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Diplomarbeit

Titel der Arbeit

You can tempt me all you want!

How marketing stimuli unconsciously activate self-control

Verfasser

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Angestrebter akademischer Grad

Magister der Naturwissenschaften (Mag. rer. nat.)

Wien, im Jänner 2012

Studienkennzahl: 298

Studienrichtung: Psychologie

Betreuer: o. Univ.-Prof. Dr. Arnd Florack

Danksagung

Ich möchte an dieser Stelle allen Menschen meinen Dank aussprechen, die mich -direkt oder indirekt- bei der Erstellung dieser Arbeit nach Kräften unterstützt haben.

Meine Familie, die immer an mich geglaubt hat, meine Freundin Julia sowie all meine Freunde und Bekannte, ohne die diese Diplomarbeitsuntersuchung nicht hätte stattfinden können.

Großer Dank gebührt auch meinem Betreuer Prof. Arnd Florack, der immer für mich ansprechbar war und mich mit Ideen und Hilfestellungen maßgeblich unterstützte.

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Abstract

In this study we investigate whether buying impulsiveness, the situational context a person is put in and a person's sex have an effect on the automatic and unconscious activation of control goals such as "saving" via marketing stimuli such as the names of popular commercial chains. Thus, we extend the work of Fishbach, Friedman and Kruglanski (2003) and convey their findings into the marketing context. One hundred and one participants completed questionnaires and underwent a Lexical Decision Task. Men took significantly longer to identify control goals as correct words when being primed with marketing stimuli compared to when being primed with irrelevant primes. In women, however, exactly the opposite pattern emerged. Additionally, higher general self-control led to a faster recognition of control goals as correct words, replicating Fishbach et al.'s (2003) finding.

Keywords: impulsive buying, unconscious self-control, self-control, automaticity, consumer behavior

Zusammenfassung

In dieser Studie wird untersucht, ob Kaufimpulsivität, der situative Kontext, in dem eine Person sich befindet und das Geschlecht dieser Person einen Effekt auf die automatische und unbewusste Aktivierung von Kontrollzielen hat. Ein Kontrollziel wäre z.B. „sparen“, welches mittels Marketingstimuli, beispielsweise den Namen von bekannten Handelsketten, aktiviert wird. Dies schließt an die Arbeit von Fishbach, Friedman und Kruglanski (2003) an und überträgt ihre Ergebnisse in den Marketingkontext. 101 Versuchspersonen beantworteten Fragebögen und unterzogen sich lexikalen Entscheidungsaufgaben („Lexical Decision Task“). Beim Priming mit Marketingstimuli brauchten Männer signifikant länger als beim Priming mit irrelevanten Wörtern, um Kontrollziele als korrekte Wörter zu klassifizieren. Bei Frauen trat genau der gegenteilige Effekt auf. Höhere Selbstkontrolle führte außerdem zur schnelleren Klassifizierung von Kontrollzielen als korrekte Wörter, was Fishbach et al.'s (2003) Ergebnisse bestätigt.

Schlagwörter: Kaufimpulsivität, unbewusste Selbstkontrollaktivierung,
Selbstkontrolle, Automatismen, Konsumentenverhalten

Imagine going home from work. You're walking through a street filled with shops trying not to glance at all the offers presented to you since you're in need of saving money for a trip you've been planning to take for quite some time now. Suddenly someone to your left yells out your name, so you turn. You realize that the person was talking to somebody else and suddenly you see something you shouldn't have seen: a notebook you have been longing for. In addition its' price has been significantly reduced. Now you have an angel on one shoulder telling you that you should think about the negative consequences if you were to buy the item. On the other shoulder a little devil is whispering in your ear: "Don't worry, money comes and goes, forget about your financial struggle- let yourself go!" Would you buy the notebook even though you already have a working one and you should be saving money?

Well, some of us would buy the notebook, others wouldn't. As funny and exaggerated as this little story might have sounded to you, decisions like these must be made by each and every individual day by day. Much more important than the question if one would buy the notebook when one has the obligation to save for a trip is another question. Specifically, what scientists must ask is: *why* would some people throw their long- cherished plans overboard for something they don't really need, while others wouldn't? Or why can some people control themselves in the presence of a temptation while other people abandon themselves to this temptation?

Obviously, self-control processes play an important role in understanding this phenomenon. Since we would have to suppress the wish to buy the notebook in the given example in order to pursue our long term goal, a buying situation might automatically and unconsciously trigger the activation of self-control (Lee, Carmon & Dhar, 2008). Specifically, over the course of time some people might develop strong associations between tempting marketing- stimuli and certain important long- term goals, an

assumption which is supported by the work of Fishbach, Friedman and Kruglanski (2003). This means that marketing activities could activate long- term goals which demand saving money rather than spending it. Lee et al. (2008) were able to demonstrate that marketing activities can sometimes backfire and may suppress rather than enhance spending. The authors prompted half of their participants to spend by giving them a shopping basket and coupons when they entered the store. The other half received just the coupons. Participants who were offered the basket spend significantly less than those offered just the coupons. Lee et al. (2008) concluded that the shopping basket can make the possibility of overspending more salient, thus automatically activating the higher-order goal of acting prudently or saving instead of spending. What the authors could not test due to their design was if this activation happened not only automatically but unconsciously as well.

The main purpose of the present research is, therefore, to test whether marketing stimuli can automatically and unconsciously trigger (long- term) higher- order goals of saving. Moreover, we test whether a person's buying impulsiveness has an effect on this activation. People who are low in buying impulsiveness are much more likely to react to a marketing- stimulus by unconsciously activating self- control. Additionally, the situational context could have an effect on the activation. People who are instructed to imagine themselves being in a shopping situation are more likely to show the activation of higher- order goals through marketing- stimuli. Finally, we test whether there are any sex differences regarding this activation.

Impulsive vs. Reflective Buying

Rook and Fisher (1995) define buying impulsiveness as “a consumer's tendency to buy spontaneously, unreflectively, immediately, and kinetically (p. 306). It can be seen as a trait which implies that there are people who are generally more inclined to making

impulsive purchases than others (Rook & Fisher, 1995; Vohs & Faber, 2007; Beatty & Ferrell, 1998).

The presence of actual impulsive buying behavior occurring in people high in buying impulsiveness depends- at least to some extent- on normative evaluations, i.e. judgments about the appropriateness of engaging in such behaviors (Rook & Fisher, 1995). The author's participants read a vignette about a girl and were asked to take an impulse purchase decision for this fictitious girl. Before that, participant's buying impulsiveness was measured. Then they were told that the girl had made the impulse purchase and were asked about their normative evaluations regarding her decision. Next, the correlation between respondent's buying impulsiveness and their situational behavior (i.e. if they decided that the girl should make the impulse purchase or not) was calculated. Results showed that only for those participants who had evaluated the girl's impulse purchase decision positively, the correlations between impulse buying and their hypothetical purchase decision were substantial and significant. Thus, the authors concluded that "normative evaluations moderate the link between the trait and behavioral aspects of impulsive buying" (Rook & Fisher, 1995, p. 309).

Culture also seems to have a quite big effect on compulsive as well as impulsive buying. Kacen and Lee (2002) discovered that Caucasian individualist consumers show more compulsive buying than Asian collectivist consumers. A study conducted by Zhang, Page-Winterich and Mittal (2010) revealed the impact of Power Distance Belief (PDB) on impulsive buying. High PDB significantly predicted lower unplanned buying tendencies and lower amounts of money spent.

Other authors demonstrated the effect of mood and emotion on impulsive buying showing that pleasure induced by shopping environments led to more money being spent in a store by participants (Donovan, Rossiter, Marcoolyn & Nesdale, 1994).

Dittmar, Beattie and Friese (1995) point out the impact of self-identity on impulsive purchases. Their findings suggest that people will be more likely to buy impulsively if they believe there is a discrepancy between certain aspects of themselves and their ideals.

Vohs et al. (2006) point out that the main characteristic of impulsive purchasing is the urge to buy which arises in the consumer in a spontaneous way. When such impulses arise, low self-control e.g. caused by self-regulatory depletion might cause people to act upon these impulses more often (Vohs & Faber, 2005; as cited in Vohs et al., 2006). Participants low in general impulsive spending tendencies showed increased buying behavior when their self-regulatory resources were depleted (Vohs & Faber, 2005; as cited in Vohs et al., 2006).

All in all, it seems as if a wide range of factors influence whether a person buys impulsively or reflectively and in a planned way. Still, literature on impulsive buying suggests that one has to differentiate between a person's tendency to buy impulsively which can be seen as a trait and actual impulsive buying behavior. Consequently, we must stress that our study focuses solely on a person's tendency to buy impulsively and whether this tendency moderates the automatic and unconscious activation of control-goals via temptations. If this tendency to buy impulsively "gets the upper hand" and a person actually purchases something impulsively largely depends, however, on the goals a person has and –to a major part– on a person's self-control.

Self-Control

In this article, we use the terms "self-control" and "self-regulation" interchangeably. In order to achieve what we want in life, we often have to exert self-control. Whether it is academic success we want to achieve or buying our dream car, occasional tempting impulses for indulgence must be suppressed for the greater good.

Vohs, Baumeister and Tice (2006) describe self-regulation as “the inner psychological process by which people alter their responses to bring them in line with various rules and standards” (p. 349). It can be seen as a mechanism that keeps us from doing just what we feel like doing, irrespective of others feelings, our financial situation etc. Recent neuroscientific evidence suggests that different forms of self-control (motor and affective self-control) share a common neurocognitive substrate in the right inferior frontal gyrus (Tabibnia, Monterosso, Baicy, Aron, Poldrack, Chakrapani, Lee & London, 2011). These findings support Muraven and Baumeister’s (2000) assumption that enhancing self-control in one domain may lead to improvements in other domains as well.

Self-regulation can be seen as a subcomponent process of the executive function (Baumeister & Vohs, 2003). It consists of three parts: establishing a goal or desired state (target state), performing the right behaviors to accomplish the goal and monitoring the distance between actual and target state (target- actual comparison) which serves as feedback. This short example shall illustrate the three components: A year ago you decided to go on a trip to New Zealand with your partner and are very excited to get to know this beautiful country (target). In order to accomplish this goal, you have to save a substantial amount of money (behavior which guarantees the progress towards the goal). In addition, you will also have to have a look at your finances from time to time in order to see if you have really made progress or if you have to put more effort into this task (target- actual comparison).

Following these simple guidelines, goal accomplishment should be relatively easy to achieve. Unfortunately, the best tactics sometimes get undermined. The successful use of self-regulatory tactics could be weakened by various factors such as: competing goals, lack of skills to perform the appropriate behaviors and decimated resources needed to exert self-control (Baumeister and Heatherton, 1996). To stick to our example, you will

have other goals apart from going to New Zealand with your partner. Maybe you need new shoes because yours are already starting to look like Swiss cheese. Maybe your recent notebook is slower than a tortoise which makes you blow a fuse every now and then when you have to get work done in a hurry. Even though all of these reasons may provide a rational foundation for giving in to temptation and e.g. buying the new notebook, you must “stick to the plan” and save your money to achieve the long-term goal (and to evade possible sanctions imposed on you by your partner). In order to do so successfully, one has to put great cognitive effort into this task day by day (Muraven & Baumeister, 2000). Participants in an experiment who had to memorize an 8-digit number spent significantly more money than did participants who had to memorize a 2-digit number or no number at all (Lee et al., 2008). Accordingly, this means that in a moment of low cognitive resources and fatigue, self-regulation and thus withstanding temptations is much more difficult (Baumeister & Heatherton, 1996). It seems as if self-regulation is based on a limited reservoir of energy which can thus be depleted (Faber & Vohs, 2004; Hagger, Wood, Stiff & Chatzisarantis, 2010). Loss of energy can therefore lead to impaired self-regulation in a lot of domains, e.g. spending impulsively (Vohs & Faber, 2007), failing at upholding diets (Kahan, Polivy & Herman, 2003; Vohs & Heatherton, 2000) as well as indulging inappropriate sexual impulses (Gailliot & Baumeister, 2007a) and poorer performance in a wide variety of seemingly unrelated spheres, for example physical activities such as hand gripping (Muraven, Tice & Baumeister, 1998) or impression management (Vohs, Baumeister & Ciarocco, 2005). Thus, upholding a high level of energy seems to be necessary for controlling ourselves.

Whether self-control-efforts succeed in the long run also depends substantially on our goal-related behavior and cognitions. Gollwitzer and Sheeran (2006) stress the importance of implementation intentions in the form of if-when sentences which

determine exactly what to do and when to do it in the course of goal pursuit. In one experiment (Gollwitzer & Brandstätter, 1997), participants committed themselves to writing a Christmas report in the two days following Christmas Eve and sending it to the authors. Half of those participants were asked to form implementation intentions. Significantly more reports were returned significantly earlier by those participants who had formed implementation intentions compared to those who had not formed implementation intentions. The reason for this improvement in goal attainment is seen in associative links between the situational contexts and intended behavior. The respective behavior is triggered when the specified context is encountered, thus enhancing goal-accomplishment (Gollwitzer, 1993). The completion of difficult goal intentions is substantially improved by implementation intentions, regardless of whether they are self-set or induced by others (Gollwitzer & Brandstätter, 1997). Even the effect of priming can be fended off by implementation intentions. Gollwitzer, Scheeran, Trötschel and Webb (2011) either primed the goal of “fast” in their participants or no goal at all in a driving-simulation experiment. The first group was instructed to form the goal intention to drive as fast as safety allowed. The second group had to form the same goal plus an implementation intention. Finally, the third group received no instruction at all (control group). Results showed that priming the goal of “fast” led to a significant increase in driving speed compared to a baseline measure. However, this significant increase only appeared in the goal- intention group and in the control group. In the implementation intention group, no significant increase in speed compared to a baseline measure was found. In summary, it can be stated that implementation intentions are a powerful self-regulatory tool which helps to shield behavior from being affected by all sorts of disruptions, thus constituting a valuable self-regulatory tool.

Still, to be able to exert deliberate self- control one trivial *conditio sine qua non* has to be in place: self- control must be activated first of all! In other words, a person has to be aware that a certain situation he or she is in demands self- control. Following our example, you need to be aware that momentary allurements such as shoes at reduced prices could threaten the attainment of the long- term goal to go to New Zealand. Automatic and unconscious mechanisms which trigger self- control would exactly serve this purpose. Fishbach, Friedman and Kruglanski (2003) were able to demonstrate that automatically activated and unconscious self- control mechanisms exist (see also, e.g. Chartrand, Huber, Shiv & Tanner, 2008; Dijksterhuis & Arts, 2010; Fedorikhin & Patrick, 2010; Ferguson, 2008). According to goal system theory (Kruglanski, 2002), goals are typically connected to means via associative links. The activation of a goal, therefore, leads to a simultaneous activation of means to achieve this specific goal. In the same vein, goals may also be linked to means which most definitely hinder goal attainment or to competing goals such as temptations (Fishbach, Friedman & Kruglanski, 2003). Fishbach et al. (2003) provided evidence for this assumption. They showed that words which were associated with temptations led to activation of control goals, i.e. long-term, higher order goals which can only be obtained by constantly exerting self- control. More precisely, the authors primed their participants with temptation- or sin-related words such as sex and drugs and measured how quickly they identified rows of letters (targets) as being words or non- words. Participants identified religious control-goals (e.g. religion) as words significantly faster when being primed by temptation- related words than by irrelevant words (e.g. basket). Furthermore, cognitive load had no impact on this activation which leads us to the conclusion that this sort of goal activation happens not only unconsciously but effortlessly as well, an assumption which supports the notion that there are explicit as well as implicit self-control operations (Fishbach et al., 2003;

Fishbach & Shah, 2006). The authors stress that the activation of control-goals through temptations is not due to any semantic or conceptual links but is developed through the self-regulatory interplay between goals and temptations (Fishbach et al., 2003). The authors justify their assumption by pointing out two facts. First and foremost, temptations and goal-related constructs share different, sometimes even contradictory semantic content. Secondly, if temptation representations were somehow subordinate to overriding goal representations in a semantic network, spreading activation models would merely predict a reduced activation of overriding goals by lower concepts (e. g. temptations), not inhibition as the authors found.

Unconsciously activated goals show the same characteristics as consciously set goals (Chartrand & Bargh, 1996; Chartrand et al. 2008): they guide individual's attention towards goal-relevant environmental information (Bargh, Gollwitzer, Lee-Chai, Barndollar and Trötschel, 2001). People whose cooperation concept was activated through a priming procedure behaved much more cooperatively than the control group (Bargh et al., 2001). When people were asked to think about their partners, goals which were part of their partner's representations became activated (Fitzsimons & Bargh, 2003). Fitzsimons and Bargh (2003) also asked half of their participants to answer a few questions about a friend, the other half to answer questions about a co-worker. Participants who had answered questions about a friend were significantly more willing to help an experimenter than participants who had answered questions about a co-worker. This was due to the fact that helping a friend was part of the concept of friendship. In another study, Fitzsimons, Chartrand and Fitzsimons (2008) primed their participants either with Apple computers or with IBM computers. The former part of the sample performed significantly better in a creativity test. It even seems possible that not only goal activation but also goal completion happen unconsciously, if goal pursuit and attainment

is relatively easy (Bongers, Dijksterhuis & Spears, 2010). Even goal conflicts seem to remain unconscious at times (Kleimann & Hassin, 2011).

Conversely, using religious control-goals as primes led to the opposite effect in the aforementioned study: temptation- related words were identified more slowly (Fishbach et al., 2003). This evidence replicated the findings of Shah, Friedman & Kruglanski (2002) who discovered that the activation of focal goals inhibits the accessibility of competing goals. More specifically, the authors primed their participants with nongoal attribute primes as well as goal attribute primes, all of which were generated by the participants themselves. Goal attribute primes were attributes the participants wished to possess. Nongoal attributes were those which the participants believed were a fireman's goal to possess. Participants then underwent a lexical decision task and recognized their goals significantly faster as a correct word when they were preceded by nongoal primes than when they were preceded by goal primes. If one goal facilitates the activation or inhibition of another depends on whether the attainment of the one goal is related to the attainment of the other goal (Shah et al., 2002). Fishbach et al. (2003) argued that, ironically, the activation of control-goals by temptation stimuli might be more effective than direct activation of such goals. This is due to the fact that the former induces self- control related intentions while the latter does not. Additionally, it could be argued that automatic and unconscious activation of self- control is clearly more resource-sparing, thus it is also a more efficient way of activating high-priority goals. Kruglanski et al. (2002) postulated that the activation of hierarchically lower goals can lead to the activation of hierarchically higher goals, whereas activating hierarchically higher goals leads to inhibition of hierarchically lower goals. Referring to our starting example this means that to catch sight of the notebook (hierarchically lower goal) will most likely activate the goal "save money to go to New Zealand" (hierarchically higher goal) whereas

thinking about saving money to go to New Zealand will block thoughts about buying a notebook. Consequently, as you may not think about saving money constantly, the mechanism by which your “alarm bells” get activated through a temptation is obviously more effective and safer than always thinking about your higher- order goal (saving). Just as the automatic and unconscious activation of a control- goal by a temptation seems to be more effective than its direct activation, priming a certain goal seems to be more effective than explicitly instructing people to attain a certain goal. Bargh et al. (2001) were able to demonstrate that priming a goal worked better than explicit instruction in changing adults’ behavior. Kesek, Cunningham, Packer and Zelazo (2011) demonstrated the same effect in changing children’s behavior. Children were randomly assigned to one of two goals: the first was to maximize rewards, the second to obtain immediate rewards. Children were either directly instructed to do so, or primed by a story. Children who had been primed before made more goal-congruent choices than did children who were explicitly instructed to behave according to the goal.

We suppose that people who are used to frequently inhibit other consumption related goals due to financial straits have developed a simultaneous automatic activation of control- goals and thus inhibit information regarding tempting consumption related goals. These activation patterns may become over-learned to the point where a subliminal temptation- related cue might be sufficient to activate the higher- order goal (Fishbach et al., 2003). This pattern should be more likely when the higher- order goals are more important (Fishbach et al., 2003). Furthermore, successful self- regulators showed stronger control- goal activation than unsuccessful ones. Participants were classified as being either high or low in self- regulatory success using a median split. Participants who were rated high on self- regulatory success identified academic goals following procrastination cues significantly faster than participants classified low in self-regulatory

success. Put in a more consumer behavior- oriented perspective, good self- regulators, i.e. people who carefully watch their budgets and thoroughly plan their purchases may also develop the aforementioned associations and thus identify control goals significantly faster than bad self-regulators, i.e. rather impulsive buyers, because for them the goal is more important.

Hypothesis

Marketing activities are designed to spark a consumer's desire for a specific product. In that sense, they represent temptations. What we tried to do is scrutinize Fishbach et al.'s assumptions in a marketing- related context. First, we tested whether the situational context a person is put into by means of a story facilitates the activation of control goals. It could be argued (following Fishbach et al.'s (2003) logic) that being in a sort of "shopping mind- state" or mental shopping situation can activate a "temptation- concept" which thus precipitates the activation of control goals when confronted with marketing- stimuli. Therefore, our first hypothesis was:

H1: Being put into a shopping situation enhances the activation of control goals.

Secondly, we investigated if buying behavior or buying impulsiveness (i.e. if a person is rather a planned or impulsive buyer) affects the activation of control goals. Rook and Fisher (1995) define buying impulsiveness as "a consumer's tendency to buy spontaneously, unreflectively, immediately, and kinetically (p. 306)." Since being a planned and not an impulsive buyer can be seen as a person's trait (Rook & Fisher, 1995) and implicates that the person oftentimes had to exert self- control in buying- situations, one would suppose that especially these people will activate control goals when being targeted by marketing- stimuli. Thus, our second hypothesis was:

H2: Planning or reflective buyers activate control- goals when being exposed to a marketing stimulus, whereas impulsive buyers do not.

Finally, we examined whether a person's sex has any influence on control- goal activation. Past research has neglected this question. Some studies report a connection between compulsive buying and sex (Gansen & Aretz, 2010; Dittmar, 2005; Müller, Claes, Mitchell, Faber, Fischer, de Zwaan, 2011). Compulsive buyers can be characterized as people who cannot withstand the urge to buy and thus cannot control their behavior in a buying situation (Baumeister, 2002; Faber & Vohs, 2004) and find it difficult to change this chronic shopping pattern (O' Guinn & Faber, 1989). Other authors, though, were not able to identify any effects of sex on compulsive buying (Koran, Faber, Abujaoude, Large & Serpe, 2006; Billieux, Rochat, Rebetez & van der Linden, 2008). To our knowledge, only two studies have investigated the relationship between sex and impulsive buying (Dittmar et al., 1995; Lin & Lin, 2005). In spite of little empirical evidence it could be argued that women are more prone to developing the aforementioned control goal activation when confronted with specific products or brands. There is some evidence that male and female compulsive buyers prefer different products (Dittmar, Beattie, and Friese, 1995). The marketing stimuli used in this study should rather be tempting for women than for men. Therefore, our third hypothesis was:

H3: women show a significantly more pronounced activation of control goals than men.

The Present Research

This study was conducted in July, 2011 at University of Vienna, Austria. Participants completed various questionnaires assessing general self- control, buying impulsiveness and general impulsiveness and underwent a priming procedure called "Lexical Decision Task". This task enables researchers to measure how fast a cognitive concept or goal can be activated by means of a semantically related word (Fishbach et al., 2003). In this study we hypothesize that marketing stimuli such as the names of

commercial chains are related to the goal of “saving” (money). We further hypothesize that these names can automatically and unconsciously activate the control- goal of “saving”.

Method

Participants

One hundred one individuals (40 women and 61 men) aged 20 to 59 ($M = 28.26$; $SD = 6.99$) participated in the experiment. No rewards were given to them in exchange.

Measures of Self-Control

This study used a Sex and Situation (work vs. shopping) and Prime target combination design. Buying behavior (planned vs. impulsive) was put into the model as a covariate. Sixty one participants completed the procedure on desktop computers, the other 40 on a laptop.

The computer program first presented a series of questions which assessed participant's buying behavior (e. g. „Just do it describes the way I buy” or “sometimes I feel like buying things on the spur-of-the-moment”). We translated and used Rook and Fisher's (1995) *Buying Impulsiveness Scale*. The scale's mean = 25.1, $SD = 7.4$, Cronbach's $\alpha = .88$. It is a measure of the trait impulsive buying (Faber et al., 2004) and comprises of a total of 9 items. High scores indicate an impulsive buying behavior, whereas low scores were seen as indicating a more planned, rational buying behavior. To conceal the true purpose of this study, we embedded these questions within a set of 18 additional items that were rather irrelevant to the purposes of this research and assessed self-control and impulsiveness in general. 13 of these items (e.g. “I am good at resisting temptation” or “I say inappropriate things”) were taken from and combine into the (*Brief*) *Self- Control Scale* (Tangney, Baumeister & Boone, 2004). The scale's mean = 39.22, $SD = 8.58$,

Cronbach's $\alpha = 0.83$. High scores indicated high self-control whereas low scores indicated low self-control. 5 Items were taken from the German version of the *Barratt Impulsiveness Scale* (Patton, Stanford & Barratt, 1995) which assesses general impulsivity (Meule, Vögele & Kübler, 2011). Again high scores indicated high general impulsiveness and low scores indicated low general impulsiveness. Participants were asked to rate the extent to which they agreed with the sentences presented on a 5-point scale. Participants answered a total of 27 questions.

Manipulation of the Situation

Next, participants were instructed to read a short vignette about an abstract person named S. who represented an average person most of the participants could identify with in regards to age, socio-economic background and other criteria:

“S. is 28 years old and lives in a 60 square meter apartment in the 6th district of Vienna. S. finished his A- Levels in a normal secondary school, began studying Business Administration afterwards but quit after 5 semesters. At the moment, S. is working as a service employee for Orange Telecommunications 20 hours per week. S. is relatively satisfied with the actual working situation, yet can imagine working somewhere else in the future and maybe even starting to study something new again”.

After reading the story, participants were first asked to imagine being the person they had just read about. Secondly, participants were randomly assigned to one of two conditions. They either had to imagine a typical buying situation or working situation of the person they had read about before. Then they were asked to complete four sentences, 2 of which began with „I“, the other two with “me”.

Lexical Decision Task

Fishbach et al. (2003) showed that temptation-related words (e.g. drugs) were able to activate higher-order control goals (e.g. religion) without being noticed by

participants. We assessed the degree to which control-goals were activated by marketing-stimuli through a subliminal sequential priming procedure, known as The Lexical Decision Task. After being primed by a word (prime word), participants had to decide as quickly and correctly as possible if the presented combination of letters (target word) was an existing word or not. The response time from the first sight of the target word to its classification as being a word or a non- word via pressing a tab served as a measure for control- goal activation (Fishbach et al., 2003). Quick responses, i.e. low response times, indicated a strong control- goal activation. Control goals were represented through words associated with frugal and money- saving behavior (e.g. to save, to budget, to abate). We will call these control words from now on. To see whether marketing stimuli activated these control goals, we used the names of popular commercial chains (e.g. IKEA, H & M) as well as words which describe shopping (e.g. buying, shopping). We will call these words “buying words” from now on. Non- words consisted of meaningless rows of letters. Words which have no connection to buying were used as irrelevant words and filling words (e.g. sun, rain, sack, key). Buying words served as primes in the relevant prime-target-combinations, followed by control words (see table 1). The difference in response time between these two combinations provides information on the degree of control goal activation by the buying word which is –in Fishbach et al.’s (2003) terminology- the temptation. In two other combinations, buying words were used as target words and followed either irrelevant words or control words as primes. Irrelevant combinations consisted of solely irrelevant words or non- words as primes and as target words. Overall, 270 trials were presented, with 134 nonwords and 136 words as targets (see Figure 1). Combinations were presented in a randomized order.

Each trial included a fixation point (+) that remained on the screen for 1 second. Participants were asked to focus their attention on this sign. Then, a prime word was

presented for 50 milliseconds, followed by a masking string (a row of Xs) that remained on the screen for 700 milliseconds to ensure that the prime word did not reach the threshold of conscious perception (Bargh & Chartrand, 2000; Shah et al., 2002). After another 700 milliseconds a target letter string appeared. All the stimuli were presented in fixed-width white capital letters in the center of a black screen. The participant's task was to classify the target letter string as either words or nonwords as fast as possible, using the "I" and "E" keys. Each response was followed by a 400 milliseconds pause and then commencement of the next trial. Experimental trials were preceded by 7 practice trials. Each practice trial comprised an irrelevant prime (e.g. rain), followed by a word (e.g. to take) or a nonword. Results of the practice were used in further analyses. After the practice trials participants were informed that the experiment would begin and then had a chance to reread the instructions. Then the experimental phase began. Each prime-target combination was presented just once and in randomized order.

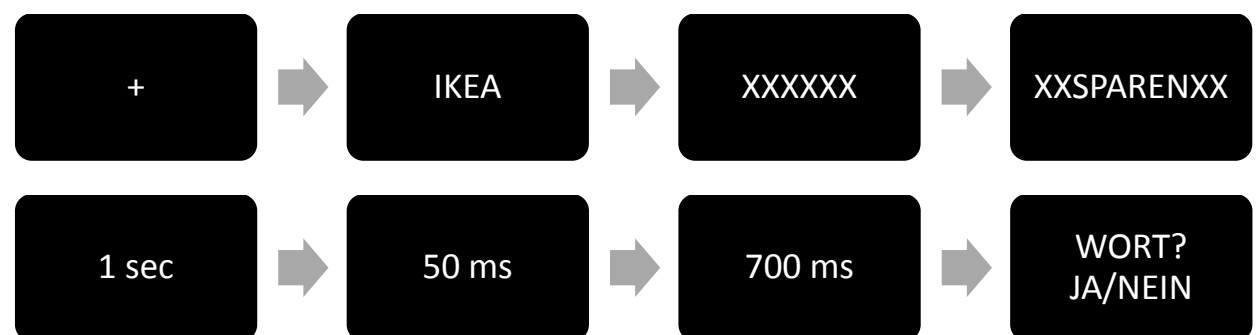


Figure 1.

Exemplary Trial of the Lexical Decision Task

Additional Measures

After the experiment, participants completed the *Chronic Shopping Orientation Scale* (Büttner, Florack & GÖritz, 2012), $M = 3.7$, $SD = 1.17$, Cronbach's $\alpha = .85$. It aims at classifying people as either compulsive or reflective buyers and comprises of 7 items.

Participants were asked to rate on a seven point scale the extent to which they agreed with the sentences presented. In the end, participants answered socio- demographic questions regarding their age, sex and income. Additionally, participants had to answer the following questions: “Do you know what is being investigated in this experiment?” and “Did you notice something strange during the presentation of the words?” These questions were asked to make sure none of the participants knew the purpose of the experiment and to avoid any data corruption¹. Participants were also given a chance to comment on the experiment. The experiment as well as the questionnaires and all other questions used were presented via computer.

Table 1.

Possible combinations of prime and target words as well as their frequencies

Combination		
Frequency	Prime	Target word
Relevant combinations		
12	Irrelevant word	Control word
8	Buying word	Control word
Irrelevant combinations		
24	Control word	Buying word
24	Irrelevant word	Buying word
68	Non-word	Filling word
134	Non- word	Non- word

¹ The answer of four participants indicated that they knew they underwent a priming procedure, yet the exclusion of their data did not change the results so it was kept in the sample.

Results

Preliminary Analysis

Because the latency of incorrect responses would be difficult to interpret, only correct responses were used in all the subsequent analyses (see Bargh, Chaiken, Govender & Pratto, 1992; Fazio, 1990; Fishbach, Friedman & Kruglanski, 2003). Furthermore, all reaction times larger than 2500 ms were excluded from further analyses. To lessen the influence of outliers, we first transformed all individual reaction times using a natural log transformation. Only reaction times of trials that did not exceed two standard deviations from the condition mean were then used in each experimental condition. This was done to minimize corruption of data by outliers. Table 2 displays the means as well as the standard deviations of the relevant scales used.

Table 2.

Means and Standard Deviations for Scores on the SCS, BIS and CSO

	M	SD
SCS	3.131	.60280
BIS	2.563	.80412
CSO	3.476	1.12747

Note. For all scales, higher scores are indicative of more extreme responding in the direction of the construct assessed, SCS = Self- Control Scale; BIS = Buying Impulsiveness Scale; CSO = Chronic Shopping Orientation.

Table 3 shows the correlations of the difference between the reaction times of the conditions “irrelevant prime control target” and “marketing prime control target” and the scales used. As can be seen, a significant correlation between the *Self- Control Scale* and the difference between the conditions “irrelevant prime control word target” and “marketing prime control word target” emerged, $r = .229$, $p = .025$. This result confirms

Fishbach et al.'s (2003) findings. Additionally, as expected the *Buying Impulsiveness Scale* and the *Self- Control Scale* are highly correlated, $r = -.426, p = .000$.

Table 3.

Summary of Intercorrelations for Scores on the CSO, SCS, BIS and the Difference Between the Reaction Times of the Conditions "Irrelevant Prime Control Word Target" and "Marketing Prime Control Word Target"

	Diff. IPCT-MPCT	CSO	SCS	BIS
Diff. IPCT-MPCT	–			
COS	.088	–		
SCS	.229*	-.064	–	
BIS	-.071	.146	-.426**	–

Note. * $p < .05$. ** $p < .01$.

Main Analysis

The “marketing prime control word target” as well as the “irrelevant prime control word target” condition’s reaction times were used as dependent variables in the subsequent analysis. A situation (work vs. shopping) and Sex Multivariate Analysis of Covariance (MANCOVA) with buying impulsiveness as a covariate yielded a significant prime- target combination and sex interaction, $F(1, 88) = 6.951, p = .010$. This interaction was not qualified by the factor impulsive buying, as indicated by a non- significant Prime-target- combination and Sex and buying impulsiveness interaction, $F(1, 88) < 1, p = .832$. The same pattern emerged in both the situations (work and shopping). A paired t- test revealed that the difference between the reaction times in the condition “irrelevant prime control word target” and the condition “marketing prime control word target” was significant for men, $t(56) = -2.486, p = .016$ as well as for women, $t(38) = 2.269, p = .029$. Table 4 shows the corresponding means and their confidence intervals. As can be

deducted from the positive t score, the difference between the two conditions is positive for women. This indicates that women recognize words related to control- goals faster when being primed with a marketing stimulus before than when being primed with irrelevant words. For men, however, exactly the opposite is true- as indicates the negative difference. Men recognized words related to control- goals significantly faster after being primed by irrelevant words than after being primed with marketing stimuli.

Table 4.

Means and Confidence Intervals of the Reaction Times of the Conditions “Irrelevant Prime Control Word Target” and “Marketing Prime Control Word Target”

Men	Women	95% - CI men	95% - CI women
Reaction times in condition irrelevant prime control word target			
887.448	920.155	831.843 – 943.054	828.688 – 1011.622
Reaction times in condition marketing word prime control word target			
971.687	869.929	902.339 – 1041.035	790.447 – 949.412

Whether a participant was mentally put into a working or a shopping situation had no systematic effect on reaction times, $F(1, 88) = 1.542$, $p = .218$. The participants' mean scores of the Buying Impulsiveness Scale were first standardized using a z-transformation. These scores were then put into the analysis as a covariate, which had no effect on the outcome measure, $F(1, 88) < 1$, $p = .520$. The Prime target combination and situation (work vs. shopping) and impulsive buying interaction also had no impact at all, $F(1, 88) < 1$, $p = .944$.

Furthermore, the aggregated reaction times of the condition “marketing prime control word target” were calculated under the condition that the priming word was “shopping” or “buying”. The same was done for the commercial chain’s names. A paired *t*- test revealed that there was no significant difference between the reaction times of the trials in which participants had been primed with the verbs “shopping” or “buying” and the trials in which they had been primed with commercial chain’s names, $t(96) = .258, p = .797$.

A separate Analysis of Variance (ANOVA) conducted with the difference between the reaction times of the conditions “irrelevant prime marketing target” and “control prime marketing target” as dependent variable revealed no significant effect of sex, $F(94) < 1, p = .621$, situation, $F(94) = 2.030, p = .158$, or buying impulsiveness, $F(94) < 1, p = .399$.

Discussion

People are faced with decisions day to day, financial ones being a major part of them. Individuals who are able to exert self- control will be more successful in achieving their long- term goals, be they financial ones or not. As we know, conscious self- control relies upon limited cognitive resources (Baumeister et al., 1998). Therefore, individuals who have developed unconscious and automatic self- control mechanisms clearly have an adaptive advantage (Fishbach et al., 2003) and obviously higher self- regulatory success. It is possible that these automatic and unconscious self- control mechanisms are developed through repeatedly exerting self-control in a given situation in which temptations are present. In a consumer related context, this could be a situation in which one has to refrain from buying something “in the heat of the moment” to later be able to afford something of more importance. Against this background it seems logical that

people who are rather impulsive buyers and thus lack self- control in buying situations will be less likely to have developed the aforementioned automatic and unconscious self-control mechanism. Conversely, people who are rather reflective and planned buyers and therefore had to exert self- control in buying situations many times are much more likely to have developed this mechanism. Following this logical path, the mere imagination of being in a buying situation should trigger this automatic self- control mechanism or at least enhance it as soon as it is triggered. Also, the more dangerous the threat to the long-term goal is (e.g. the temptation of buying a candy bar compared to a notebook in a situation in which you are facing financial straits), the stronger the activation of the self-control mechanism should be (e.g. Kroese, Evers & De Ridder, 2010). Thus, marketing stimuli which are tempting to women should lead to the activation of this self- control mechanism in women but not in men or at least to a more pronounced activation in women than in men. This automatic and unconscious activation of self- control should manifest in individuals reaction times for classifying strings of letters as being either words or non- words in a Lexical- Decision Task. Specifically, words related to the long-term goal whose fulfillment is directly dependent upon the exertion of self- control (i.e. control goals) should be classified faster than other words.

The study at hand could not provide any evidence for the hypothesis that the (experimentally set) situational context has any influence on whether control goals are activated or not. Furthermore, the data does not support the hypothesis that the buying impulsiveness, i.e. whether a person is a planning or reflective as opposed to a rather impulsive buyer, significantly affects the activation of control goals. This is the first study to investigate the impact of buying impulsiveness on automatic control- goal activation. Last but not least, clear evidence was found for a sex difference regarding the activation of control goals via marketing stimuli: whereas women classified words related to control

goals as correct words significantly faster when being primed by marketing stimuli, the opposite pattern emerged for men. Thus, the activation of control goals via marketing stimuli is possible for women, regardless of the mental situation they are placed in and regardless of their (self- reported) buying impulsiveness. To our knowledge, no other study before found a similar sex effect (see e.g. Fishbach et al., 2003; Shah et al., 2002). This is the first study which empirically demonstrated sex differences regarding automatic and unconscious control- goal activation. Furthermore, past research has shown that retail brands can trigger unconscious goals (Chartrand et al., 2008). This study broadens this knowledge by using the names of commercial chains as primes and demonstrating that these can trigger unconscious control- goals.

Possible Explanations

Several explanations may serve to shed light on the present findings. First of all, it could be that women in general are more targeted by marketing activities or at least perceive being more targeted by them than men. If this was true, women would have much a bigger need of developing facilitative links between temptations and control goals. Johnson and Learned (2004) point out, that women make 80% of all consumer decisions; therefore it may very well be that marketing managers attempt to especially influence women.

Secondly, women may go shopping more frequently than men do; therefore, they are more likely to over-learn the connection between temptations and control- goals to the point of automatic and unconscious activation.

Maybe shopping itself is of more significance for women as regards to thoughts like “going over the edge” or exceeding. Shopping could be something men don’t consider as being a temptation for future long-term goals. . Future studies could, for example, test

whether words associated with risk, such as speed, could indeed trigger control-goals such as safety in men as opposed to women, at least in a more pronounced manner.

Thirdly, it is possible that impulsive and compulsive buying as well as its negative consequences are topics addressed more in “female circles” than in groups of men. Being unable to control oneself might be something rather expressed by women. Men on the other hand might have a problem with admitting such a thing even to themselves. The necessity for exerting self- control only arises in situations in which one is aware that one might “go over the edge”. As a result, women might act in the described way and in the course of time, develop automatic control mechanisms while men would not.

It is also possible that men have developed similar automatic self- control mechanisms as women in the same domains, yet the perception of the primes used differed between men and women. While women might have perceived the commercial chain’s names as temptations, men might have perceived them as small or as no temptation at all. The notion that men could have perceived the used marketing stimuli as being rather small temptations which thus may fail to activate control goals receives indirect support in the findings of various authors (e. g. Coelho do Vale, Pieters & Zeelenberg, 2008; Kroese et al., 2011). Kroese et al.’s (2011) participants consumed more chocolate when confronted with an unattractive chocolate cake than when confronted with an attractive chocolate cake. Small temptations seem to somehow remain undetected by automatic self- control mechanisms (Coelho do Vale, 2008). In a similar vein, our male participants could have perceived the marketing stimuli presented in our study as rather weak temptations in regards to the control- goal presented.

Even if all of the aforementioned arguments are true, another very probable reason for the fact that women activated control- goals whereas men did not could be the stimulus material presented. Our aim was to use the name of commercial chains which

not only everybody knew, but which men as well as women would go shopping to. Humanic provides shoes for both sexes; Bipa is a drug store for men and women; IKEA provides furniture and H&M clothes for both sexes. Still, the idea of a man emptying his bank account and spending his last dime at Bipa is almost absurd. The reason for this is the nature of the majority of products sold there. Most of the things sold in these stores are perfumes and make- up which might be of only peripheral interest to men, if at all. Apart from that Bipa sells mostly cleaning and household goods. Dittmar et al. (1995) found out that men rather buy instrumental and leisure items impulsively, i.e. items projecting independence and activity. Women prefer symbolic and self- expressive goods concerned with appearance.

However, that does not explain the inverse effect the marketing related priming words had on men compared to women. How can it be that being primed by irrelevant words leads to faster recognition of control- goal related words than being primed by marketing stimuli, a pattern totally contrary to the one observed for women? One obvious presumption is that the marketing words primed something different for men than for women. Previous research using priming techniques already mentioned similar thoughts (e. g. Bargh, 1997; Chartrand et al., 2008). One could hypothesize that the names of commercial chains used in this study were temptations threatening the attainment of long-term goals such as saving for women. For men, however, these names might have triggered something different such as the “concept of boredom”. Lethargy and slowness could be associated with this concept and be therefore responsible for the effects observed. Similarly, the names used as primes could activate a “relaxing situation” for men and an “arousing or stressful situation” for women. Bargh, Chen and Burrow (1996), e.g. showed in their classic experiment that people primed with words related to the concept of “old” walked more slowly down a hallway than people primed with words not

related to this concept. Activating different concepts might lead to different goals being activated, thus different behaviors related to goal attainment being shown (Förster, Liberman & Friedman, 2007). For men, this could mean slowing down actions, for women this could mean being focused, concentrated (and tense).

Missing Effect of Situational Context

The fact that the situational context a participant had been experimentally put into had no effect can be explained by one of the theories this whole study is based upon. Shah et al. (2002) were able to demonstrate how the activation of a goal can inhibit other goals. Our participants were asked to either imagine being in a working situation or in a buying situation. One could assume that through this procedure different goals or concepts have been primed, none of them being related to the control goal of saving. If this were true, alternative goals such as saving would have been blocked which could, in consequence, lead to slower reaction times in a classification task like the Lexical Decision Task across all conditions.

Missing Effect of Buying Impulsiveness

In previous studies, consistent evidence was found for the fact that self-control success is an important moderator for the activation of control goals through temptations (Fishbach et al., 2003). More specifically, people who have had to exert self-control various times before in a given situation to resist temptation and therefore attain a long-term goal, are more likely to have developed automatic control-goal activation via temptations (Fishbach et al., 2003). Self-control in a buying situation would mean not giving in to momentarily alluring temptations, thus not buying impulsively but reflectively. As a consequence, a reflective way of buying is a self-controlled way of buying. Thus, people high in this trait should have rather showed the expected automatic control-goal activation. Conversely, impulsive buyers should have not. Still, this trait had

no effect at all. Even general self- control, which we assessed as well also had no effect². This could stem from the size of the sample used and the magnitude of the sex-effect.

Practical Implications

Some people are just bad with money. As soon as they get their paycheck, they go shopping. Allured by the first attractive stimulus, they are willing to spend in a few minutes or less what they have worked for a whole month or more for. Others have learned to be good with money. They know they have a budget which they should not exceed and indeed, they manage to stick by their decision. In the days and times we live in at the moment, in the face of economic problems all around the world, one is well advised with giving most financial decisions a second thought. Governments all around the world plead in favor of a policy of savings. It seems that it is now more important than ever to really tighten the belt and not let our consumption- related decisions be guided by salient marketing- stimuli, rather by rationale.

If automatic, unconscious self- control mechanisms exist and can indeed be developed by connecting temptations such as marketing stimuli with important long- term goals such as saving money, a lot of people could be helped. Public awareness campaigns are imaginable means to spark the attention of millions. Compulsive buying, for example, is a phenomenon of utmost importance in this context. In the U.S. a point prevalence rate of 5.8% is reported (Koran, Faber, Aboujaoude, Large & Serpe, 2006), in Germany a rate of approximately 7% (Neuner, Raab & Reisch, 2005; Müller, Mitchell, Crosby, Gefeller, Faber, Martin, Bleich, Glaesmer, Exner & de Zwaan, 2010). Severely endangered people such as compulsive buyers and people at risk of becoming compulsive buyers could, for instance, undergo cognitive- behavioral trainings. As a consequence, their lives could improve and their well- being would increase. Society as a whole would benefit from it.

² $F(1, 88) < 1, p = .449$.

Limitations

A number of limitations and critical points regarding this study have to be mentioned. First of all, the sample size should have been larger. With only 95 participant's data it was difficult to detect an effect of buying impulsiveness.

Secondly, the stimulus material used in this study might not have been the best. Even though we picked the names of commercial chains which sell products for both sexes, most of the products sold are a greater threat to women in regards to the possibility of overspending. Future research or replications of this study must, therefore, take this fact into account. As described, the data shows that men were somehow slowed down in their reaction times by the marketing primes. We suppose that this was due to other concepts or goals being activated than the ones we intended to activate. In any case, researchers in this field are well advised with carrying out a pilot study to determine empirically which stimuli suit best to investigate the nature of consumption related automatic self-control mechanisms in both sexes.

Thirdly, it has to be mentioned that participants were classified as more or less impulsive buyers by self- description in questionnaires. Whether the data is correct thus depends on the honesty of the person. Therefore, it is always possible that participants describe themselves in a different way than they know they are.

This study was the first to demonstrate that automatic control-goals can be activated by marketing stimuli and that sex seems to have a huge effect on this activation. This research adds to the growing body of literature in this amazingly interesting field of study.

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- Vohs, K. D., & Heatherton, T. F. (2000). Self-regulatory failure: A resource-depletion approach. *Psychological Science*, 11, 249-254

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Appendix

Appendix A: Vignette and Questions

Lesen Sie sich nun bitte den nachfolgenden Text durch.

Weiter

S. ist 28 Jahre alt und wohnt in einer 60-quadratmeter großen Wohnung im 6. Wiener Gemeindebezirk.

S. hat die Matura an einem Realgymnasium abgelegt und später BWL studiert, jedoch das Studium im 5. Semester abgebrochen.

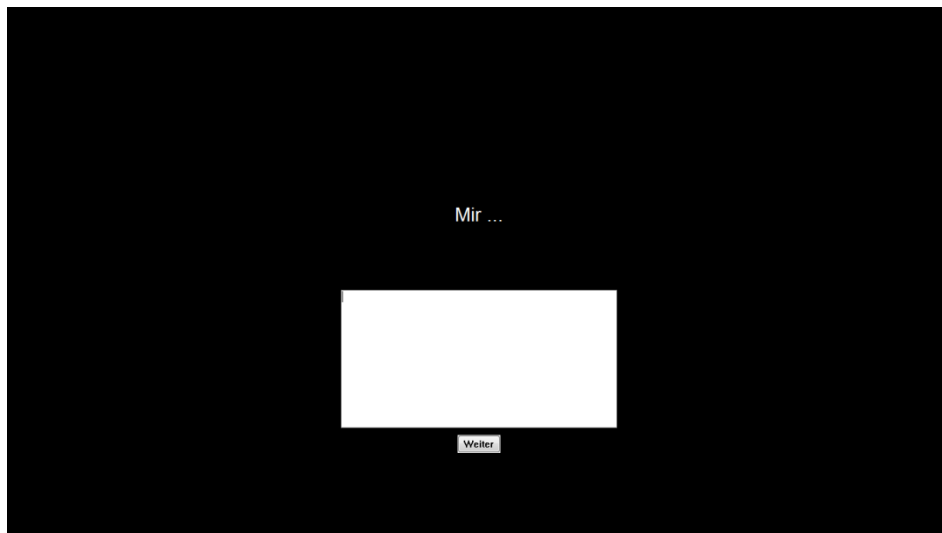
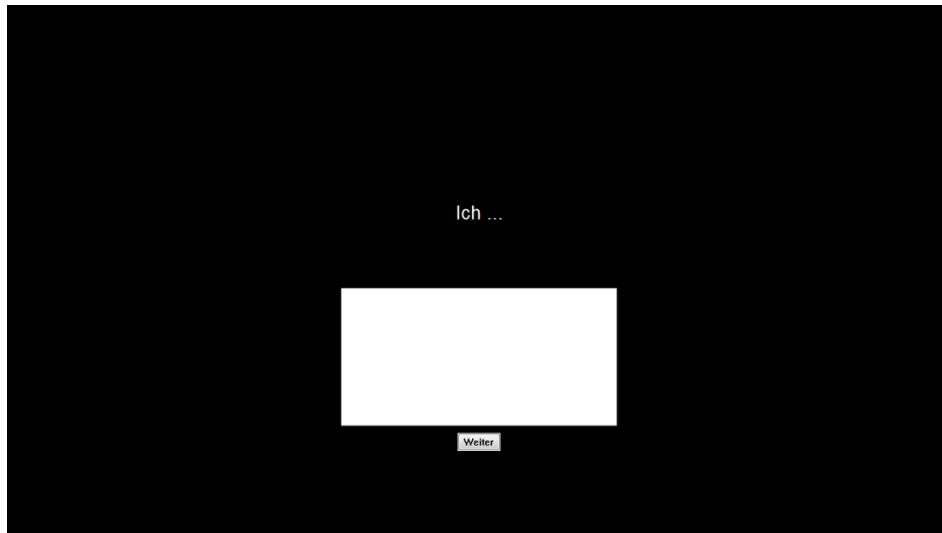
Derzeit arbeitet S. als Servicemitarbeiter bei Orange teilzeit angestellt. S. ist relativ zufrieden mit der Arbeitssituation,

könnte sich jedoch vorstellen, in Zukunft einer anderen Arbeit nachzugehen und vielleicht auch ein anderes Studium zu beginnen.

Weiter

Stellen Sie sich bitte eine typische Arbeitssituation von S. vor, versetzen Sie sich in S. hinein und vervollständigen Sie die Sätze auf der nächsten Seite bitte aus der Ich-Perspektive!

Weiter



Appendix B: Lexical Decision Task

In der folgenden Aufgabe sehen Sie in der Bildschirmmitte ein Kreuz und nachfolgend eine Buchstabenreihe. Ihre Aufgabe ist es zu entscheiden, ob es sich um Wort handelt oder nicht.

Handelt es sich um ein Wort, drücken Sie bitte die Taste 'I'.

Handelt es sich um ein Nichtwort, drücken Sie bitte die Taste 'E'.

Versuchen Sie so schnell und exakt wie möglich Ihre Entscheidung zu treffen.

Sie beginnen zuerst mit einigen Übungsbeispielen. Bitte legen Sie nun ihre Finger auf die Tasten 'I' und 'E'.

Wenn Sie bereit sind zu beginnen, drücken Sie bitte die Leertaste.

+

XXXXXXXXXXXXXXXX

XXXXSAMMELNXXXX

Die Übungsphase ist beendet. Sie beginnen nun mit der tatsächlichen Aufgabe. Zur Erinnerung:

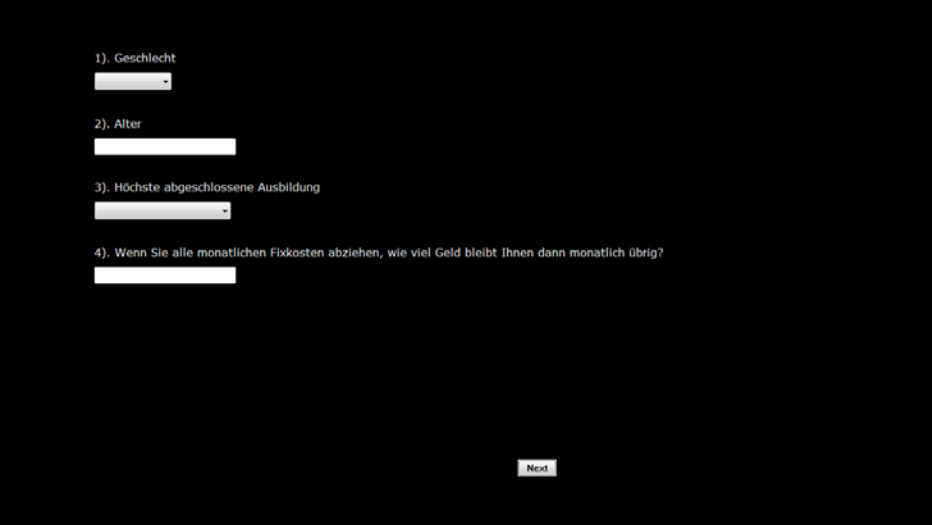
Handelt es sich um ein Wort, drücken Sie bitte die Taste 'I'.

Handelt es sich um ein Nichtwort, drücken Sie bitte die Taste 'E'.

Versuchen Sie so schnell und exakt wie möglich Ihre Entscheidung zu treffen. Bitte legen Sie nun ihre Finger auf die Tasten 'I' und 'E'.

Wenn Sie bereit sind zu beginnen, drücken Sie bitte die Leertaste.

Appendix C: Sociodemographic Questions



1). Geschlecht

2). Alter

3). Höchste abgeschlossene Ausbildung

4). Wenn Sie alle monatlichen Fixkosten abziehen, wie viel Geld bleibt Ihnen dann monatlich übrig?

Next

Appendix D: Final Questions

Wissen Sie, was dieses Experiment untersucht?
Wenn ja, was?

Drücken Sie "enter" für Weiter

Ist Ihnen bei Bearbeitung der Aufgabe etwas
Ungewöhnliches an der Darbietung der Wörter
aufgefallen?

Drücken Sie "enter" für Weiter

Appendix E: Programming (Inquisite): Lexical Decision Task

```
*****
***
*****
***
```

Lexical Decision Task

This script implements a version of the lexical decision task described in Lepore & Brown (2002), The Role of Awareness: Divergent Automatic Stereotype Activation and Implicit Judgment Correction, Social Cognition, 20 (4), pp 321-351.

```
*****
***
*****
***
```

Script Version: 0.9
Last Modified:08-18-2009

```
*****
***
*****
***
```

Copyright (c) 2009 by Millisecond Software, LLC.
<http://www.millisecond.com/>

```
*****
***
*****
***
```

All stimuli and instruction text are defined in the top section immediately below. To adapt this script, simply replace the filler stimuli below with your own category, neutral, and nonwords. Instruction text can also be modified in this section.

```
*****
***
```

```
<item EinkaufswortPRIME>
/ 1 = "H&M"
/ 2 = "BIPA"
/ 3 = "HUMANIC"
/ 4 = "IKEA"
/ 5 = "SHOPPEN"
/ 6 = "KAUFEN"
</item>
```

```
<item EinkaufswortTARGET>
/ 1 = "H&M"
```

/ 2 = "BIPA"
/ 3 = "HUMANIC"
/ 4 = "IKEA"
/ 5 = "SHOPPEN"
/ 6 = "KAUFEN"
</item>

<item EinkaufswortTARGET1>
/ 1 = "H&M"
/ 2 = "BIPA"
/ 3 = "HUMANIC"
/ 4 = "IKEA"
/ 5 = "SHOPPEN"
/ 6 = "KAUFEN"
</item>

<item belanglosPRIME>
/ 1 = "HALTERUNG"
/ 2 = "KESSEL"
</item>

<item belanglosPRIME1>
/ 1 = "HALTERUNG"
/ 2 = "KESSEL"
</item>

<item KontrollwortPRIME>
/ 1 = "EINSCHRÄNKEN"
/ 2 = "SPAREN"
/ 3 = "MÄSSIGEN"
/ 4 = "HAUSHALTEN"
</item>

<item KontrollwortTARGET>
/ 1 = "EINSCHRÄNKEN"
/ 2 = "SPAREN"
/ 3 = "MÄSSIGEN"
/ 4 = "HAUSHALTEN"
</item>

<item KontrollwortTARGET1>
/ 1 = "EINSCHRÄNKEN"
/ 2 = "SPAREN"
/ 3 = "MÄSSIGEN"
/ 4 = "HAUSHALTEN"
</item>

<item nonwordPRIME1>
/ 1 = "VERMICHTEN"
/ 2 = "SÄSSIGEN"

/ 3 = "EINSCHRUNKEN"
/ 4 = "KAVALIEREN"
/ 5 = "AUSKALTEN"
/ 6 = "ZECHTEN"
/ 7 = "ESSGEN"
/ 8 = "GESICHTEN"
/ 9 = "PACHSEN"
/ 10 = "MINILIEREN"
/ 11 = "SONGEN"
/ 12 = "VERRASSEN"
/ 13 = "BEWICHTIGEN"
/ 14 = "HAUSAREN"
/ 15 = "SPRECHGEN"
</item>

<item nonwordPRIME>
/ 1 = "VERMICHTEN"
/ 2 = "SÄSSIGEN"
/ 3 = "EINSCHRUNKEN"
/ 4 = "KAVALIEREN"
/ 5 = "AUSKALTEN"
/ 6 = "ZECHTEN"
/ 7 = "ESSGEN"
/ 8 = "GESICHTEN"
/ 9 = "PACHSEN"
/ 10 = "MINILIEREN"
/ 11 = "SONGEN"
/ 12 = "VERRASSEN"
/ 13 = "BEWICHTIGEN"
/ 14 = "HAUSAREN"
/ 15 = "SPRECHGEN"
</item>

<item nonwordTARGET>
/ 1 = "HINSALTEN"
/ 2 = "KOFTEN"
/ 3 = "ANSCHRÄNKEN"
/ 4 = "VERGENNEN"
/ 5 = "KALKULOREN"
/ 6 = "TRESSEN"
/ 7 = "BONDEN"
/ 8 = "BEWUCHEN"
/ 9 = "FENDEN"
/ 10 = "PRONGEN"
/ 11 = "KAFFELN"
/ 12 = "LUFTEN"
/ 13 = "BEROCHTIGEN"
/ 14 = "BENIMMEN"
/ 15 = "VERGLANGEN"
</item>

<item fillerTARGET>

/ 1 = "SCHRANK"

/ 2 = "KISTE"

/ 3 = "TISCH"

/ 4 = "KAMMER"

/ 5 = "SACK"

/ 6 = "ARME"

/ 7 = "HUND"

/ 8 = "BIRNE"

/ 9 = "TASTE"

/ 10 = "SCHLÜSSEL"

/ 11 = "LICHT"

/ 12 = "MATTE"

/ 13 = "ZIEGEL"

/ 14 = "WOLLE"

/ 15 = "BILD"

/ 16 = "TROMMEL"

/ 17 = "ALGEN"

</item>

<item maskingstring>

/ 1 = "XXXXXXXXXXXXXXXXXXXX"

</item>

<item belanglosPractice>

/ 1 = "SONNE"

/ 2 = "REGEN"

/ 3 = "WIND"

/ 4 = "SAUERSTOFF"

/ 5 = "GAS"

</item>

<item kontrollwortPractice>

/ 1 = "BEHALTEN"

/ 2 = "SAMMELN"

/ 3 = "EINNEHMEN"

/ 4 = "AUFHEBEN"

/ 5 = "BEWAHREN"

</item>

<item nonwordPractice>

/ 1 = "VERMIEREN"

/ 2 = "HANDIEREN"

/ 3 = "KLEGGERN"

/ 4 = "ROCHTEN"

/ 5 = "SOLEN"

</item>

<item maskingstringPractice>

/ 1 = "XXXXXXXXXXXXXXXXXXXX"

</item>

<item instructions>

/ 1 = "In der folgenden Aufgabe sehen Sie in der Bildschirmmitte ein Kreuz und nachfolgend eine Buchstabenreihe. Ihre Aufgabe ist es zu entscheiden, ob es sich um ein Wort handelt oder nicht.

Handelt es sich um ein Wort, drücken Sie bitte die Taste `T`.

Handelt es sich um ein Nichtwort, drücken Sie bitte die Taste `E`.

Versuchen Sie so schnell und exakt wie möglich Ihre Entscheidung zu treffen.

Sie beginnen zuerst mit einigen Übungsbeispielen. Bitte legen Sie nun ihre Finger auf die Tasten `T` und `E`.

Wenn Sie bereit sind zu beginnen, drücken Sie bitte die Leertaste."

/2 = "Die Übungsphase ist beendet. Sie beginnen nun mit der tatsächlichen Aufgabe. Zur Erinnerung:

Handelt es sich um ein Wort, drücken Sie bitte die Taste `T`.

Handelt es sich um ein Nichtwort, drücken Sie bitte die Taste `E`.

Versuchen Sie so schnell und exakt wie möglich Ihre Entscheidung zu treffen. Bitte legen Sie nun ihre Finger auf die Tasten `T` und `E`.

Wenn Sie bereit sind zu beginnen, drücken Sie bitte die Leertaste."

</item>

<text EinkaufswortPRIME>

/ items = EinkaufswortPRIME

/select = counter_EinkaufswortPRIME

</text>

<text EinkaufswortTARGET>

/ items = EinkaufswortTARGET

/select = counter_EinkaufswortTARGET

</text>

<text EinkaufswortTARGET1>

/ items = EinkaufswortTARGET1

/select = counter_EinkaufswortTARGET1

</text>

```
<text belanglosPRIME1>  
/ items = belanglosPRIME1  
/select = counter_belanglosPRIME1  
</text>
```

```
<text belanglosPRIME>  
/ items = belanglosPRIME  
/select = counter_belanglosPRIME  
</text>
```

```
<text nonwordPRIME1>  
/ items = nonwordPRIME1  
/select = counter_nonwordPRIME1  
</text>
```

```
<text nonwordPRIME>  
/ items = nonwordPRIME  
/select = counter_nonwordPRIME  
</text>
```

```
<text nonwordTARGET>  
/ items = nonwordTARGET  
/select = counter_nonwordTARGET  
</text>
```

```
<text KontrollwortPRIME>  
/ items = KontrollwortPRIME  
/select = counter_KontrollwortPRIME  
</text>
```

```
<text KontrollwortTARGET>  
/ items = KontrollwortTARGET  
/select = counter_KontrollwortTARGET  
</text>
```

```
<text KontrollwortTARGET1>  
/ items = KontrollwortTARGET1  
/select = counter_KontrollwortTARGET1  
</text>
```

```
<text fillerTARGET>  
/ items = fillerTARGET  
/select = counter_fillerTARGET  
</text>
```

```
<text maskingstring>  
/ items = maskingstring  
</text>
```

```
<text belanglosPractice>  
/ items = belanglosPractice  
</text>
```

```
<text nonwordPractice>  
/ items = nonwordPractice  
</text>
```

```
<text kontrollwortPractice>  
/ items = kontrollwortPractice  
</text>
```

```
<text maskingstringPractice>  
/ items = maskingstringPractice  
</text>
```

```
<text ready>  
/ items = ("+")  
</text>
```

```
<text instructions>  
/ items = instructions  
/ select = sequence  
/ size = (75%, 75%)  
/ txcolor = white  
/ hjustify = left  
/ resetinterval = 0  
</text>
```

```
<shape blank>  
/ shape = rectangle  
/ color = black  
/ size = (30%, 30%)  
</shape>
```

```
<counter counter_belanglosPRIME>  
/ select = noreplace  
/ items = (  
1,1,1,1,1,1  
2,2,2,2,2,2)  
</counter>
```

```
<counter counter_EinkaufswortTARGET>  
/ select = current (counter_belanglosPRIME)  
/ items = (  
1,2,3,4,5,6  
1,2,3,4,5,6)  
</counter>
```

```
<counter counter_belanglosPRIME1>
```

```
/ select = noreplace
```

```
/ items = (
```

```
1,1,1,1
```

```
2,2,2,2)
```

```
</counter>
```

```
<counter counter_KontrollwortTARGET>
```

```
/ select = current (counter_belanglosPRIME1)
```

```
/ items = (
```

```
1,2,3,4
```

```
1,2,3,4)
```

```
</counter>
```

```
<counter counter_EinkaufswortPRIME>
```

```
/ select = noreplace
```

```
/ items = (
```

```
1,1,1,1,
```

```
2,2,2,2,
```

```
3,3,3,3,
```

```
4,4,4,4,
```

```
5,5,5,5,
```

```
6,6,6,6)
```

```
</counter>
```

```
<counter counter_KontrollwortTARGET1>
```

```
/ select = current (counter_EinkaufswortPRIME)
```

```
/ items = (
```

```
1,2,3,4,
```

```
1,2,3,4,
```

```
1,2,3,4,
```

```
1,2,3,4,
```

```
1,2,3,4,
```

```
1,2,3,4)
```

```
</counter>
```

```
<counter counter_KontrollwortPRIME>
```

```
/ select = noreplace
```

```
/ items = (
```

```
1,1,1,1,1,1,
```

```
2,2,2,2,2,2,
```

```
3,3,3,3,3,3,
```

```
4,4,4,4,4,4)
```

```
</counter>
```

```
<counter counter_EinkaufswortTARGET1>
```

```
/ select = current (counter_KontrollwortPRIME)
```

```
/ items = (
```

```
1,2,3,4,5,6,
```

```
1,2,3,4,5,6,
```

```
1,2,3,4,5,6,
```

1,2,3,4,5,6)

```

5,5,5,5,5,5,5,5,5,5,5,5,5,5,5,
6,6,6,6,6,6,6,6,6,6,6,6,6,6,6,
7,7,7,7,7,7,7,7,7,7,7,7,7,7,7,
8,8,8,8,8,8,8,8,8,8,8,8,8,8,8,
9,9,9,9,9,9,9,9,9,9,9,9,9,9,9,
10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,10,
11,11,11,11,11,11,11,11,11,11,11,11,11,11,11,11,
12,12,12,12,12,12,12,12,12,12,12,12,12,12,12,12,
13,13,13,13,13,13,13,13,13,13,13,13,13,13,13,13,
14,14,14,14,14,14,14,14,14,14,14,14,14,14,14,14,
15,15,15,15,15,15,15,15,15,15,15,15,15,15,15,15)
</counter>

```

```

<counter counter_fillerTARGET>
/ select = current (counter_nonwordPRIME)
/ items = (
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,
1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17)
</counter>

```

```

<trial EinkaufswortPRIMEKontrollwortTARGET1>
/ pretrialpause = 300
/ validresponse = ("I", "E")
/ correctresponse = ("I")
/ stimulustimes= [1=ready; 1000=EinkaufswortPRIME; 1050=maskingstring;
1750=KontrollwortTARGET1]
/ posttrialpause = 400
</trial>

```

```

<trial KontrollwortPRIMEEinkaufswortTARGET1>
/ pretrialpause = 300
/ validresponse = ("I", "E")
/ correctresponse = ("I")
/ stimulustimes= [1=ready; 1000=KontrollwortPRIME; 1050=maskingstring;
1750=EinkaufswortTARGET1]
/ posttrialpause = 400
</trial>

```

```

<trial belanglosPRIME1KontrollwortTARGET>
/ pretrialpause = 300
/ validresponse = ("I", "E")
/ correctresponse = ("I")
/ stimulustimes = [1=ready; 1000=belanglosPRIME1; 1050=maskingstring;
1750=KontrollwortTARGET]
/ posttrialpause = 400
</trial>

```

```

<trial nonwordPRIMEfillerTARGET>
/ pretrialpause = 300
/ validresponse = ("I", "E")
/ correctresponse = ("I")
/ stimulustimes = [1=ready; 1000=nonwordPRIME; 1050=maskingstring;
1750=fillerTARGET]
/ posttrialpause = 400
</trial>

```

```

<trial nonwordPRIME1nonwordTARGET>
/ pretrialpause = 300
/ validresponse = ("I", "E")
/ correctresponse = ("E")
/ stimulustimes = [1=ready; 1000=nonwordPRIME1; 1050=maskingstring;
1750=nonwordTARGET]
/ posttrialpause = 400
</trial>

```

```

<trial belanglosPRIMEEinkaufswortTARGET>
/ pretrialpause = 300
/ validresponse = ("I", "E")
/ correctresponse = ("I")
/ stimulustimes = [1=ready; 1000=belanglosPRIME; 1050=maskingstring;
1750=EinkaufswortTARGET]
/ posttrialpause = 400
</trial>

```

```

<trial belanglosPracticekontrollwortPractice>
/ pretrialpause = 300
/ validresponse = ("I", "E")
/ correctresponse = ("I")
/ stimulustimes = [1=ready; 1000=belanglosPractice; 1050=maskingstring;
1750=kontrollwortPractice]
/ posttrialpause = 400
/ correctmessage = true(correctfeedback, 2000)
/ errormessage = true(errorfeedback, 2000)
</trial>

```

```

<trial belanglosPracticenonwordPractice>
/ pretrialpause = 300

```


[illegible]

[illegible]

[illegible]

```
<block lexicalDecisionTaskPractice>
/   trials    =  [1=instructions;  2-7=noreplace(belanglosPracticekontrollwortPractice,
belanglosPracticenonwordPractice)]
</block>
```

<page pre>

^^Lesen Sie sich nun bitte den nachfolgenden Text durch.

</page>

<block situation>

/ preinstructions = (story)

</block>

<page story>

^^S. ist 28 Jahre alt und wohnt in einer 60-quadratmeter großen Wohnung im 6. Wiener Gemeindebezirk.

^^S. hat die Matura an einem Realgymnasium abgelegt und später BWL studiert, jedoch das Studium im 5. Semester abgebrochen.

^^Derzeit arbeitet S. als Servicemitarbeiter bei Orange teilzeit angestellt. S. ist relativ zufrieden mit der Arbeitssituation,

^^könnte sich jedoch vorstellen, in Zukunft einer anderen Arbeit nachzugehen und vielleicht auch ein anderes Studium zu beginnen.

</page>

Open

questions

<text arbeitssituation>

/size = (600, 200)

/items = arbeitssituation

/position = (50, 50)

/halign = center

/select = sequence

</text>

<item arbeitssituation>

/1 = "Mir ..."

/2 = "Ich ..."

/3 = "Mir ..."

/4 = "Ich ..."

</item>

<openended arbeitssituation>

/ stimulusframes = [1=arbeitssituation]

/ required = true

/ mouse=true

/ position= (50, 80)

/ charlimit = 500

/ size = (400, 200)

/ linelength = 100

/ buttonlabel = "Weiter"

</openended>

<block arbeitssituation>

/ preinstructions=(arbeitssituation)

/ trials = [1-4 = arbeitssituation]

</block>

<page arbeitssituation>

^^Stellen Sie sich bitte eine typische Arbeitssituation von S. vor, versetzen Sie sich in S. hinein und vervollständigen Sie die Sätze auf der nächsten Seite bitte aus der Ich-Perspektive!

</page>

<text einkaufssituation>

/size = (600, 200)

/items = einkaufssituation

/position = (50, 50)

/halign = center

/select = sequence

</text>

<item einkaufssituation>

/1 = "Ich ..."

/2 = "Mir ..."

/3 = "Ich ..."

/4 = "Mir ..."

</item>

<openended einkaufssituation>

/ stimulusframes = [1=einkaufssituation]

/ required = true

/ mouse=true

/ position= (50, 80)

/ charlimit = 500

/ size = (400, 200)

/ linelength = 100

/ buttonlabel = "Weiter"

</openended>

<block einkaufssituation>

/ preinstructions=(einkaufssituation)

/ trials = [1-4 = einkaufssituation]

</block>

<page einkaufssituation>

^^Stellen Sie sich bitte eine typische Einkaufssituation von Stefan/ ie vor und vervollständigen Sie die Sätze auf der nächsten Seite!

</page>

Feedback Stimuli

<text correctfeedback>

/size = (600, 200)

```

/items = ("Die Antwort war korrekt")
/position = (50, 50)
/halign = center
/select = sequence
</text>

```

```

<text errorfeedback>
/size = (600, 200)
/items = ("Die Antwort war nicht korrekt")
/position = (50, 50)
/halign = center
/select = sequence
</text>

```

```

***** Initialize experiment
*****

```

```

<expt lexicaldecisiontask>
/ preinstructions = (pre)
/ blocks = [1=situation; 2=noreplace(einkaufssituation, arbeitssituation);
3=lexicalDecisionTaskPractice; 4=lexicalDecisionTask]
</expt>

```

```

<instruct>
/ inputdevice = mouse
/ txcolor = white
/ screencolor = black
/ windowsize = (80%, 80%)
/ lastlabel = "Weiter"
/ fontstyle = ("Arial", 3.52%, false, false, false, false, 5, 0)
</instruct>

```

```

<defaults>
/ fontstyle = ("Arial", 3.52%, false, false, false, false, 5, 0)
/ screencolor = black
/ txcolor = white
/ txbgcolor = black
/ inputdevice = keyboard
</defaults>

```

Appendix F: Buying Impulsiveness Scale

	stimme ganz und gar nicht zu	stimme nicht zu	neutral	stimme zu	stimme ganz entschiede n zu
Manchmal bin ich etwas gedankenlos bei dem was ich kaufe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Ich sehe es, ich kaufe es" beschreibt mich.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich kaufe Produkte entsprechend meiner momentanen Stimmung.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Manchmal ist mir danach, etwas spontan aus dem Moment heraus zu kaufen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Just do it" beschreibt die Art, wie ich einkaufe.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich kaufe Produkte oft spontan.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich plane die meisten meiner Einkäufe sorgfältig.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
"Kaufe jetzt, denke später darüber nach" beschreibt mich.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ich kaufe Produkte oft, ohne nachzudenken.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Appendix G: (Brief) Self-Control Scale

	Völlig unzu- treffend				Trifft ganz genau zu
Ich bin gut darin, Versuchungen zu widerstehen.					
Es fällt mir schwer, schlechte Gewohnheiten abzulegen.					
Ich bin faul.					
Ich sage unangemessene Dinge.					
Ich tue manchmal Dinge, die schlecht für mich sind, wenn sie mir Spaß machen.					
Ich wünschte, ich hätte mehr Selbstdisziplin.					
Angenehme Aktivitäten und Vergnügen hindern mich manchmal daran, meine Arbeit zu machen.					
Es fällt mir schwer, mich zu konzentrieren.					
Ich kann effektiv auf langfristige Ziele hinarbeiten.					
Manchmal kann ich mich selbst nicht daran hindern, etwas zu tun, obwohl ich weiß, dass es falsch ist.					
Ich handle oft ohne alle Alternativen durchdacht zu haben.					
Ich lehne Dinge ab, die schlecht für mich sind.					
Andere würden sagen, dass ich eiserne Selbstdisziplin habe.					

Appendix H: Chronic Shopping Orientation Scale

	gar nicht						sehr
Beim Einkaufen erledige ich hauptsächlich das, was ich mir vorgenommen habe.							
Wenn ich einkaufen gehe, versuche ich, es schnell hinter mich zu bringen.							
Beim Einkaufen habe ich oft Spaß.							
Ich vertreibe mir gerne die Zeit mit Einkaufen.							
Beim Einkaufen bin ich normalerweise auf der Suche nach Unterhaltung.							
Beim Einkaufen sehe ich mich gerne etwas um.							
Beim Einkaufen gehe ich möglichst überlegt und zielgerichtet vor.							

Appendix I: Curriculum Vitae

Persönliche Daten

Geburtsdatum, -Ort	28.08.1982, La Paz, Bolivien
Staatsbürgerschaft	Österreich
Familienstand	Ledig
Sprachen	Deutsch, Englisch, Spanisch, Französisch (Schulkenntnisse)

EDV- Kenntnisse

Microsoft-Office (Word, Excel, Access)
SPSS (auch Syntax); R (Grundkenntnisse)

Berufliche Erfahrungen

09/2011- 10/2011	Vortragstätigkeit an der FH-Wien (Studiengänge der WKO)
05/2010- bis dato	Studentischer Mitarbeiter (Tutor) an der Fakultät für Psychologie, Universität Wien
08/2010 - 10/2010	Praktikum im Bereich der Marktforschung bei der Gerhard Zuber GmbH (Telemark Marketing)
09/2006 - 09/2007	Art Catering, Servicemitarbeiter
07/2006 - 09/2006	Markant Market Research; Outbound-Team-Mitarbeiter

Ausbildung

05/2010 - bis dato	Wirtschaftsuniversität Wien, Bachelorstudium der Internationalen Betriebswirtschaftslehre
10/2006 - bis dato	Universität Wien, Diplomstudium der Psychologie
9/2003 - 7/2006	BG 15 Henriettenplatz 6, A-1150 Wien →Matura