychological distance. This suggestion is supported by the fact, that the essays of some participants did not explicitly show that they elaborated about future financial adaptations. Therefore, the task's instructions might have been unclear, or simply ignored by some participants, making an induction of psychological distance impossible to begin with. On the other hand, in the Pilot Study the exact same induction influenced cognitive load, suggesting the induction's efficacy. Another possibility is that the abstract mindset, caused by the induction of psychological distance, did not transfer to subsequent tasks and therefore had no effect. However, this seems unlikely, since the TD Task was carried out right after the Essay Task. Overall, there is no definite explanation for why the expected effect of psychological distance on temporal discounting was not confirmed.

The main research question of this thesis was, whether a high level of temporal discounting, caused by monetary scarcity, could be reduced to the level shown by participants

who did not experience monetary scarcity, using psychological distance. This question cannot be answered, since the scarcity-manipulation failed to create a scarcity-mindset, which was an essential requirement. Additionally, the uncertainty regarding the Essay Task's efficacy further diminishes the ability to give a confident answer to that question.

Limitations and future research

There are some additional limitations to this thesis' explanatory power. Firstly, both the IGT and the TD Task were hypothetical. Despite asking the participants to make their decisions as if they were real in both tasks, the tasks in fact had no relevance for their real lives. Since hypotheticality is a dimension of psychological distance by itself, this might have distorted the studies' results: The Essay Task might only have added psychological distance in the temporal dimension to an already psychologically distant decision situation. However, even though participants in both groups probably had an abstract mindset, those who were asked to write about their financial situation in the future should have had an even more abstract mindset than those who wrote about the present. Thus, there should have been a difference between the groups, but that difference might have been too small to be statistically significant and might have been bigger if the distinction between the groups would have been clearer. To counteract this problem, future research ought to connect the tasks to real-life outcomes and therefore remove the hypothetical distance. This could, for example, be achieved by paying the participants a percentage of whatever their result in the TD Task was.

Secondly, the samples of both studies, which consisted almost exclusively of students, might have been too homogeneous and not representative for the general population. The idea behind using homogeneous samples, was that the participants had similar social and financial backgrounds and therefore also similar levels of monetary scarcity. Therefore, a manipulation of monetary scarcity should have created a sharper distinction between the "scarcity"- and the "non-scarcity"-group than compared to a heterogenous sample. However, the samples' composition might have prevented that for two reasons: On the one hand, average participants

might be experiencing monetary scarcity in their real lives. This means that the manipulation might have caused only a small increase in monetary scarcity to the participants in the “scarcity” condition, preventing a clear distinction to those in the “no scarcity” condition. On the other hand, the sample might have been too homogenous in terms of financial attitudes. It is possible that the participants, mostly being in the first semesters of their student days, did not care a lot about money and their financial status and therefore were immunized against the manipulation. Additionally, since a lot of young students still financially rely on their parents, monetary scarcity might not pose a threat to them, which could have also caused the manipulation to be ineffective. If similar scarcity-manipulations are tested in future research, homogenous samples should be avoided, and representativeness of the sample should be strived for.

The main research question, if psychological distance can reduce scarcity-induced temporal discounting, could not be answered due to imperfection in the studies’ design. Even though an adjustment with regard to the issues mentioned above could improve these shortcomings, it seems advisable to use a different kind of scarcity-measurement or -induction, since the scarcity-manipulation’s reliability is still questionable. For example, the established method of dividing participants into two groups, using a median-split in income, could be utilized. Another approach could be the recruitment of participants for the “scarcity” condition in chosen locations, like, e.g., social markets or other aid centers, where the sole attendance constitutes an indicator of monetary scarcity. That way, real-life scarcity could be used as an independent variable, avoiding the dependence on an efficient scarcity-manipulation.

While this thesis failed to answer its main research question, it still provided new insights to the field of monetary scarcity. My main conclusion is, that a scarcity-mindset cannot be evoked by tricking people into believing they are poor in comparison to others, but

that it has to establish itself through constantly dealing with the consequences of monetary scarcity over a longer period of time.

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Appendices

Appendix A: Material Study 1

A1: Introduction

4%

Liebe Teilnehmerin, lieber Teilnehmer,

Herzlichen Dank für Ihre Bereitschaft, an unserer kurzen Studie teilzunehmen.

Die Studie wird vom Arbeitsbereich Angewandte Sozialpsychologie und Konsumentenverhaltensforschung der Universität Wien durchgeführt und dient ausschließlich wissenschaftlichen Zwecken. Ihre Angaben werden vertraulich behandelt und anonymisiert ausgewertet, so dass keine Rückschlüsse auf Ihre Person möglich sind.

Diese Studie, in der wir uns mit finanziellem Verhalten beschäftigen, dauert ca. 30 Minuten.

Es ist für uns wichtig, dass Sie alle Fragen beantworten. Wenn Sie sich bei einer Frage nicht ganz sicher sind, kreuzen Sie einfach das Feld an, das am ehesten zutrifft. Es geht um Ihre persönliche Einschätzung, es gibt keine richtigen oder falschen Antworten.

Wenn Sie damit einverstanden sind, klicken Sie auf "Weiter" und beginnen Sie mit der Beantwortung des Fragebogens.

[Weiter](#)

5%

AT Data Service



StatsPlus™

Advanced Demographics Survey

(Finanz-Vergleich Index V 4.1.6)

[Weiter](#)

7%

Die folgenden Fragebögen sind Teil einer Studie, in welcher Trends zum (frei) verfügbaren Einkommen der StudentInnen und MitarbeiterInnen der Universität Wien erforscht werden.

Das *verfügbare Einkommen* ist die Menge an Geld, die Ihnen übrig bleibt, wenn Sie die nötigen Fixkosten bezahlt haben (z.B. Essen, Kleidung, Miete, Transportkosten und Schulden). In dieser Studie werden Trends zum verfügbaren Einkommen und finanziellen Verhalten untersucht.

In den kommenden Blocks werden Sie zu Ihrem Finanzverhalten, Ihrer Persönlichkeit, Ihrem Einkommen und demographischen Daten befragt. Diese Informationen werden dann zu Ihrem persönlichen Profil zusammengefügt. Es ist ganz wichtig, dass Sie diese Fragen ehrlich und genau beantworten.

Am Ende dieser Fragebögen wird Ihnen mittels der leistungsstarken Statistiksoftware - StatsPlus™ Feedback bezüglich Ihres verfügbaren Einkommens zur Verfügung gestellt. Ihr verfügbares Einkommen wird mit jenem anderer Personen, die Ihrem Profil entsprechen (basierend auf Ihren Daten), verglichen. Auch dieses Ergebnis wird in der Studie verwendet.

Klicken Sie auf Weiter, um fortzufahren.

Weiter

A2: Financial behavior questionnaire

9%

Fragen zum Finanzverhalten

Bitte lesen Sie jede der folgenden Aussagen sorgfältig und entscheiden Sie, in welchem Ausmaß Sie dieser jeweils zustimmen. Wählen Sie jeweils jene Option, welche am ehesten auf Sie zutrifft.

	Trifft gar nicht zu	Trifft nicht zu	Trifft eher nicht zu	Weder noch	Trifft eher zu	Trifft zu	Trifft völlig zu
Ich kaufe Spitzenprodukte.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich gebe mehr aus, um das Allerbeste zu bekommen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich teile mein Geld sehr gut ein.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geld ist wichtig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich diskutiere oder beschwere mich über die Kosten der Sachen, die ich kaufe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich gehe mit meinem Geld sehr sorgfältig um.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich verhalte mich so, als wäre Geld das ultimative Symbol für Erfolg.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich habe das Gefühl, dass Geld das Einzige ist, worauf ich wirklich zählen kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geld ist ein wichtiger Faktor im Leben von uns allen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich kaufe die teuersten verfügbaren Produkte.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Weiter

11%

Fragen zum Finanzverhalten

Bitte lesen Sie jede der folgenden Aussagen sorgfältig und entscheiden Sie, in welchem Ausmaß Sie dieser jeweils zustimmen. Wählen Sie jeweils jene Option, welche am ehesten auf Sie zutrifft.

	Trifft gar nicht zu	Trifft nicht zu	Trifft eher nicht zu	Weder noch	Trifft eher zu	Trifft zu	Trifft völlig zu
Ich glaube fest daran, dass Geld all meine Probleme lösen kann.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich kaufe Markenprodukte.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geld ist das Wichtigste (Ziel) in meinem Leben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geld ist wertvoll.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nachdem ich etwas gekauft habe, frage ich mich, ob ich dasselbe woanders günstiger bekommen hätte.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich behalte den Überblick über mein Geld.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich nutze Geld, um andere zu beeinflussen, etwas für mich zu tun.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geld hat für mich einen sehr hohen Wert.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Wenn ich etwas kaufe, beschwere ich mich über den gezahlten Preis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich lege regelmäßig Geld für die Zukunft zur Seite.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Weiter

13%

Fragen zum Finanzverhalten

Bitte lesen Sie jede der folgenden Aussagen sorgfältig und entscheiden Sie, in welchem Ausmaß Sie dieser jeweils zustimmen. Wählen Sie jeweils jene Option, welche am ehesten auf Sie zutrifft.

	Trifft gar nicht zu	Trifft nicht zu	Trifft eher nicht zu	Weder noch	Trifft eher zu	Trifft zu	Trifft völlig zu
Obwohl ich den Erfolg von Menschen anhand ihrer Taten beurteilen sollte, bin ich mehr beeinflusst durch den Betrag an Geld, den sie haben.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bezahle mehr für etwas, weil ich weiß, dass ich es muss, um das Beste zu bekommen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich bin stolz auf meine Fähigkeit, Geld zu sparen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Leute, die ich kenne, sagen mir, dass ich zu viel Wert darauflege, wie viel Geld eine Person hat, und es als Symbol ihres Erfolges betrachte.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich betreibe finanzielle Planung für die Zukunft.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Geld hilft dir, deine Kompetenzen und Fähigkeiten auszudrücken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich habe Geld zur Verfügung, falls es zu einer weiteren wirtschaftlichen Krise kommt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich fühle mich gezwungen, über die Kosten von nahezu allem, was ich kaufe, zu diskutieren oder zu feilschen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Weiter

A3: Personality questionnaire

15%

Fragen zu Ihrer Persönlichkeit

Im Folgenden finden Sie eine Reihe von Persönlichkeitseigenschaften, die mehr oder weniger stark auf Sie zutreffen. Bitte markieren Sie für jede Aussage, inwieweit sie auf Sie zutrifft oder nicht. Sie sollen diese Einstufung jeweils für Paare von Eigenschaften vornehmen, auch wenn möglicherweise die eine Eigenschaft stärker zutrifft als die andere.

	Trifft gar nicht zu	Trifft nicht zu	Trifft eher nicht zu	Weder noch	Trifft eher zu	Trifft zu	Trifft völlig zu
Extravertiert, begeistert.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Kritisch, streitsüchtig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zuverlässig, selbstdiszipliniert.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ängstlich, leicht aus der Fassung zu bringen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Offen für neue Erfahrungen, vielschichtig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Zurückhaltend, still.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Verständnisvoll, warmherzig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unorganisiert, achtlos.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Gelassen, emotional stabil.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Konventionell, unkreativ.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Weiter

A4: Demographic data

16%

Welches Geschlecht haben Sie?

- ☐ weiblich
- ☐ männlich

In welchem Jahr sind Sie geboren?

Bitte geben Sie das Jahr in 4 Ziffern an (z.B. 1980).

Geburtsjahr

Sind Sie zurzeit erwerbstätig?

Unter Erwerbstätigkeit wird jede bezahlte bzw. mit einem Einkommen verbundene Tätigkeit verstanden, egal welchen zeitlichen Umfang sie hat. Was auf dieser Liste trifft auf Sie zu?

- ☐ Ich bin vollzeit-erwerbstätig mit einer wöchentlichen Arbeitszeit von 35 Stunden und mehr
- ☐ Ich bin teilzeit-erwerbstätig mit einer wöchentlichen Arbeitszeit von 15 bis 34 Stunden
- ☐ Ich bin teilzeit- oder stundenweise erwerbstätig mit einer wöchentlichen Arbeitszeit unter 15 Stunden
- ☐ Ich bin in Mutterschafts-/Erziehungsurlaub oder in sonstiger Beurlaubung
- ☐ Ich bin zurzeit nicht erwerbstätig

Welchen höchsten allgemeinbildenden Schulabschluss haben Sie?

- ☐ Ich bin ohne Abschluss von der Schule abgegangen
- ☐ Ich habe einen Abschluss einer Pflichtschule (z.B. Hauptschule oder entsprechende Stufe einer anderen Schulform)
- ☐ Ich habe einen Realschulabschluss oder einen vergleichbaren Abschluss
- ☐ Ich habe einen Abschluss einer Fachschule oder berufsbildenden Schule
- ☐ Ich habe die allgemeine oder fachgebundene Hochschulreife / Abitur / Matura oder die Fachhochschulreife
- ☐ Ich habe einen Universitäts- oder Fachhochschulabschluss (Bachelor, Master, Diplom, Magister, Lizentiat, Staatsexamen, Promotion, Habilitation oder andere)
- ☐ Ich habe einen anderen Schulabschluss und zwar

Falls Sie studieren, geben Sie bitte Ihre aktuelle Studienrichtung an.

(z.B. Soziologie, Physik usw.)

Studienrichtung

Wohnen Sie derzeit bei Ihren Eltern?

- ☐ Ja
- ☐ Nein

Welchen Familienstand haben Sie?

- ☐ Ich bin verheiratet
- ☐ Ich bin ledig
- ☐ Ich bin geschieden
- ☐ Ich bin verwitwet

Weiter

A5: Net income, Natural scarcity, Subjective scarcity

18%

Wie hoch ist ihr monatliches Nettoeinkommen insgesamt?

Damit ist eine Summe gemeint, die sich aus Lohn, Gehalt, Taschengeld, Einkommen aus selbständiger Tätigkeit, Rente oder Pension jeweils nach Abzug der Steuern und Sozialversicherungsbeiträge ergibt. Rechnen Sie bitte auch die Einkünfte aus öffentlichen Beihilfen, Einkommen aus Vermietung, Verpachtung, Wohngeld, Kindergeld und sonstige Einkünfte und Unterstützungen hinzu.

Monatliches Nettoeinkommen in Euro (€)

Ihr Computer ist kaputtgegangen.

	Sehr problematisch	Problematisch	Eher problematisch	Eher nicht problematisch	Nicht problematisch	Gar nicht problematisch
Wie problematisch wäre es für Sie einen neuen Computer zu finanzieren?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Ihre Miete wird um 100 € pro Monat steigen.

	Sehr herausfordernd	Herausfordernd	Eher herausfordernd	Eher nicht herausfordernd	Nicht herausfordernd	Gar nicht herausfordernd
Wie herausfordernd wird es für Sie sein die neue Miete zu zahlen?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Sie müssen für ein Vergehen 285 € Strafe zahlen.

	Sehr belastend	Belastend	Eher belastend	Eher nicht belastend	Nicht belastend	Gar nicht belastend
Wie finanziell belastend ist diese Strafe für Sie?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fühlen Sie sich momentan ärmer als Andere in Ihrem Alter?

	Sehr	Ja	Eher ja	Eher nicht	Nein	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Weiter

A6: Average monthly spending

20%

Wie hoch sind Ihre regelmäßigen monatlichen Fix-Kosten?

Bitte geben Sie die durchschnittliche Menge an Geld in Euro (€) an, die Sie monatlich für Miete, Essen, Kleidung, Transportkosten oder Schulden innerhalb der letzten 6 Monate ausgegeben haben. Bitte machen Sie eine präzise durchschnittliche Angabe für jede Kostenkategorie.

Wie viel geben Sie monatlich für Wohnkosten aus (Miete, Wohnungserhaltungskosten, Strom, Wasser, Heizung usw.)?

Wie viel geben Sie monatlich für Essen aus?

Wie viel geben Sie monatlich für Kleidung aus?

Wie viel geben Sie monatlich für Transportkosten aus?

Wie viel geben Sie monatlich für Schulden oder Kredite aus?

Wie viel geben Sie monatlich für Studiumskosten aus?

Wie viel geben Sie monatlich für Sonstiges aus?

Weiter

A7: FV-Index Calculation

23%

Basierend auf der von Ihnen zur Verfügung gestellten Information wird Ihr „Finanz-Vergleich-Index“ (FV-Index) berechnet.

Durch den Vergleich mit anderen Personen aus der StatsPlus™-Datenbank, welche zu Ihrem Profil passen, wird ein Wert generiert.

Dieser Wert drückt in Prozent aus, wie Ihr verfügbares Einkommen im Vergleich, zu Anderen die zu Ihrem Profil passen, steht.

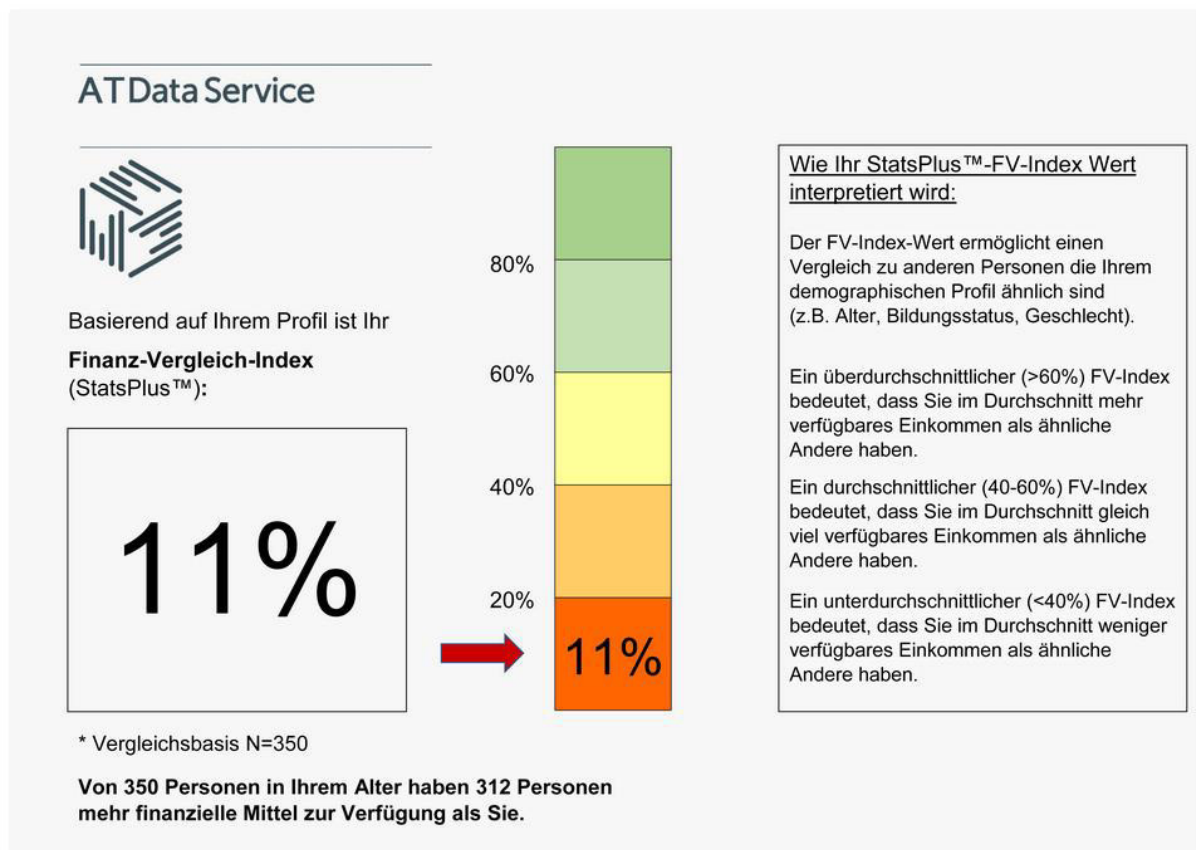
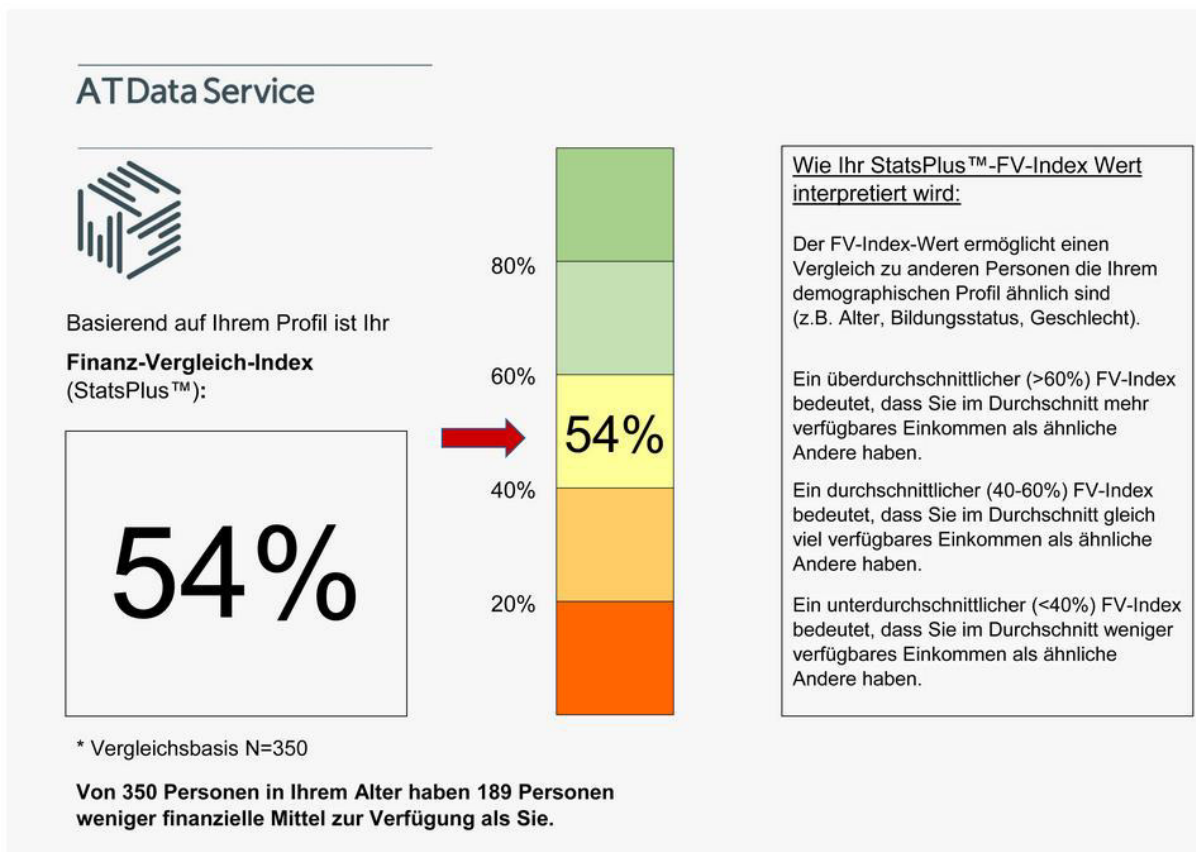
In Abhängigkeit von den aktuellen Aktivitäten in der Datenbank kann die Berechnung einige Minuten dauern. Bitte haben Sie etwas Geduld.

Weiter

27%

Ihr persönlicher FV-Index wird erstellt



A8a: Presentation of the FV-Index (“Scarcity” condition)**A8b: Presentation of the FV-Index (“No scarcity” condition)**

A9a: S7 Referral

54%

Sie werden nun auf eine andere Seite weitergeleitet.

Bitte klicken Sie dort auf "Start" um die folgende Aufgabe zu starten.

Bitte führen Sie die dann folgende Aufgabe so gewissenhaft als möglich durch.

[Weiter](#)**A9b: S7 Introduction**

SERIAL 7s

Ihnen wird eine blaue 3-stellige Zahl gezeigt (z.B. 942).

Ihre Aufgabe ist es, von dieser Zahl immer wieder 7 zu SUBTRAHIEREN. (innerhalb einer Zeitspanne von 2 Minuten)

Nachdem Sie auf „Start“ geklickt haben wird ein Kreis aus Zahlentasten erscheinen.

Geben Sie ihre Lösung durch diese Zahlentasten ein. Ihre Lösung wird in Schwarz erscheinen.

Falls Sie einen Fehler machen können sie diesen durch einen Klick auf die Taste „Korrektur“ beheben.

Wenn Sie bereit sind ihre Lösung abzugeben klicken Sie auf „Absenden“.

Denken Sie daran: SUBTRAHIEREN Sie jedes Mal 7.

Beginnen Sie die Aufgabe wenn sie bereit sind.

A9c: S7 Start**909**[start](#)

A9d: S7 Input

Nächste Zahl

A10: FV-Index Refresher (“No scarcity” condition)

Ihre Daten werden gespeichert, bitte warten Sie

■■■■■■■■■■

ATData Service

Basierend auf Ihrem Profil ist Ihr **Finanz-Vergleich-Index** (StatsPlus™):

54%

* Vergleichsbasis N=350

Von 350 Personen in Ihrem Alter haben 189 Personen weniger finanzielle Mittel zur Verfügung als Sie.

Wie Ihr StatsPlus™-FV-Index Wert interpretiert wird:

Der FV-Index-Wert ermöglicht einen Vergleich zu anderen Personen die Ihrem demographischen Profil ähnlich sind (z.B. Alter, Bildungsstatus, Geschlecht).

Ein überdurchschnittlicher (>60%) FV-Index bedeutet, dass Sie im Durchschnitt mehr verfügbares Einkommen als ähnliche Andere haben.

Ein durchschnittlicher (40-60%) FV-Index bedeutet, dass Sie im Durchschnitt gleich viel verfügbares Einkommen als ähnliche Andere haben.

Ein unterdurchschnittlicher (<40%) FV-Index bedeutet, dass Sie im Durchschnitt weniger verfügbares Einkommen als ähnliche Andere haben.

A11a: IGT Introduction**Kartenspiel****Stapel 1****Stapel 2****Stapel 3****Stapel 4**

In diesem Experiment ist es Ihre Aufgabe, wiederholt eine Karte aus einem der 4 Stapel auszuwählen. Die Auswahl können Sie mit einem Mausklick tätigen.

Mit jeder Karte können Sie Geld gewinnen, aber auch verlieren. Manche Kartenstapel werden profitabler sein als andere. Versuchen Sie Karten von den profitabelsten Stapel zu wählen um ihren Gesamtgewinn zu steigern.

Sie werden 100 Chancen haben, jene Karte zu wählen, von der Sie denken, dass sie Ihnen den höchsten Gewinn bringt. Ihr Gesamtgewinn und die Anzahl der gewählten Karten werden Ihnen am Bildschirm angezeigt.

Sie werden mit \$2000 beginnen. Bitte bearbeiten Sie die Aufgabe so, als würde der Gewinn ausgezahlt werden.

Klicken Sie auf „Start“ um zu beginnen.

[Start](#)

A11b: IGT Start**Stapel 1****Stapel 2****Stapel 3****Stapel 4**

Wählen Sie eine Karte.

A11c: IGT Example

Karten gewählt: 17 von 100

Bisherige Summe: €2250

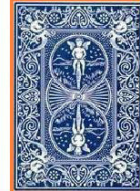
Neue Summe: €1100



Stapel 1



Stapel 2



Gewinn: €100
Verlust: €1250



Stapel 4

[Weiter](#)**A12: Well-being, Accuracy FV, Subjective Scarcity**

Haben Sie sich während der Studie wohlgefühlt?

	Sehr	Eher ja	Eher nicht	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fühlen Sie sich zur Zeit müde?

	Sehr	Eher ja	Eher nicht	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fanden Sie das der FV-Index Ihr Einkommen im Vergleich zu anderen Menschen gut abgebildet hat?

	Sehr	Eher ja	Eher nicht	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fühlen Sie sich momentan ärmer als Andere in Ihrem Alter?

	Sehr	Eher ja	Eher nicht	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Weiter](#)

A13: Debriefing questions

Haben Sie Vermutungen was diese Studie zu untersuchen beabsichtigt?

Wollen Sie noch etwas zu dieser Studie anmerken?

Weiter

A14: Debriefing

Wichtige Hinweise! Bitte genau lesen!

Zum Ende der Studie möchten wir Sie auf zwei wichtige Punkte hinweisen:

1) Der FV-Index, welchen Sie während der Studie erhalten haben, wurde von uns **frei erfunden** und steht nicht in Zusammenhang mit den von Ihnen angegebenen Daten. Bitte ziehen Sie daraus keine Schlüsse hingehend ihrer finanziellen Situation.

2) Bitte sprechen Sie nicht mit anderen Studierenden über diese Studie. Dies könnte die Ergebnisse zukünftiger Forschung verfälschen.

In den nächsten Tagen werden Sie von uns eine E-Mail erhalten, in der der Zweck dieser Studie näher erläutert wird.

Ich habe diese Hinweise gelesen und verstanden

☐

Weiter

A15: Closure

Sie sind am Ende der Studie angelangt.

Vielen Dank für Ihre Teilnahme!

Sie sollten den LABS-Credit zur Vergütung ihrer Teilnahme bereits erhalten haben.

Falls dies nicht so ist, wenden Sie sich bitte an einen Versuchsleiter.

Bitte bestätigen Sie uns den Erhalt des Credits indem Sie sich auf der Liste (neben der Türe) eintragen.

Danach haben Sie die Studie beendet und können den Testraum verlassen.

Bitte nehmen Sie dabei Rücksicht auf die Konzentration der anderen TeilnehmerInnen.

Falls Sie noch Fragen haben stehen wie Ihnen gerne zur Verfügung
sobald alle TeilnehmerInnen den Test beendet haben.

Appendix B: Material Prestudy

B1: Introduction

Liebe Teilnehmerin, lieber Teilnehmer,

Herzlichen Dank für Ihre Bereitschaft, an dieser kurzen Studie teilzunehmen.

Die Studie wird vom Arbeitsbereich Angewandte Sozialpsychologie und Konsumentenverhaltensforschung der Universität Wien durchgeführt und dient ausschließlich wissenschaftlichen Zwecken. Ihre Angaben werden vertraulich behandelt und anonymisiert ausgewertet, sodass keine Rückschlüsse auf Ihre Person möglich sind.

Diese Studie sollte in etwa 5min in Anspruch nehmen.

Es ist für uns wichtig, dass Sie alle Fragen beantworten.

Es geht um Ihre persönliche Einschätzung, es gibt keine richtigen oder falschen Antworten.

Wenn Sie damit einverstanden sind, klicken Sie auf "Weiter" und beginnen Sie mit der Beantwortung des Fragebogens.

Weiter

B2: Example

Sessel

- Buchegestell
- Webstoff bezogen
- Schaumfüllung



Bitte geben Sie an wie begehrenswert und nützlich der oben angezeigte Gegenstand / Artikel für Sie ist.

1 - gar nicht begehrenswert / nützlich

8 - sehr begehrenswert / nützlich

Wie begehrenswert ist dieser Gegenstand / Artikel für Sie?

1 2 3 4 5 6 7 8

1 2 3 4 5 6 7 8

Wie nützlich ist dieser Gegenstand / Artikel für Sie?

Weiter

B3: Demographics

Welches Geschlecht haben Sie?

- ☐ weiblich
☐ männlich

In welchem Jahr sind Sie geboren?

Bitte geben Sie das Jahr in 4 Ziffern an (z.B. 1980).

Geburtsjahr

Sind Sie zurzeit erwerbstätig?

Unter Erwerbstätigkeit wird jede bezahlte bzw. mit einem Einkommen verbundene Tätigkeit verstanden, egal welchen zeitlichen Umfang sie hat. Was auf dieser Liste trifft auf Sie zu?

- ☐ Ich bin vollzeit-erwerbstätig mit einer wöchentlichen Arbeitszeit von 35 Stunden und mehr
☐ Ich bin teilzeit-erwerbstätig mit einer wöchentlichen Arbeitszeit von 15 bis 34 Stunden
☐ Ich bin teilzeit- oder stundenweise erwerbstätig mit einer wöchentlichen Arbeitszeit unter 15 Stunden
☐ Ich bin in Mutterschafts-/Erziehungsurlaub oder in sonstiger Beurlaubung
☐ Ich bin zurzeit nicht erwerbstätig

Welchen höchsten allgemeinbildenden Schulabschluss haben Sie?

- ☐ Ich bin ohne Abschluss von der Schule abgegangen
☐ Ich habe einen Abschluss einer Pflichtschule (z.B. Hauptschule oder entsprechende Stufe einer anderen Schulform)
☐ Ich habe einen Realschulabschluss oder einen vergleichbaren Abschluss
☐ Ich habe einen Abschluss einer Fachschule oder berufsbildenden Schule
☐ Ich habe die allgemeine oder fachgebundene Hochschulreife / Abitur / Matura oder die Fachhochschulreife
☐ Ich habe einen Universitäts- oder Fachhochschulabschluss (Bachelor, Master, Diplom, Magister, Lizentiat, Staatsexamen, Promotion, Habilitation oder andere)
☐ Ich habe einen anderen Schulabschluss und zwar

Falls Sie studieren, geben Sie bitte Ihre aktuelle Studienrichtung an.

(z.B. Soziologie, Physik usw.)

Studienrichtung

Weiter

B4: Closure

Sie sind am Ende der Studie angelangt.

Vielen Dank für Ihre Teilnahme,

Sie haben uns damit sehr geholfen!

Falls Sie Fragen oder Anmerkungen haben wenden Sie sich bitte an:

a00906491@univie.ac.at oder
a01348602@univie.ac.at

Appendix C: Material Study 2

This appendix only contains material which is, compared to Study 1, new or altered.

C1: Presentation of the FV-Index (“No scarcity” condition)

ATData Service

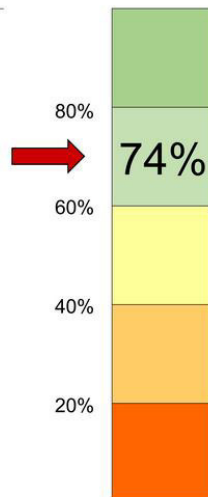


Basierend auf Ihrem Profil ist Ihr
Finanz-Vergleich-Index
(StatsPlus™):

74%

* Vergleichsbasis N=350

**Von 350 Personen in Ihrem Alter haben 259 Personen
weniger finanzielle Mittel zur Verfügung als Sie.**



Wie Ihr StatsPlus™-FV-Index Wert interpretiert wird:

Der FV-Index-Wert ermöglicht einen Vergleich zu anderen Personen die Ihrem demographischen Profil ähnlich sind (z.B. Alter, Bildungsstatus, Geschlecht).

Ein überdurchschnittlicher (>60%) FV-Index bedeutet, dass Sie im Durchschnitt mehr verfügbares Einkommen als ähnliche Andere haben.

Ein durchschnittlicher (40-60%) FV-Index bedeutet, dass Sie im Durchschnitt gleich viel verfügbares Einkommen als ähnliche Andere haben.

Ein unterdurchschnittlicher (<40%) FV-Index bedeutet, dass Sie im Durchschnitt weniger verfügbares Einkommen als ähnliche Andere haben.

Weiter

C2a: Affordability Introduction

Nun möchten wir Ihre Einschätzung zur Kaufkraft Ihres verfügbaren Einkommens testen. Dazu verwenden wir Ihre persönlichen Daten die Sie unserer Datenbank zur Verfügung gestellt haben (Einkommen, Ausgaben und Personendaten).

Unser Programm hat Ihr Profil analysiert und hat Ihr täglich verfügbares Budget berechnet. Das ist die Menge an Geld die Ihnen täglich zur freien Verfügung steht, wenn alle Fixkosten bezahlt sind. Die Höhe Ihres täglichen Budgets wird Ihnen bewusst nicht gezeigt, weil wir prüfen möchten wie gut Sie Ihre Kaufkraft einschätzen können.

Vereinfacht dargestellt berechnet unsere Software Ihr täglich verfügbares Budget mit dieser Formel.

$$\text{BUDGET} = \text{EINKOMMEN} - (\text{KOSTEN} + \text{SCHULDEN})$$

Ihnen werden Beispiele für Ausgaben gezeigt die Andere aus der Datenbank in den letzten 12 Monaten getätigt haben. Die Kosten für die Ausgaben werden Ihnen bewusst nicht gezeigt, weil wir prüfen möchten wie gut Sie Ihre Kaufkraft einschätzen können.

Bitte schätzen Sie auf einer Skala ob die Kaufkraft Ihres täglichen Budgets für die Ausgaben ausreichend ist, bzw. wie lange Sie dafür sparen müssten. Sie bekommen zu jeder Ausgabe ein Feedback mit der korrekten Antwort.

Weiter

C2b: Affordability Input (example)**Waschmaschine**

- Fassungsvermögen: 6 kg
- Energie-/Wasserverbrauch pro Jahr (kWh/L): 146/9146
- Geräuschniveau Waschen/Schleudern: 57/74 dB(A)



Wie lange müssten Sie 100% Ihres täglich frei verfügbaren Budgets sparen um für die oben genannte Ausgabe bezahlen zu können?

[Weiter](#)**C2c: Affordability Feedback (“Scarcity” condition)****Waschmaschine**

- Fassungsvermögen: 6 kg
- Energie-/Wasserverbrauch pro Jahr (kWh/L): 146/9146
- Geräuschniveau Waschen/Schleudern: 57/74 dB(A)

Mit dem derzeitigen Budget
NICHT LEISTBAR

[Weiter](#)

C2d: Affordability Feedback (“No scarcity” condition)

Waschmaschine

- Fassungsvermögen: 6 kg
- Energie-/Wasserverbrauch pro Jahr (kWh/L): 146/9146
- Geräuschniveau Waschen/Schleudern: 57/74 dB(A)

Mit demzeitigem Budget
IN 3 WOCHEN LEISTBAR



Weiter

C3a: Essay Task (“Near” condition)

Bitte nehmen Sie sich einen Augenblick Zeit, um über Ihre finanzielle Situation nachzudenken und insbesondere darüber, wie Sie diese verbessern könnten.

Im Anschluss schreiben Sie bitte einen kurzen Text (ca. eine halbe Seite) über Möglichkeiten der **unverzüglichen** Kürzung Ihrer Ausgaben und der **umgehenden** Verbesserung Ihrer finanziellen Situation. Sie können diesen in Volltextform oder auch in Form von Stichpunkten verfassen.

Die Bearbeitungszeit für diese Aufgabe beträgt 5 Minuten. Bitte nutzen Sie die Zeit vollständig.

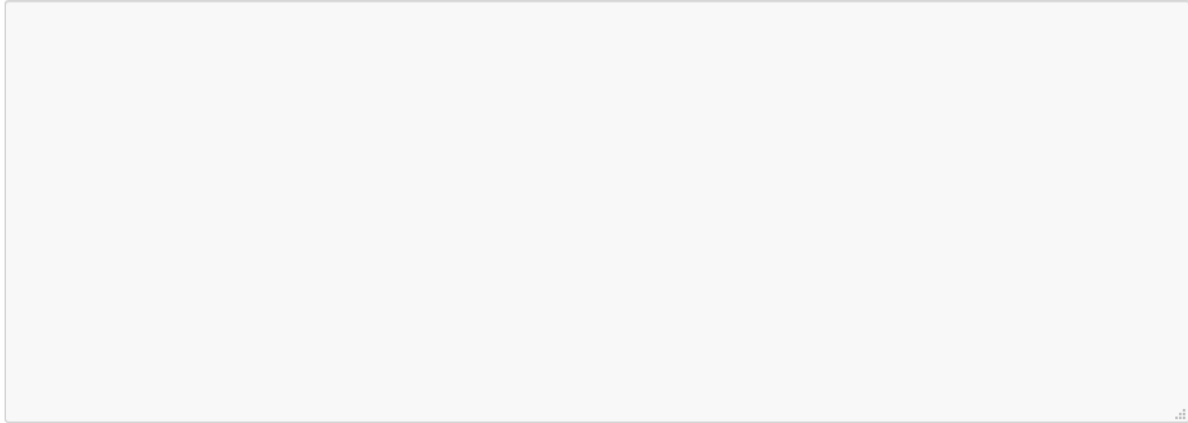
Weiter (2/36)

C3a: Essay Task (“Distant” condition)

Bitte nehmen Sie sich einen Augenblick Zeit, um über Ihre finanzielle Situation nachzudenken und insbesondere darüber, wie Sie diese verbessern könnten.

Im Anschluss schreiben Sie bitte einen kurzen Text (ca. eine halbe Seite) über Möglichkeiten der Kürzung Ihrer Ausgaben **im Jahr 2020** und der **langfristigen** Verbesserung Ihrer finanziellen Situation. Sie können diesen in Volltextform oder auch in Form von Stichpunkten verfassen.

Die Bearbeitungszeit für diese Aufgabe beträgt 5 Minuten. Bitte nutzen Sie die Zeit vollständig.



Weiter (268)

C4a: TD Task Introduction

Finanzielle Entscheidungen

In dieser Aufgabe bitten wir Sie, sich zwischen unverzüglich verfügbaren Belohnungen und verspätet verfügbaren Belohnungen zu entscheiden.

Zum Beispiel könnten Sie gefragt werden: "Welche Option würden Sie bevorzugen: 300€ sofort oder 1000€ in einem Jahr?"

Es gibt keine richtigen oder falschen Antworten, nur die von Ihnen bevorzugte Option. Es ist wichtig, dass Sie alle Entscheidungen so treffen, als würde die Geldsumme ausgezahlt werden.

Bitte denken Sie daran, dass die Verzögerung der zweiten Option "ein Jahr von jetzt" ist.

<<Bitte klicken Sie auf den Pfeil unterhalb um fortzufahren.>>

>>

C4b: TD Task Example

Angenommen Sie könnten zwischen dem Erhalt von 500€ sofort und dem Erhalt von 1000€ in einem Jahr wählen.

Was würden Sie bevorzugen?

☐ 500€ sofort

☐ 1000€ in einem Jahr

>>

C4c: TD Task Closure

Sie haben diese Teilaufgabe abgeschlossen.
Vielen Dank!

Bitte klicken Sie auf den ">>"-Knopf um mit der Studie fortzufahren.

>>

C5: Well-being, Accuracy FV, Accuracy Affordability, Subjective scarcity

Haben Sie sich während der Studie wohlgefühlt?

	Sehr	Ja	Eher ja	Eher nicht	Nein	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fühlen Sie sich zur Zeit müde?

	Sehr	Ja	Eher ja	Eher nein	Nein	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fanden Sie dass der FV-Index Ihr Einkommen im Vergleich zu anderen Menschen gut abgebildet hat?

	Sehr	Ja	Eher ja	Eher nein	Nein	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fanden Sie dass das Feedback zu Ihrer Kaufkraft Ihr täglich verfügbares Budget gut abgebildet hat?

	Sehr	Ja	Eher ja	Eher nein	Nein	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Fühlen Sie sich momentan ärmer als Andere in Ihrem Alter?

	Sehr	Ja	Eher ja	Eher nein	Nein	Gar nicht
Antworten Sie bitte nach Ihrem Gefühl.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Weiter

C6: Debriefing

Wichtige Hinweise! Bitte genau lesen!

Zum Ende der Studie möchten wir Sie auf zwei wichtige Punkte hinweisen:

1) Der FV-Index, welchen Sie während der Studie erhalten haben, wurde von uns **frei erfunden** und steht nicht in Zusammenhang mit den von Ihnen angegebenen Daten. Bitte ziehen Sie daraus keine Schlüsse hingehend Ihrer finanziellen Situation.

2) Das Feedback zu Ihrem monatlichen verfügbarem Budget und Ihrer Kaufkraft ist ebenso **frei erfunden**. Bitte ziehen Sie auch daraus keine Schlüsse hingehend Ihrer finanziellen Situation.

3) Bitte sprechen Sie nicht mit anderen Studierenden über diese Studie. Dies könnte die Ergebnisse zukünftiger Forschung verfälschen.

In den nächsten Tagen werden Sie von uns eine E-Mail erhalten, in der der Zweck dieser Studie näher erläutert wird.

Ich habe diese Hinweise gelesen und verstanden



Weiter

Appendix D: Zusammenfassung

Menschen die in Armut leben, fokussieren oft stark auf kurzfristige finanzielle Verbesserungen und lassen dabei ihre langfristige finanzielle Situation außer Acht. Dies verursacht ein Entscheidungsverhalten, welches auf längere Sicht Armut verstärkt. Die vorliegende Abschlussarbeit untersucht psychologische Distanz als eine Methode, diesen Teufelskreis zu durchbrechen. Eine Erhöhung der psychologischen Distanz zur eigenen finanziellen Situation sollte eine abstraktere Denkweise und damit auch eine Verlagerung des Fokus auf langfristige Verbesserungen hervorrufen. Um diese Vermutung zu untersuchen, wurden zwei Studien durchgeführt. Studie 1 prüfte den Effekt einer Armutsmanipulation auf die Profitorientierung der ProbandInnen. Diese Manipulation zeigte keinen signifikanten Effekt auf die Profitorientierung der ProbandInnen oder deren subjektive finanzielle Knappheit. In Studie 2 wurde deshalb eine verbesserte Version dieser Armutsmanipulation angewandt. Ebenso wurde die psychologische Distanz der Probanden zu ihrer finanziellen Situation manipuliert und die Auswirkungen auf die Wertschätzung zukünftiger Belohnungen untersucht. Die verbesserte Armutsmanipulation erhöhte die subjektive finanzielle Knappheit der ProbandInnen, hatte allerdings keinen signifikanten Effekt auf deren Wertschätzung zukünftiger Belohnungen. Die Resultate zeigten ebenso keinen Effekt von erhöhter psychologischer Distanz auf die Wertschätzung zukünftiger Belohnungen. Der psychologische Kontext von Armut war essentiell für die Beantwortung der zentralen Forschungsfrage, ob psychologische Distanz einen Einfluss auf die durch Armut erzeugte geringere Wertschätzung von zukünftigen Belohnungen habe. Da es unklar bleibt, ob die Armutsmanipulation diesen Kontext erzeugen konnte, konnte die zentrale Forschungsfrage nicht anhand der durchgeführten Studien beantwortet werden. Die Implikationen der Resultate und Vorschläge für zukünftige Forschung werden diskutiert.

Schlüsselwörter: Armut, monetäre Knappheit, Construal Level Theory, psychologische Distanz, finanzielle Entscheidungen, temporal discounting