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„Anything New about Hand Washing? Cleansing as a
Cue for Novelty in Confirmation Biased Information
Search“

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Abstract

Hand washing plays an ever-present role in everyday lives. Recent embodied-cognition based research shows that through the physical act of hand washing robust psychological phenomena can be washed away. The underlying processes of washing away psychological effects are not yet sufficiently examined. The present work aims to shed light onto this topic. I assumed that hand washing acts as a cue for novelty of situations and therefore resets psychological states to an initial point. Because situational cues of novelty highly influence information search biases induced by routinization, a routine paradigm was used to examine whether hand washing shows similar effects. People show biased information search processes towards confirmatory information after learning a routine. This bias vanishes if situational cues of novelty are present. Hand washing should therefore also diminish a confirmatory bias, if it indeed acts as situational cue of novelty. In a two group study design participants either washed their hands with an alcohol-based hand sanitizer, or rolled a small ball between their hands after learning a routine. In a following information search task I measured participants' information acquisition. Participants in the hand washing condition should be less prone to a confirmation bias than participants in the control condition. Contrary to my expectations, people in both conditions neither differed in their information acquisition, nor in their routine maintenance. Thus, the results of the present work suggest that aforementioned influence of hand washing on psychological effects is not explained by its functioning as a cue for novelty of situations.

Keywords: embodiment, hand washing, routine, confirmatory bias, information search, novelty

Anything New about Hand Washing? Cleansing as a Cue for Novelty in Confirmation Biased Information Search

Probably everyone reading this study does it frequently throughout the day, but how much thought have you put to it recently: Hand washing? The importance of hand washing for humans in the western world led to a vast incorporation of it into our everyday lives and medical workflows. Maybe you have already seen placards in public restrooms promoting cleansing, or even encountered strange machines there. Like a sound box which reminds persons of proper hand washing by emitting audio advice, when it detects people nearby (Lewis, Tramontina, Kaufman, & York, 2005).

Still, medical research shows that there is a need for more frequent and longer hand washing to reduce contagion risk in developing countries as well as in our society with already established hand washing norms (World Health Organization, 2011). There are Health Organizations around the world, which therefore promote and teach the importance of hand washing through particular initiatives, like the *Clean Care is Safer Care* campaign of the World Health Organization (2009) or the *We against Viruses* campaign of the German Federal Centre for Health Education (Bundesministeriums für Gesundheit, Bundeszentrale für gesundheitliche Aufklärung, & Robert Koch Institut, 2009). All these initiatives as well as extensive research since the 1880s conclude that hand washing is the best and easiest way to reduce germ loads, and therefore to lower the infestation risk in everyday human interaction. Simply put, all this research shows that germs can easily be washed away (Larson, 1988).

Hand washing is so strongly incorporated into our daily lives that most of us rarely think about it deliberately (Meilicke, Weißenborn, Biederbick, & Bartels, 2008). The extent of implementation manifests itself in different domains of our social life. Note the social norm which dictates to wash hands after using the toilet. This norm leads to an increased probability of washing hands when others are present in the lavatory. People will not risk

violating the norm even if they are rarely punished for doing so (Edwards et al., 2002; Munger & Harris, 1989).

Even our youngest are taught these norms quite early by means of children's songs and rhymes like a prevalent German rhyme points out: 'nach dem Klo und vor dem Essen, Händewaschen nicht vergessen!' which translates freely into 'before you eat and after loo, washing hands shall you!'. As this rhyme clearly expresses, hand washing occurs mainly before or after certain events or situations. Because it is carried out mainly in a ritualized manner (Meilicke et al., 2008), hand washing itself functions as a situational separator. Washing hands when arriving at home or after finishing work are more examples for its appearance between situations. Since research has found an influence of mere physical actions on psychological states (Meier, Schnall, Schwarz, & Bargh, 2012), it could be argued that hand washing does not only passively take place between situations, but rather actively induces the feeling of novelty and beginning. The present study investigates whether hand washing does indeed act as a cue of novelty by applying an experimental design and measuring actual behavior.

Washing Hands as Embodied Cognition

The first scientific approach to psychological effects of hand washing in a non-clinical setting was conducted in the domain of moral research (Zhong & Liljenquist, 2006). Research on the metaphor of moral purity (e.g., "a clean conscience", "wash away your sins") showed that the link between cleansing and moral behavior is more than merely a linguistic connection. After being confronted with a morally compromising situation, participants not only showed higher accessibility to hygiene related words, but also showed a higher desire for sanitarian products in both preference ratings and actual obtaining behavior, than did those who were not confronted with morally challenging situations. Further, actual hand washing behavior reduced the urge to restore ones moral image and reduced the amount of

reported moral related emotions after being exposed to a morally compromising situation. Another study showed the activation of cleanliness related concepts as well as, again, actual hand washing behavior reduced the moral judgments of transgressions made by others (Schnall, Benton, & Harvey, 2008). In comparison, it was shown that exposure to disgusting situations amplifies such moral judgments (Schnall, Haidt, Clore, & Jordan, 2008). This connection between moral perception and cleansing is specific to the body part that is used to conduct a moral transgression. Participants who lied in a voice mail preferred mouth wash over hand sanitizer, whereas participants who typed the same lie via email preferred hand sanitizer over mouth wash (Lee & Schwarz, 2010a).

Research on embodied cognition explains metaphorical connections between linguistic expressions of purity and psychological states linked to morality via different theoretical approaches (cf. Lee & Schwarz, 2012; Wilson, 2002). For example, evolutionary driven explanation models argue that throughout the evolutionary process of mankind, older neurological connections for basic functions (e.g. washing hands, to remove contaminants) were re-used for more complex, higher functions (e.g. moral awareness) (Anderson, 2010). Effects of hand washing on moral states would therefore be due to a coincidental re-use of already established neuronal pathways while forming a moral conscience. By being wired together, those pathways fire together, if either one is activated. This neuronal connection promoted thereafter the genesis of moral-purity metaphors.

A similar explanation is provided by the scaffolding theory (Williams, Huang, & Bargh, 2009). This developmental theory suggests that through the maturation process of humans, newer and more abstract concepts are internalized by building them onto older, already apprehended sensorimotor concepts. As someone needs to know what the concept of a word means, before he or she can learn the word itself, one must have an understanding of the concept of purity, before developing a concept of morality is possible. Morality builds on

the concept of purity, because of similar motoric actions that are necessary to accomplish both goals (e.g. “staying away from dirty/immoral persons”).

Going further, conceptual metaphor theory describes all higher thought processes as the results of metaphorical bonds between abstract concepts and concrete experiences, moderated through language (Lakoff & Johnson, 1999, 2008). Simply put, how we interact with the world shapes our use of language, which again shapes how we think and act. Internal psychological processes are therefore inextricably connected to interaction processes with our surrounding through our language. Metaphors are thereby the means of language to describe the more complex concepts through simpler ones. Morality can therefore only be perceived and understood through the use of metaphors of purity. Following this notion, the connection between purity and cleansing is due to the metaphorical structure of our minds.

However, effects of hand washing could be found in domains where no metaphorical connection between hand washing and the psychological state are apparent. Therefore, the explanatory approach provided by embodied cognition concepts cannot be easily applied to those effects. One such effect that could be washed away is risk taking behavior. Consistent with prospect theory (Kahneman & Tversky, 1979) it was shown that people’s risk taking behavior is dependent on recent episodes of good or bad luck. Participants were more inclined to choose risky options if they experienced recent episodes of good luck, rather than those who experienced bad luck. Interestingly, those effects of past episodes’ luck disappeared, if participants washed their hands before the decision (Xu, Zwick, & Schwarz, 2012). Another instance for an effect in a non-moral domain is post decisional dissonance. Post decisional dissonance is the tendency to reduce inner tension after selection-decisions through devaluation of the non-chosen alternative and valorization of the chosen one. By doing this, people justify their transacted choice (Festinger, 1964). It was shown that those effects disappeared after participants washed their hands (De Los Reyes, Aldao, Kundey,

Lee, & Molina, 2012; Lee & Schwarz, 2010b). Because there is no prevalent metaphoric connection between washing away good/bad luck or post decisional dissonance, and washing or cleansing concepts, the removal of residues of the past has to function in a more complex way, than simply by a metaphorical connection, as the re-use or scaffolding models suggest (Anderson, 2010; Williams et al., 2009). Lee and Schwarz (2010b) argue that washing hands acts as a ‘clean slate effect’ of psychological states and therefore resets minds back to a more neutral state. The unification of conceptual metaphor theory (Lakoff & Johnson, 1999, 2008) with this ‘clean slate effect’ can be achieved by assuming a generalization of the purity concept beyond morality. New things are per definition pure and hand washing could therefore reduce the influence of past states through forming a connection between purity and novelty, instead of morality (Lee & Schwarz, 2011).

By showing the susceptibility of the relatively stable endowment effect (Kahneman, Knetsch, & Thaler, 1991; cf. Nayakankuppam & Mishra, 2005) to be washed away, aforementioned notion gained support. Participants’ willingness to exchange a newly owned item was under study (Florack, Kleber, Busch, & Stöhr, 2013). It was shown that washing hands could double the probability of willingness to exchanging the item. Furthermore, washing hands lead to a more positive evaluation of both, the newly owned and the alternative item. The authors extended the definition of the clean slate effect. Hand washing is a “...ritual that is strongly associated with closing a previous action and starting something new” (Florack et al., 2013, p.13). The reset of psychological states to an initial base could therefore be due to a signal for novelty of situations. Hand washing could be interpreted as such a signal, because of its ritualized properties as start and stop signal in everyday lives.

In the present research I investigate the assumption that hand washing does indeed act as a signal for novelty of situations. If so, hand washing should elicit similar effects on psychological phenomena as apparent cues of situational novelty do. One field of research,

where apparent cues of novelty show a direct influence on psychological states is routine research.

Routines, Confirmation Bias and Cues for Novelty

Routines are defined as: ‘a behavioral option that comes to mind as a solution when the decision maker is confronted with a certain decision problem’(Betsch, Fiedler, & Brinkmann, 1998, p. 862). In new situations, where people don’t have a solution at hand, they have to deliberate the possible alternatives, evaluate them, and finally come to a decision. The driving question is “which alternative should I choose?” In routinized situations, this process changes. Because they have already gone through the evaluation process before, the dominant question becomes “should I stay with my former decision or should I deviate?” (Betsch, 2005).

This means that routines are activated from memory if people encounter decision situations they have formerly undergone and thus the routinized behavior gets apparent as one possible decision alternative. For instance, when people who have newly moved to a city require a specific service like a barber. At first, they are unaware of possible solutions and deliberate about the ones they find on the internet or in a phonebook, or maybe they just go to a random barber shop. The next time they require the same service, the problem situation has changed. At least one solution to the problem is apparent, namely the one shop they have visited the first time. In this situation they ponder on either going to this particular barber again, or finding a new one. Even if it was the worst cut they ever received in their lives, the possibility of going there becomes accessible.

Whether the routine alternative in such decision situations is actually chosen depends on contextual characteristics of the situation (Betsch et al., 1998; Betsch, Haberstroh, Molter, & Glöckner, 2004; for an overview see Betsch & Haberstroh, 2005). One such characteristic is frequency of choosing in the past. Routines that are chosen repeatedly become strong

routines, thus their probability to be chosen again thereafter increases, even if deviation would have been beneficial (Betsch, Haberstroh, Glöckner, Haar, & Fiedler, 2001, Study 1). Participants, who experienced that one of three alternatives in a micro world simulation game is more profitable than the others, learned the routine of choosing this particular option. The experimental design nudged them to choose this particular alternative either 15 or 30 times, they learned a weak or a strong routine, respectively. One week later, they played the same game again, but this time another alternative than before was the best one. Participants in the strong routine condition showed a bias towards choosing the routinized alternative, even if the new properties of the game clearly showed that deviating from the routine would benefit their outcomes. Participants in the weak routine condition did not show this routine maintaining behavior.

Additionally, the learning of a strong routine resulted in a biased information acquisition towards confirmatory information about the routine alternative (Betsch et al., 2001, Study 2). Participants played a similar micro world simulation game, to learn a weak or strong routine, respectively. After the learning phase they received instructions to make a one-and-for-all decision. To be able to make an informed last decision they should acquire additional information about the possible alternatives, provided by a research marked institute embedded into the game. Had the participants learned a strong routine, their information search was biased towards such information, which supported their formerly learned beliefs about the game properties. Participants of the weak routine condition also showed a so called *confirmation bias*, but to a much smaller extent. In further studies, using information search tasks, the robustness of this confirmation bias was shown (Jonas, Schulz-Hardt, & Frey, 2001; Jonas, Schulz-Hardt, Frey, & Thelen, 2001).

Interestingly, those effects of strong routinization on information search and subsequent behavior completely disappeared, if the situation was framed as novel (Betsch et

al., 2001, Study 2). Strongly routinized participants confronted with an information search task, which only differed slightly in phrasing from the aforementioned one, even showed a tendency to search for disconfirmatory information.

Further evidence was found that cues for novelty in situations reduce effects of routinization. In another computer simulation game apparent changes of the user interface as well as rather unremarkable additions to it were interpreted as cues for novelty of the task, as self-reports showed. Both led to a stronger routine deviation probability (Betsch et al., 1998). Even cues in the surrounding environment, like deviating behavior of other persons, were found to be interpreted as a cue for novelty (Betsch, Lindow, Engel, Ulshöfer, & Kleber, 2015). Participants in a routine task were more likely to deviate from their learned routine if they could witness another person doing so. It was shown that this increase in deviating behavior was due to interpreting the behavior of the model as a cue for the new properties of the situation. Only a human model, not a computer program, was able to elicit such an increase.

These findings are in line with the aforementioned definition of routine, as soon as a situation is rated as novel activation of the routine alternatives diminishes, because the situation does not resample the situation in which the routine was learned anymore. Actually, the mechanism of abandoning obsolete routines makes sense. If the world around someone has changed, the beliefs and understandings of an old world are no longer able to produce acceptable outcomes.

Research Questions

The present study aims to investigate the underlying processes of effects of hand washing on psychological states. A possible explanation for this notion is that hand washing acts as a cue for novelty of situations and therefore resets psychological states to a more neutral state. If so, hand washing should elicit similar effects on psychological phenomena as

apparent cues of situational novelty do. Since routine effects show a high susceptibility to such cues of novelty in the surrounding environment, I assumed hand washing to be able to reduce these routine effects. If hand washing does indeed act as a cue for novelty of situations, it should frame situations in a routine context as novel and therefore diminish routine biases in information search and actual behavior.

In particular, I assumed participants who have learned a routine to show a lower confirmation bias towards this routine within an information search task after hand washing, than should participants in a control condition, in which they did not wash their hands but performed an alternative action instead. Furthermore, I expected participants to be more likely to deviate from the learned routine if they washed their hands, than participants of a control condition, which did not wash their hands.

Method

Participants and Design

A total of 72 undergraduates participated in this study. As of different reasons, several participants had to be excluded from the sample. Nine failed to learn a routine in a routine inducing task, four participants did not show any response to the dependent measure, and eight participants were excluded due to technical problems in the laboratory. The resulting sample consisted of 51 undergraduates (34 females and 17 males) who were recruited on the campus of the University of Vienna. Participants' age ranged between 19 and 64 ($M_{age} = 24.59$, $SD_{age} = 6.37$). Most of the participants were majoring in psychology (40, 78%); the others were enrolled in the humanities (7, 14%) or in natural sciences (4, 8%). They had the chance to win one out of five vouchers of a popular online retailing website, worth 10€ (approximately 14\$ at the time) each. Additionally, eighteen received extra course credit. Participants required approximately 45 minutes to finish the task.

Participants were randomly assigned to one of two experimental-conditions: they either used a hand sanitizer or rolled a small ball between their hands (hand washing vs. control condition), strength of confirmation bias and routine deviation served as the dependent variables.

Procedure and Materials

Participants were invited to take part in an alleged economics simulation game. After arriving in the laboratory participants were seated at least two cubicles away from each other, to ensure that they were not able to recognize anything about the tasks of the other participants present. After signing the informed consent sheet participants started with a practice trial to accustom themselves to the user interface of the following task. The task was programmed with Inquisit 4 (Millisecond Software, 2013). For the full script see Appendix A. For an overview of the experimental procedure see Figure 1.

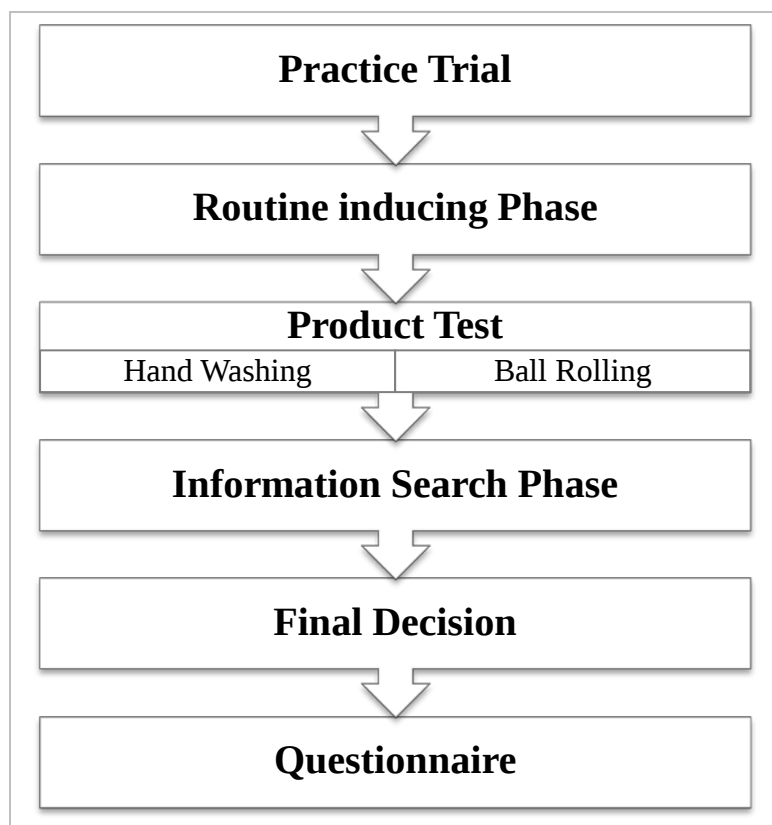


Figure 1. Sequence of the particular experimental phases.

To instill a strong routine participants played a computerized version of the Iowa Gambling Task (Bechara, Damasio, Damasio, & Anderson, 1994; Bechara, Damasio, Tranel, & Damasio, 2005). Instead of drawing cards from one of four decks, participants chose between one of four factories, repeatedly. This was adapted to ensure a thematic fit between this routine inducing phase and the following phases of the experiment. Each turn the chosen factory yielded either gains or losses for the participant. The four factories differed with regards to amount of possible losses and in their expectancy value. Those values were adapted from a similar study using the Iowa Gambling Task as means to induce a strong routine (Betsch et al., 2015). The possible gains, losses, and expectancy values are shown in Table 1. There was only one factory with a positive expectancy value. Participants' goal was to maximize their incomes. In that, they could only be successful by identifying and afterwards buying repeatedly from the one best factory. As previous research shows, one can assume a strong routine to be learned after 50 repetitions of choosing this particular alternative (Betsch et al., 2001, 2015).

Table 1

Value Distribution of the Four Separate Factories in the Routine Inducing Phase

Name of factory	PraxCare	SaniPartner	AssistTec	DanuMed
Gain values in €	50;100	50;100	50;100	50;100
Loss values in €	50;100	50;100	100;150	150;200
Gain probability	80%	50%	40%	50%
Expected value in €	50	0	-50	-50

Note. Values were adapted from “Has the World Changed? My Neighbor Might Know: Effects of Social Context on Routine Deviation.” by T. Betsch, S. Lindow, C. Engel, C. Ulshöfer, and J. Kleber, 2015, *Journal of Behavioral Decision Making*, 28(1), 50-66, p. 53. Copyright 2015 by John Wiley & Sons, Ltd.

The only apparent distinction of the factories on screen was their names. Those were carefully pretested. In this pretest, 21 participants rated seven factory names with regards to six dimensions on semantic differential scales. Namely, the six dimensions were *negative vs. positive*, *unsuccessful vs. successful*, *incompetent vs. competent*, *not reputable vs. reputable*, *artificial vs. genuine* and *unfamiliar vs. familiar*. The resulting four factory names (“PraxCare”, “SaniPartner”, “AssistTec”, and “DanuMed”) did not differ in any of the six tested dimensions, $t_s < 1.86$, $p_s > .078$. Preference effects of the factory names themselves can therefore be ruled out.

The gains and losses of each trial and the current total were displayed both in numeric amounts and in piles of coins on screen. This presentation method was chosen to enhance understanding of the numerical cue by depicting additional graphical information (cf. Garcia-Retamero & Galesic, 2010). A screenshot of the users interface in this phase can be found in Figure B1 (see Appendix B).

Participants were told that the five players with the highest score would receive a 10€ voucher as reward. This should increase their motivation to be successful in the tasks. To increase the understanding of the task instructions, they were presented three times using different media. First, they were presented directly on the computer screen. Next, the experimenter recapitulated them verbally. And lastly, the participants received a summary sheet they could consult during the task. Those repeated presentations proved their necessity in several test runs, which revealed prior difficulties in understanding the instructions of the computerized version of the task. Out of ten people, eight (80%) have reported difficulties in understanding the task when the instructions were presented only once. This uncertainty could be reduced to one out of eight (12.5%) people by applying the threefold presentation. Hence, this threefold presentation mode was used in the present study. The instructions presented on screen read as follows:

Imagine you were a purchasing manager of a rehab hospital. Your function is to restock consumables and sports appliances each month. This includes products like: hygienic gloves, gymnastic apparatuses, tapes, barbells, medical soap dressing material and yoga mats.

There are four independent factories, from which you can purchase the products. You have to decide for a factory each month again.

The four factories differ in price and quality of products, independently. Hence, you can increase your income by purchasing high quality and low priced products as well as make losses by buying overpriced ones. Furthermore, the factories show monthly balance fluctuations.

Although, all factories yield gains as well as losses, for you ONE will arise as the most profitable. This one will yield the greatest revenue over time.

Try and find which one and earn a specific amount of money in as few rounds as possible.

The less purchases you have to make to reach this amount, the greater is your success in this task.

Your starting budget amounts to 1000€.

Please ask the researcher now to start the task, if you're ready to begin.

After reaching an amount of 2500€, which could only be achieved by choosing the best factory at least 50 times as well as choosing it two times more often than the others combined, participants had learned the routine. The experiment of those, who didn't match these winning criteria after 150 trials, was terminated and they were excluded from the sample.

After participants had learned the routine successfully, a product test followed. Participants saw a tray of five rehab related products, namely hand sanitizer, a tennis ball sized gymnastics ball, a 1,5kg barbell, a tube of sports gel, and a power bar. By drawing lots they should determine which product they would test. Every product seemed to be available for testing. However, all of the drawable lots contained the same caption, either *hand sanitizer* or *gymnastics ball*. Which batch of lots they should draw from was randomly

determined at the beginning of the experiment. The product test was imbedded into the cover story as means for participants to assure themselves of product quality. Participants tested the products approximately between ten and 20 seconds.

They either washed their hands with the hand sanitizer or rolled the ball between their hands. Rolling a ball as control condition was chosen to ensure similar motoric hand movement in both, experimental and control condition. Effects of mere motoric movement could therefore be ruled out.

Next, the information search phase started. Participants were informed that they would have to choose an unspecified amount of information as foundation for one last crucial decision. This decision would influence their overall performance. Every information they acquired cost them 50€ but would enhance their chance to make an informed final decision. The task consisted of a 2x3 matrix of alleged newspaper articles for every of the four factories. All four matrices were presented simultaneously. For each factory the articles promised three positive and three negative forecasts of future factory performance (e.g. “PraxCare increases production norms”, “Poor expert ratings for AssistTect”). These headlines were carefully pretested. In the pretest, 20 participants rated how they perceived a factory described by 36 headlines with regards to emotionality, expertise, valence, competence and success. The values of the chosen 24 headlines did not differ in the first four dimensions, $t_s < 2.05$, $p_s > .054$. However, it was not possible to find 24 headlines that did not differ regarding success. Therefore I selected one headline out of each of the following categories: *very successful*, *averagely successful*, *slightly successful*, *very unsuccessful*, *averagely unsuccessful*, and *slightly unsuccessful* for each of the four factories. In each respective category, those 24 headlines did not differ between the factories, $t_s < 1.78$, $p_s > .091$. The headlines in the successful-categories of the best factory and the unsuccessful-categories of the other factories are henceforth regarded to as confirmatory

information, because they confirmed the picture the routine inducing phase had established (e.g. the good factory will continue to be successful, while the other factories will continue doing badly). The headlines in the unsuccessful-categories of the best factory and the successful-categories of the other factories are henceforth regarded to as disconfirmatory information, because they showed a different picture than the routine inducing phase did (e.g. the good factory will do worse, while the other factories will improve). The allocation of the headlines was fixed in a random order. As in the routine inducing phase, the budget was displayed both in numeric amounts and in piles of coins. A screenshot of this phase with all of the 24 selected headlines is shown in Figure B2 (see Appendix B).

Afterwards, participants had to decide one last time for one of the four alternatives based on their information acquisition. As another dependent measure, this decision provided evidence about actual routine deviation behavior. Thereafter, the participants rated on a 9-point scale how difficult it was to make the final decision (1 = "not hard at all" to 9 = "very hard"), they were asked what they thought was the purpose of the study and they filled out a questionnaire about demographics. Additionally, participants in the hand washing condition rated on 7-point scales to which degree the hand sanitizer gave them a sensation of purity and to which degree they had the sensation of washing their hands (1 = "none" to 7 = "very").

For another study further measures were obtained, which were not used for the data analysis of the present work and will not be discussed further. For the whole questionnaire see Appendix C.

Finally they were thanked and debriefed. The five reward vouchers were raffled among all participants after the data acquisition was completed. None of the participants complained about the feigned connection between task performance and the real distribution of the vouchers.

Results

All statistical analyses were performed using SPSS 20.0 with a criterion of significance of $\alpha = .05$. Figures were produced with R-Studio (RStudio, 2014).

Data Preparation

I measured the amounts of acquired confirmatory and disconfirmatory information as the dependent variable. Because the headlines differed in three ranges of success, the mere sums of acquired information did not represent the dependent variable sufficiently. To account for the differences in success between the headlines, they were weighted with regards to the magnitude of success they predicted. The amount of acquired headlines of the categories *very successful/unsuccessful* was multiplied by three. The amount of those of the categories *moderately successful/unsuccessful* was multiplied by two. Headlines of the categories *slightly successful/unsuccessful* were simply counted. Those values were thereafter added together to a disconfirmatory sum and, accordingly, a confirmatory sum. For instance, if a participant acquired the confirmatory headlines “PraxCare increases production norms” (slightly successful), “Poor expert rating for AssistTect” (very unsuccessful) and “SaniPartner expects to get into the reds next quarter” (moderately unsuccessful), the weighted confirmatory sum would add up to six. The very unsuccessful headline adds three points, the averagely unsuccessful headline adds two points and the slightly successful headline adds one point to the confirmatory sum. Note that in this example PraxCare was the learned routine.

The strength of confirmation bias was thereafter computed by subtracting the weighted disconfirmatory sum from the weighted confirmatory sum. Hence, high values of strength of confirmation bias indicated a preference of confirmatory information, negative values indicated a preference of disconfirmatory information, and values around zero indicated an evenly distributed information acquisition.

Preliminary Analyses

As the questionnaire showed, all participants were oblivious to the real purpose of this study. Therefore, none had to be additionally excluded from the sample.

To test whether proportions of sample sizes were different in each experimental-group, I used a chi-square test of independence. There was no difference in group sizes of hand washing ($n = 29$) and ball rolling ($n = 22$) conditions, $\chi^2(1, N = 51) = 0.96, p = .327$.

In total, participants acquired between one and 13 headlines ($M = 5.08, SD = 2.74$), across confirmatory types. There was no significant difference in total amount of acquired headlines between the two experimental-conditions, $t(49) = 0.03, p = .978$. Furthermore, a one way ANOVA revealed no significant interaction between total amount of acquired headlines and experimental-condition on strength of confirmation bias, $F(6, 49) = 0.39, p = .878$. Differences in confirmation bias strength driven by differences in over all information acquisition between the conditions could therefore be ruled out.

Manipulation Check

By learning the routine of choosing the target alternative in the routine inducing phase, participants should be subjected to a confirmation bias towards this specific alternative in the information search phase. If so, participants should have acquired more confirmatory than disconfirmatory information. The manipulation proved to be successful.

The weighted strength of confirmation bias across conditions ($M = 1.78, SD = 6.36$) differed significantly from zero, $t(50) = 2.00, p = .05$, which means that participants were subjected to a confirmation bias. Further, Cohen's effect size value ($d = 0.28$) suggested a small to moderate effect. Because they acquired more confirmatory information ($M = 6.33, SD = 4.3$) than disconfirmatory information ($M = 4.55, SD = 4.76$), the routine inducing task proved to be a successful means to instill a routine and thereby bias the following information search process in a confirmatory way.

With the unweighted sums this effect showed the same tendency ($M_{\text{conf}} = 2.84$, $M_{\text{disconf}} = 2.24$) but did not reach statistical significance, $t(50) = 1.48$, $p = .144$.

Main Analyses

In order to test the hypotheses that washing ones hands could function as a cue for novelty of situation and therefore reduces the confirmatory bias after a learned routine, I examined the underlying information search processes. In particular, participants who washed their hands should acquire less confirmatory information than participants of a control group during the task. As Figure 2 indicates, there was no difference in the strength of confirmation bias between the two groups. A t-test revealed that the difference between the participants in the hand washing condition ($M = 2.07$, $SD = 6.64$) and those of the ball condition ($M = 1.41$, $SD = 6.09$) was only due to chance, $t(49) = 0.36$, $p = .717$.

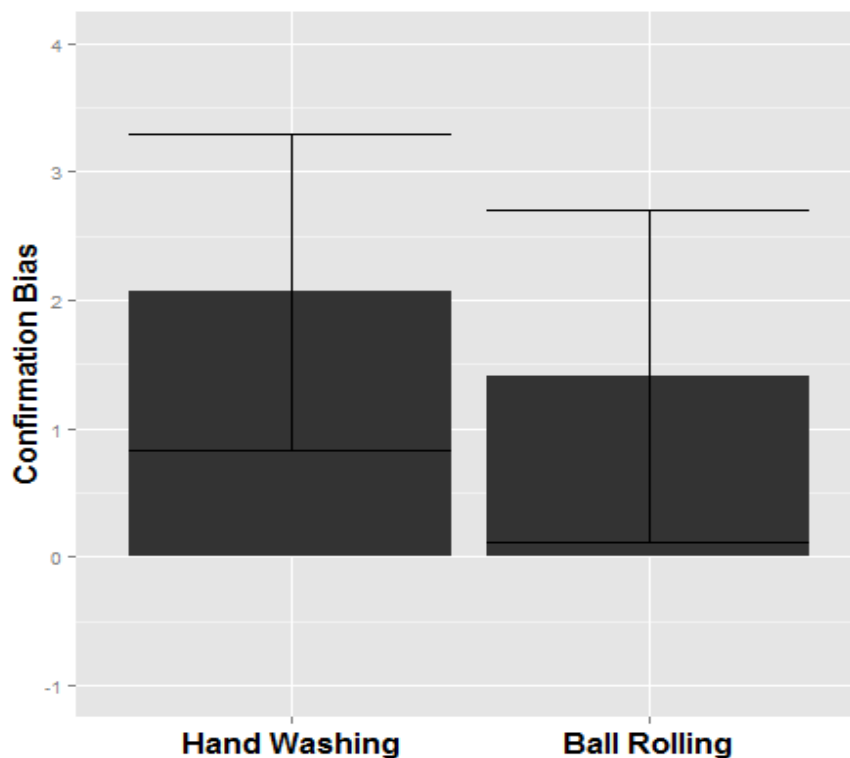


Figure 2. Strength of confirmation bias per experimental group. High values indicate a strong preference for confirmatory information, whereas negative values indicate a preference for disconfirmatory information. Error bars depict the standardized error of the mean.

To test the assumption that the manipulation had an impact on actual behavior rather than the information search processes I examined the routine deviation of participants in the final decision. Participants in the hand washing condition should be more prone to deviation of the routine factory to another one, if hand washing decreases routine strength. As you can see in Table 2 hand washing did not increase probability of routine deviation within the final decision. A chi-square test could not be employed because of the small cell sizes.

Moreover, participants rated how difficult it was to make this final decision. Those in the hand washing condition reported it to be quite easy to make the final decision ($M = 3.17$, $SD = 2.14$) as did those in the ball rolling condition ($M = 2.73$, $SD = 2.16$). The difference in the means was not statistically significant, $t(49) = 0.73$, $p = .467$. Hand washing had neither an effect on the difficulty of the final decision nor on the actual decision itself. The hypothesis of hand washing acting as a cue of novelty is therefore not supported.

Table 2

Crosstabulation of Experimental Group and Routine Deviation Within the Final Decision Task

Deviation from routine	Group	
	Hand Washing	Ball rolling
Yes	2	2
No	27	20

Note .Because of the small cell sizes a chi-square test could not be employed.

Further Analyses

Furthermore, an exploratory ANOVA revealed no interaction effects between experimental group and routine deviation with strength of confirmation bias as depended variable, $F(1, 49) = 0.34$, $p = .563$. However, a significant main effect of routine deviation

could be found, $F(1, 49) = 4.37$, $p = .042$, $\eta_p^2 = .85$. Participants who deviated from the routine in the final decision task showed a much weaker confirmation bias ($M = -4.5$, $SD = 4.66$) in comparison to those who stayed with their routine ($M = 2.32$, $SD = 6.22$), $t(49) = 2.13$, $p = .038$. The exploratory character of this analysis needs to be emphasized, because routine deviation was not manipulated but measured and only four participants deviated from their routine, whereas 47 did not. Furthermore, one has to be careful interpreting these findings because the final decision was made after the information search. However, these findings show the connection between information acquisition and final decision. Participants who chose stronger disconfirmatory information were more likely to deviate from their learned routine in the final decision.

Additionally, to assure a washing experience of the hand sanitizer in use, participants in the hand washing condition had to rate both how cleansing they perceived the sanitizer and how much they had the sensation of washing their hands. A t-test against the central point of the scale (= 3.5) showed that they perceived the sanitizer as moderately cleansing ($M = 4.07$, $SD = 2.08$), $t(29) = 1.5$, $p = .153$. Albeit, they didn't experience using it as even moderately similar to actual hand washing ($M = 2.66$, $SD = 1.84$), as again a t-test against the central point of the scale revealed, $t(29) = -2.5$, $p = .02$. Thus, it's highly arguable that the participants in the hand washing condition did not really receive a proper treatment to instill the sensation of hand washing.

Discussion

The present study examines the underlying processes of the 'clean slate effects' of hand washing (Lee & Schwarz, 2011). In particular I investigated the possibility that hand washing resets cognitive processes by acting as cue for novelty. The results imply that hand washing does not seem to signal the beginning of new situations by acting as a cue for novelty. Based on routine research, I assumed a decline in conformation bias and an increase

in routine deviation as a proxy for novelty of situations (Betsch et al., 1998). Thus, hand washing should have eliminated those effects of induced routines, if people perceived hand washing as a cue for novelty. Participants were successfully submitted to routine effects. They showed a preference for information which confirmed their routine and preferred choosing their routine over other alternatives. However, I could not find any differences between people who have washed their hands and people who rolled a ball regarding effects induced by a learned routine. Therefore the results of this study suggest that people do not interpret hand washing simply as a start or stop signal of situations. The question about the underlying processes of hand washing still remains unanswered.

But note that effects washed away in recent studies, namely good/bad luck (Xu et al., 2012), postdecisional dissonance (Lee & Schwarz, 2010b), and the endowment effect (Florack et al., 2013), all operate on a rather subconscious mental level. People neither devalue a non-chosen alternative to reduce dissonance deliberately nor do they consciously decide that an item given to them must be worth more than a not-received item. Accessibility of explicit memory contents does not influence the aforementioned effects, as studies on amnesics show (Lieberman, Ochsner, Gilbert, & Schacter, 2001). Routines on the other hand, operate on a more conscious level. They provide the routine alternative as a solution to the decision problem by means of memory accessibility. Routine effects seem to be driven more by conscious evaluation processes than by automated search patterns (Betsch, 2005). Therefore, it could be possible that the effects of hand washing, in comparison, operate on a more subconscious level. Biases induced through learned routines could be resistant against the subtle cues for novelty of hand washing because they operate too actively in the conscience mind. Thus, hand washing would be rather felt as cue for novelty than, as expected, interpreted as such. This notion is in line with the findings of the present study. Because of the incentive, participants were probably highly motivated to perform well in the

tasks. Therefore, the cue of novelty provided by hand washing was not striking enough to influence the decision and the information search of the participants. Future research could address this notion by investigating further memory based operations and if they change after washing hands. It would be highly informative to replicate studies which showed that seemingly memory independent effects can be washed away (Florack et al., 2013; Lee & Schwarz, 2010b; Xu et al., 2012) with a sample of amnesics. If those effects still decline after washing hands of persons with short term memory dysfunctions, the operating level of hand washing could be better circumscribed. Effects of hand washing would be clearly separable from memory accessibility, as the findings of the present study suggest. If, on the other hand, amnesics would show to be not prone to clean slate effects, new questions about the nature of hand washing would arise.

However, there are several limitations of the present study that are noteworthy. First, I computed the dependent variable by subtracting the weighted sum of acquired disconfirmatory information from the weighted sum of acquired confirmatory information. Whereas the subtracting procedure showed to be a valid way of measuring confirmation bias (Betsch et al., 2001; Jonas, Schulz-Hardt, & Frey, 2001; Jonas, Schulz-Hardt, Frey, & Thelen, 2001), one could argue that the weighting process seems to be arbitrary. I conducted a pretest to find those headlines with the most similar characteristics, whereby I couldn't find 24 headlines with the same magnitude of predicted success. The following categorization in 3 groups, namely *very successful/unsuccessful*, *moderately successful/unsuccessful*, and *slightly successful/unsuccessful* and the corresponding weighting values of three, two, and one, respectively, were chosen as those represented the data of the pretest most sufficiently. Although, participants didn't rate very successful headlines three times as promising as they did slightly successful ones, a clear classification could be identified. Because I measured this variable with one item on a 20-point scale (1= *very unsuccessful* to 20= *very successful*) it is

not surprising that I didn't find very successful headlines to be three times as high rated as slightly successful ones. Further, the analysis showed the same trend with weighted sums and with actual, unweighted sums. Therefore, it can be assumed that my chosen weights are acceptable. Additionally, the connection between routine deviation and strength of confirmation bias showed that the measurement of the information search task provided a reliable prediction of actual behavior.

Second, recent studies used hand sanitizer or antiseptic wipes as hand washing manipulation (De Los Reyes et al., 2012; Lee & Schwarz, 2010b; Xu et al., 2012; Zhong & Liljenquist, 2006). Note that those studies were conducted in the USA. In German cultural regions cleansing with alcohol based hand sanitizers does not receive a great amount of acceptance in the non-clinically involved population (Hübner, Hübner, & Kramer, 2013). Such hand sanitizers are highly associated with medical processes, but are rarely used in everyday contexts. Even when medial emphasis on infectious diseases is high, approval of sanitizers is low. In a study about risk perception at the peak of the swine flu pandemic in 2009 it was shown that Germans didn't even bother taking a bottle of sanitizer with them, when it was provided as a reward for study participation. Barely every 10th participant took the sanitizer, although the majority reported highly increased perception of contagion risk and all were informed about the reduction of the risk by using hand sanitizers (Reuter & Renner, 2011). Because of this lack of acceptance to the use of hand sanitizers, one could argue that using a hand sanitizer and actual hand washing behavior are two different activities in German speaking populations. Effects of hand washing with water and soap could therefore differ from those of using hand sanitizers. The results of this study support those doubts. Participants didn't experience the use of the sanitizer as even moderately comparable to actual hand washing. In recent studies about hand washing in German speaking populations, not hand sanitizer but actual soaps and sinks were used as hand washing manipulation

(Florack et al., 2013; Kaspar, 2012). Hence, it remains unclear whether effects of hand washing can be sufficiently induced using a hand sanitizer manipulation in German speaking populations. If so, the results of the present study may be of limited informational value. Therefore, it would be highly informative to replicate the present study using soaps and sinks as hand washing manipulation in a German speaking population, to ensure comparability between the findings of recent studies and those of the present study. If using soaps and sinks as hand washing manipulation does indeed reduce confirmatory information search tendencies, the notion that hand washing is interpreted as a cue for novelty of situations again finds support. If on the other hand routine effects prove again to be unaffected by hand washing, questions about the true nature of the connection between the physical act of hand washing and the psychological consequences of it remain to be answered.

The present work aimed to shed light on the underlying processes of physical hand washing and psychological changes through it. From an increased understanding of those underlying processes, hand washing promotion programs and health care initiatives could highly benefit. With clearer understanding of the relationship between the physical act of hand washing and cognitive processes, new innovative approaches to behavioral modifications could be applied. Since established initiatives mainly focus on informing recipients about health risks, acceptance is relatively small (Meilicke et al., 2008). Newer initiatives could promote hand washing by adding its psychological function to the focus and therefore slowly influence the social norm of hand washing and the attitudes towards it to increase hand washing behavior. If the perks of hand washing (e.g. its possibility to closure certain situations, internally) were more pronounced, people might increase their hand washing frequency. An aptly example for the fit of such interventions to our society is the aforementioned German children rhyme, which influences German children since decades: before you eat and after loo, washing hands shall you!

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Appendix A

Inquisit Script

Vienna Routine Inducer

Editable Values

/ currenttotal:	The amount of money currently owned
(default) = 2000	startamount
/ showcardinfo:	Shows information about number of
cards played	
/ showcoins:	Depicts the currenttotal as coins
/ routinecount:	How many repetitions of selecting the
best Firm have to be made to accept the routine as learned.	
/ aborttrials:	After how many trial the experiment will
be terminated and the learningphase is deemed unsuccesfull	
/ abortamount:	Amount of money the Participants aquired
during the Pretest, to add another abort variable.	
/ smallestvalue:	the Value of one depicted coin/ how much
currentvalue surplus is needed for the next coin to be shown	
/ trialruns:	of how many trials does the Tutorial
consist	

<values>

```

/ currenttotal = 1000
/ showcoins = true
/ showcardinfo = false
/ routinecount = 30
/ aborttrials = 150
/ aborttrials_post = 50
/ abortamount = 2500
/ smallestvalue = 50
/ trialruns = 8
</values>

```

EXPRESSIONS

```

/ getlossdeck1 -
/ getlossdeck4:      calculates the current loss for a played deck
                      losses are selected randomly without replacement
                      => across 10 trials per deck, you will see the
following losses:

```

<expressions>

```

/ getgaindecktutorial = noreplace(-2,-1,1,2)
/ getgaindeck1 = noreplace(-50,-100,50,50,50,100,100,100,100,100)
/ getgaindeck2 = noreplace(-50,-100,50,100,-50,-100,50,100)

```

```
/ getgaindeck3 = noreplace(-150,-150,-150,-100,-100,-100,50,50,50,100)
/ getgaindeck4 = noreplace(-150,-150,-200,-200,-200,100,100,100,50,50)
/ getgaindeck1_post = noreplace(-50,-100,50,100,-50,-100,50,100)
/ getgaindeck2_post = noreplace(-50,-100,50,50,50,100,100,100,100,100)
/ getgaindeck3_post = noreplace(-150,-150,-200,-200,-200,100,100,100,50,50)
/ getgaindeck4_post = noreplace(-150,-150,-150,-100,-100,-100,50,50,50,100)
</expressions>
```

```
*****
Editable Instructions
*****
```

NOTE: instructions can be changed here:

```
<item instructions_tutorial>
/ 1 = "
```

Liebe Teilnehmerin, lieber Teilnehmer,

im Folgenden werden Sie an zwei Entscheidungsspielen teilnehmen.

Mit einem Klick auf das blaue Weiter kommen Sie zur nächsten Seite.

```
"
/ 2 ="
```

Beide Spiele sind sich vom Aufbau, den Zielen und der Funktionsweise sehr ähnlich.

Das erste Spiel, ein Kartenspiel, dient dazu Sie mit der Benutzeroberfläche vertraut zu machen. Nachdem Sie sich ein Wenig mit der Benutzeroberfläche auseinander gesetzt haben, werden Sie das zweite Spiel, ein Firmenspiel, spielen.

In beiden Spielen sollen Sie mehrfach zwischen vier Alternativen wählen. Ihre Entscheidungen können immer zu Gewinnen oder Verlusten führen. Hierbei sind Sie erfolgreich, wenn Sie über die Zeit hinweg möglichst viel Geld erspielen.

Falls Sie Fragen haben, wenden Sie sich bitte jederzeit an den Versuchsleiter.

"

```
/ 3 ="
Bei dem Kartenspiel werden Ihnen vier verschiedenfarbige Kartenstapel angezeigt.
```

Durch klicken auf ein Kartenstapel ziehen Sie eine Karte. Dabei können Sie Geld verlieren oder gewinnen. Ihr Gewinn oder Verlust wird Ihnen unmittelbar unter dem Kartenstapel angezeigt. Jeder Kartenstapel bietet sowohl Gewinne als auch Verluste, welche Sie ziehen können.

Am oberen Bildschirmrand sehen Sie Ihre Münzstapel, diese repräsentieren Ihr Budget.

Das Kartenspiel wird nach einigen Zügen automatisch beendet, Ihr Ziel ist es hierbei lediglich sich mit der Benutzeroberfläche vertraut zu machen.

Klicken Sie bitte auf Start sobald Sie anfangen möchten zu spielen.

"

</item>

<item instructions_tutorialend>

/ 1 = "

Der Übungsdurchlauf ist nun beendet.

Es folgt das Firmenspiel.

"

</item>

<item instructions_scenario>

/ 1 = "

Die Benutzeroberfläche des Spiels ist Ihnen aus dem Übungsdurchlauf (Kartenspiel) schon bekannt.

Im nun folgenden Firmenspiel sollen Sie durch geschicktes Budgetieren Ihren eigenen Gewinn über die Zeit maximieren.

Die 5 erfolgreichsten TeilnehmerInnen gewinnen je einen Amazon Gutschein im Wert von 10€!

Wenden Sie sich bei Fragen bitte an den Versuchsleiter!

Wir wünschen Ihnen viel Erfolg!"

/ 2=

"

Stellen Sie sich nun bitte vor, Sie wären EinkaufsleiterIn eines Rehabilitationszentrums.

Ihre Aufgabe ist es jeden Monat den Vorrat an verbrauchbaren Artikeln, sowie an Hilfsmitteln zur sportlichen Betätigung einzukaufen.

Dies umfasst Produkte wie beispielsweise: Einweghandschuhe, Gymnastikbänder, Tapes, Hanteln, medizinische Seife, Verbandszeug und Gymnastikmatten.

Es gibt vier unabhängige Firmen, von denen Sie diese Produkte einkaufen können.

Jeden Monat müssen Sie erneut die Entscheidung treffen, von welcher Firma Sie die Produkte einkaufen möchten."

/ 3 =

"

Die vier Firmen variieren dabei im Preis und der Qualität ihrer Produkte unabhängig voneinander.

Sie können also durch den Kauf von qualitativ hochwertigen und preisgünstigen Produkten Ihren Gewinn steigern, aber auch durch überhöhte Ausgaben Verluste erleiden.

Zudem weisen die Firmen monatliche Schwankungen bezüglich ihrer Bilanzen auf.

Obwohl also alle Firmen Gewinne und Verluste erzeugen, ist EINE Firma für Sie profitabler als die anderen.

Diese zielt über die Zeit hinweg die besten Gewinne ab.
Finden Sie durch Probieren heraus welche und erwirtschaften Sie dabei mit möglichst wenigen Käufen einen festgelegten Geldbetrag.

Je weniger Käufe Sie benötigen um diesen Betrag zu erreichen, desto erfolgreicher sind Sie.

Sie starten mit einem Budget von <%values.currenttotal%> Euro.

Rufen Sie bitte den Testleiter, wenn Sie bereit sind, zu beginnen."
</item>

<item instructions_producttest>
/ 1 =
"

Sie haben die erste Hälfte Ihres Auftrages erfolgreich beendet.

Ihr derzeitiges Budget beträgt: <%values.currenttotal%>€

Als EinkaufsleiterIn müssen Sie sich nun von der Qualität der zu erwerbenden Produkte selbst überzeugen.
Dazu sollen Sie nun ein ausgewähltes Produkt testen.

Bitte melden Sie sich hierfür bitte bei dem Versuchsleiter.
"

</item>

<item instructions_post>
/ 1 =
"

Sie haben nun als EinkaufsleiterIn eines der zu erwerbenden Produkte getestet.
Nun beginnen Sie mit der zweiten Hälfte ihres Auftrages.

Weiterhin besteht Ihre Aufgabe darin, jeden Monat die Entscheidung zu treffen, von welcher der Firmen Sie die Produkte kaufen möchten.

Bitte bedenken Sie, dass EINE Firma profitabler ist, als die anderen.
Diese zielt über die Zeit hinweg die besten Gewinne ab.

Erwirtschaften Sie dabei mit möglichst wenigen Käufen einen bestimmten Geldbetrag.
Je weniger Käufe Sie benötigen um diesen Betrag zu erreichen, desto erfolgreicher sind Sie.

Sie haben ein Kapital von <%values.currenttotal%>€ Euro zur Verfügung.

Bitte klicken Sie auf ~"Start~" um fortzufahren.
"

</item>
<item instructions_headlines>

/ 1 =
"Ein neuer Aufsichtsrat wurde gewählt und hat beschlossen einen dauerhaften Kaufvertrag mit einer der Firmen einzugehen.

Ihre Rolle als EinkaufsleiterIn ist es, die Entscheidung darüber zu treffen, mit welcher Firma ihr RehaZentrum die dauerhafte Partnerschaft eingehen möchte.

Sie sollen sich nun für EINE dieser Firmen endgültig entscheiden.

Hierfür werden Ihnen im Folgenden Schlagzeilen von Zeitungsartikeln über die wirtschaftliche Zukunft der Firmen präsentiert.

Diese Zeitungsartikel beinhalten Informationen über die erwartete Effizienz der einzelnen Firmen.

Sie können für jeweils 50€ einen Zeitungsartikel käuflich erwerben, um Ihre Finale Entscheidung zu begründen.

Kaufen Sie also genau so viele Artikel, wie Sie für eine fundierte Entscheidung benötigen; nicht zu viele, aber auch nicht zu wenige.

Die Zukunft Ihres RehaZentrums sowie Ihr Erfolg bei der Aufgabe hängt von dieser Entscheidung ab.

"

</item>

<item instructions_igtend_sonja>

/ 1 =

"Ein neuer Aufsichtsrat wurde gewählt und hat beschlossen einen langfristigen Kaufvertrag mit einer der Firmen einzugehen.

Durch diesen Kaufvertrag können Sie aufgrund großer Übernahmen an Produkten, durch preisliche Vergünstigungen, Kosten einsparen.

Ihre Rolle als EinkaufsleiterIn ist es, die Entscheidung darüber zu treffen, mit welcher Firma ihr RehaZentrum die langfristige Partnerschaft eingehen möchte.

Sie sollen sich nun für EINE dieser Firmen endgültig entscheiden.

Die Zukunft Ihres RehaZentrums sowie Ihr Erfolg bei der Aufgabe hängt von dieser Entscheidung ab.

"

</item>

<item end>

/ 1 =

"Vielen Dank für Ihre Teilname.

Ihr erspielter Gewinn ist <%values.currenttotal%>€

Um diesen Teil des Experiments zu beenden, melden Sie sich bitte erneut beim Testleiter.

Sie werden gleich weitergeleitet um noch einige Fragen zu beantworten.

Ticketcode: DfeG<%values.loser%>

"

</item>

DEFAULT SCREEN SETTING

requires Inquisit 4.0.0.0

```
<defaults>
/ minimumversion = "4.0.0.0"
/ inputdevice = mouse
/ fontstyle = ("Arial", 3%, false, false, false, false, 5, 0)
</defaults>
```

```
*****
VALUES: automatically updated
*****
```

previoustotal:	the previous amount of money owned
cardselected:	adds the number of cards selected
gain:	stores the trial's gain
depending on choice	
loss:	stores the trial's loss
depending on choice	

```
<values>
/ previoustotal = 0
/ cardsselected = 0
/ cardsselected_post = 0
/ gain = 0
/ loss = 0
/ wincount = 0
/ deck1count = 0
/ deck2count = 0
/ deck3count = 0
/ deck4count = 0
/ deck1count_tutorial = 0
/ deck2count_tutorial = 0
/ deck3count_tutorial = 0
/ deck4count_tutorial = 0
/ currenttotal_tutorial = 10
/ currenttotal_endoflearning = 0
/ loser = 0
/ last = 0
/ coins = 0
/ cointotal = 0
/ pos_01 = 0
/ pos_02 = 0
/ pos_03 = 0
/ pos_04 = 0
/ pos_05 = 0
/ pos_06 = 0
/ pos_07 = 0
/ pos_08 = 0
/ pos_09 = 0
/ pos_10 = 0
/ pos_11 = 0
/ pos_12 = 0
/ neg_01 = 0
/ neg_02 = 0
/ neg_03 = 0
/ neg_04 = 0
/ neg_05 = 0
/ neg_06 = 0
/ neg_07 = 0
/ neg_08 = 0
/ neg_09 = 0
```

```
/ neg_10 = 0
/ neg_11 = 0
/ neg_12 = 0
```

```
</values>
```

```
*****
```

DATA

```
*****
```

```
*****
```

```
raw data
```

```
*****
```

date, time, subject:	date and time script was run with the current subjectnumber
values.cardselected:	shows the number of cards played
values.groupnumber:	the groupnumber (1-4) the subject was randomly assigned to
response:	the participant's response
latency:	the trial latency
values.gain:	stores the trial's gain depending on choice
values.loss:	stores the trial's loss depending on choice
values.currenttotal:	stores the current amount of money won

```
<data>
```

```
/file = "ViennaRoutineInducer_rawdata.iqdat"
```

```
/ columns = [date, time, subject, values.cardsselected, values.wincount, response, latency,script.groupid,
              values.gain, values.loss,
```

```
values.currenttotal,values.deck1count,values.deck2count,values.deck3count,values.deck4count,values.currenttotal_endoflearning,values.loser,values.last]
```

```
/separatefiles = true
```

```
</data>
```

```
*****
```

```
summary data
```

```
*****
```

```
<summarydata >
```

```
/file = "ViennaRoutineInducer_summary.iqdat"
```

```
/columns = [script.startdate, script.starttime,script.elapsedtime,script.groupid, script.subjectid, values.loser,
values.currenttotal]
```

```
</summarydata>
```

```
*****
```

INSTRUCTIONS ELEMENTS

```
*****
```

```
*****
```

INSTRUCTIONS Tutorial

```
*****
```

```
<text instructions_tutorial1>
```

```
/ items = instructions_tutorial
```

```
/ select = 1
```

```
/ position = (50%, 30%)
```

```
/ fontstyle = ("Arial", 1.75%, true)
```

```
/ size = (90%, 40%)
```

```
/ hjustify = left
```

```
/ valign = top
```

```
</text>
```

```
<trial instructions_tutorial1>
```

```
/ stimulusframes = [1=instructions_tutorial1, continue]
```

```
/ validresponse = (continue)
```

```
/ recorddata = false
```

```
</trial>
```

```
<text instructions_tutorial2>
```

```
/ items = instructions_tutorial
```

```
/ select = 2
```

```
/ position = (50%, 30%)
```

```

/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>
<trial instructions_tutorial2>
/ stimulusframes = [2=instructions_tutorial2, continue]
/ validresponse = (continue)
/ recorddata = false
</trial>
<text instructions_tutorial3>
/ items = instructions_tutorial
/ select = 3
/ position = (50%, 30%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>
<trial instructions_tutorial3>
/ stimulusframes = [1=instructions_tutorial3,igt_tutorial, start]
/ validresponse = (start)
/ recorddata = false
</trial>
<block instructions_tutorial>
/ trials = [1=instructions_tutorial1; 2=instructions_tutorial2;3=instructions_tutorial3 ]
</block>
instructions_tutorialend
<text instructions_tutorialend>
/ items = instructions_tutorialend
/ select = 1
/ position = (80%, 30%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>
<trial instructions_tutorialend>
/ stimulusframes = [1=instructions_tutorialend, continue]
/ validresponse = (continue)
/ recorddata = false
</trial>
<block instructions_tutorialend>
/ trials = [1=instructions_tutorialend ]
</block>
*****
INSTRUCTIONS SCENARIO
*****
<text instructions_scenario1>
/ items = instructions_scenario
/ select = 1
/ position = (50%, 30%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>

<trial instructions_scenario1>
/ stimulusframes = [1=igt, instructions_scenario1, continue]

```

```

/ validresponse = (continue)
/ recorddata = false
</trial>

<text instructions_scenario2>
/ items = instructions_scenario
/ select = 2
/ position = (50%, 30%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>

<trial instructions_scenario2>
/ stimulusframes = [1=igt, instructions_scenario2, continue]
/ validresponse = (continue)
/ recorddata = false
</trial>

<text instructions_scenario3>
/ items = instructions_scenario
/ select = 3
/ position = (50%, 60%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>

<trial instructions_scenario3>
/ inputdevice = keyboard
/ stimulusframes = [1=igt, instructions_scenario3, deck1, deck2, deck3, deck4, deck1label, deck2label,
deck3label, deck4label,]
/ validresponse = ("0")
/ recorddata = false
</trial>

<block instructions_scenario>
/ onblockbegin = [values.cardsselected = 0]
/ onblockbegin = [{ picture.coinleft.item.1 = "00coin.jpg"; picture.coinlemi.item.1 = "10coin.jpg";
picture.coinmid.item.1 = "10coin.jpg"; picture.coinrimi.item.1 = "00coin.jpg"; picture.coinright.item.1 =
"00coin.jpg";}]
/ trials = [1=instructions_scenario1; 2=instructions_scenario2; 3=instructions_scenario3 ]
</block>
*****
INSTRUCTIONS Producttest
*****
<text instructionsproduct>
/ items = instructions_producttest
/ select = 1
/ position = (50%, 25%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>

<trial instructionsproduct>

```

```

/ inputdevice = keyboard
/ stimulusframes = [1=instructionsproduct]
/ validresponse = ("0")
/ recorddata = false
</trial>

<block producttest>
/ onblockbegin = [ if (values.loser == 1) noblock]
/ onblockbegin = [ values.currenttotal_endoflearning = values.currenttotal ]
/ trials = [ 1 = instructionsproduct]
</block>
*****
INSTRUCTIONS IGT_ POST
*****
<text instructions_post1>
/ items = instructions_post
/ select = 1
/ position = (50%, 25%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>

<trial instructions_post1>
/ stimulusframes= [1=start, instructions_post1]
/ branch = [if (values.loser == 0) block.igt_post ]
/ validresponse = (start)
</trial>

<block instructions_post>
/ trials = [ 1 = instructions_post1]
/ branch = [ if ( script.groupid == 3) block.igt_post ]
/ branch = [ if ( script.groupid == 4) block.igt_post ]
</block>

<text instructions_igtend_sonja>
/ items = instructions_igtend_sonja
/ select = 1
/ position = (50%, 25%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>

<trial instructions_igtend_sonja>
/ stimulusframes= [1=continue, instructions_igtend_sonja]
/ validresponse = (continue)
</trial>
*****
INSTRUCTIONS HEADLINES
*****
<text instructions_headlines1>
/ items = instructions_headlines
/ select = 1
/ position = (50%, 25%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (80%, 30%)
/ hjustify = left

```

```

/ valign = top
</text>

<trial instructions_headlines1>
/ ontrialbegin = [{ picture.coinleft.vposition = 85%; picture.coinlemi.vposition = 85%;
picture.coinmid.vposition= 85%; picture.coinrimi.vposition=85%; picture.coinright.vposition =85%}]
/ stimulusframes= [1=continue, instructions_headlines1]
/ validresponse = (continue)
</trial>
*****
INSTRUCTIONS END
*****
<text end>
/ items = end
/ select = 1
/ position = (70%, 39%)
/ fontstyle = ("Arial", 1.75%, true)
/ size = (90%, 40%)
/ hjustify = left
/ valign = top
</text>

<trial end>
/ inputdevice = keyboard
/ stimulusframes = [1=end]
/ validresponse = ("0")
/ recorddata = false
</trial>

<block end>
/ trials = [1=end]
/ branch = [ if (values.loser == 1) script.abort()]
</block>
*****
STIMULI
*****
<text cardsselected>
/ items = ("Verstrichene Monate: <% values.cardsselected %> ")
/ position = (50%, 90%)
/ fontstyle = ("Arial", 2%)
/ erase = false
</text>
<text cardsselected_tutorial>
/ items = ("Hier sehen Sie, wie viele Runden Sie gespielt haben : <% values.cardsselected %> ")
/ position = (50%, 90%)
/ fontstyle = ("Arial", 2%)
/ erase = false
</text>
<text start>
/ items = ("Start")
/ position = (50%, 90%)
/ fontstyle = ("Arial", 4%, true, false, true, false, 5, 0)
/ txcolor = (0, 0, 255)
/ txbgcolor = (grey)
</text>
<text continue>
/ items = ("Weiter")
/ position = (50%, 80%)
/ fontstyle = ("Arial", 4%, true, false, true, false, 5, 0)
/ txcolor = (0, 0, 255)

```

```

/ txbgcolor = (grey)
</text>
<text continue_headlines>
/ items = ("Weiter zur
finalen Entscheidung")
/ position = (95%, 85%)
/ halign = right
/ valign = center
/ fontstyle = ("Arial", 2%, true, false, true, false, 5, 0)
/ txcolor = (0, 0, 255)
/ txbgcolor = (grey)
</text>
<text gain>
/ items = ("Ihr Gewinn: €<% values.gain%>")
/ position = (20%, 60%)
/ valign = top
/ txcolor = green
</text>
<text gain_tutorial>
/ items = ("Hier sehen Sie Ihren Gewinn: €<% values.gain%>")
/ position = (20%, 61%)
/ valign = top
/ txcolor = green
</text>
<text loss>
/ items = ("Ihr Verlust: €<% values.loss%>")
/ position = (20%, 60%)
/ valign = top
/ txcolor = red
</text>
<text loss_tutorial>
/ items = ("Hier sehen Sie Ihren Verlust: €<% values.loss%>")
/ position = (20%, 61%)
/ valign = top
/ txcolor = red
</text>
<text previoustotal>
/ items = (" Budget letzter Monat: <% values.previoustotal %>€ ")
/ position = (50%, 30%)
/ txcolor = gray
/ erase = false
</text>
<text previoustotal_tutorial>
/ items = (" Hier sehen Sie Ihr Budget des letzten Zuges: <% values.previoustotal %>€ ")
/ position = (50%, 30%)
/ txcolor = gray
/ erase = false
</text>

<text currenttotal>
/ items = (" Momentanes Budget: <% values.currenttotal %>€ ")
/ position = (50%, 25%)
/ fontstyle = ("Arial", 3%, true, false, false, false, 5, 0)
/ erase = false
</text>
<text currenttotal_tutorial>
/ items = (" Hier sehen Sie Ihr momentanes Budget: <% values.currenttotal_tutorial %>€ ")
/ position = (50%, 25%)
/ fontstyle = ("Arial", 3%, true, false, false, false, 5, 0)
/ erase = false

```

```

</text>
<text currenttotal_headlines>
/ items = (" Momentanes Budget: <% values.currenttotal %>€ ")
/ position = (50%, 70%)
/ fontstyle = ("Arial", 3%, true, false, false, false, 5, 0)
/ valign = center
/ erase = false
</text>
<text igt>
/ items = ("Firmenspiel")
/ position = (50%, 05%)
/ fontstyle = ("Arial", 3%,false,false,true)
/ erase = false
</text>
<text igt_tutorial>
/ items = ("Übungsspiel")
/ position = (50%, 05%)
/ fontstyle = ("Arial", 3%,false,false,true)
/ erase = false
</text>
<text igtend>
/ items = ("Finale Entscheidung")
/ position = (50%, 05%)
/ fontstyle = ("Arial", 3%,false,false,true)
/ erase = false
</text>
*****
SELECTINSTRUCTIONS = whilst IGT
*****
<text selectinstructions>
/ items = ("Von welcher Firma möchten Sie diesen Monat die Produkte kaufen?")
/ position = (50%, 70%)
</text>
<text selectinstructions_tutorial>
/ items = ("Klicken Sie auf eines der Kartendecks, um es auszuwählen")
/ position = (50%, 70%)
</text>
<text selectinstructions_end>
/ items = (" Treffen Sie bitte jetzt Ihre endgültige Entscheidung!")
/ position = (50%, 25%)
</text>
*****
DECKS Tutorial
*****
<picture deckblue>
/ items = ("deckblue.jpg")
/ position = (20%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<picture deckblueon>
/ items = ("deckblueon.jpg")
/ position = (20%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<text deckbluelabel>
/ items = ("Blaues Deck")

```

```

/ position = (20%,56%)
/ valign = top
/ erase = false
</text>
<text deckbluecount>
/ items = ("<%values.deck1count_tutorial%>")
/ position = (27%,36%)
/ valign = top
/ erase = false
</text>
<picture deckred>
/ items = ("deckred.jpg")
/ position = (40%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<picture deckredon>
/ items = ("deckredon.jpg")
/ position = (40%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<text deckredlabel>
/ items = ("Rotes Deck")
/ position = (40%,56%)
/ valign = top
/ erase = false
</text>
<text deckredcount>
/ items = ("<%values.deck2count_tutorial%>")
/ position = (47%,36%)
/ valign = top
/ erase = false
</text>
<picture deckgreen>
/ items = ("deckgreen.jpg")
/ position = (60%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<picture deckgreenon>
/ items = ("deckgreenon.jpg")
/ position = (60%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<text deckgreenlabel>
/ items = ("Grünes Deck")
/ position = (60%,56%)
/ valign = top
/ erase = false
</text>
<text deckgreencount>
/ items = ("<%values.deck3count_tutorial%>")
/ position = (67%,36%)
/ valign = top

```

```

/ erase = false
</text>
<picture deckyellow>
/ items = ("deckyellow.jpg")
/ position = (80%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<picture deckyellowon>
/ items = ("deckyellowon.jpg")
/ position = (80%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<text deckyellowlabel>
/ items = ("Gelbes Deck")
/ position = (80%,56%)
/ valign = top
/ erase = false
</text>
<text deckyellowcount>
/ items = ("<%values.deck4count_tutorial%>")
/ position = (87%,36%)
/ valign = top
/ erase = false
</text>
*****

DECKS Scenario
*****

<picture deck1>
/ items = ("factory.jpg")
/ position = (20%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<text deck1label>
/ items = ("PraxCare")
/ position = (20%,56%)
/ valign = top
/ erase = false
</text>
<text deck1label_headlines>
/ items = ("PraxCare")
/ position = (13%,55%)
/ valign = center
/ halign = center
</text>
<text deck1count>
/ items = ("<%values.deck1count%>")
/ position = (27%,36%)
/ valign = top
/ erase = false
</text>
<picture deck2>
/ items = ("factory.jpg")
/ position = (40%, 55%)
/ valign = bottom

```

```

/ erase = false
/ size = (20%, 20%)
</picture>
<text deck2label>
/ items = ("SaniPartner")
/ position = (40%,56%)
/ valign = top
/ erase = false
</text>
<text deck2label_headlines>
/ items = ("SaniPartner")
/ position = (37%,55%)
/ valign = center
/ halign = center
</text>
<text deck2count>
/ items = ("<%values.deck2count%>")
/ position = (47%,36%)
/ valign = top
/ erase = false
</text>
<picture deck3>
/ items = ("factory.jpg")
/ position = (60%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<text deck3label>
/ items = ("AssistTec")
/ position = (60%,56%)
/ valign = top
/ erase = false
</text>
<text deck3label_headlines>
/ items = ("AssistTec")
/ position = (62%,55%)
/ valign = center
/ halign = center
</text>
<text deck3count>
/ items = ("<%values.deck3count%>")
/ position = (67%,36%)
/ valign = top
/ erase = false
</text>
<picture deck4>
/ items = ("factory.jpg")
/ position = (80%, 55%)
/ valign = bottom
/ erase = false
/ size = (20%, 20%)
</picture>
<text deck4label>
/ items = ("DanuMed")
/ position = (80%,56%)
/ valign = top
/ erase = false
</text>
<text deck4label_headlines>

```

```

/ items = ("DanuMed")
/ position = (87%,55%)
/ valign = center
/ halign = center
</text>
<text deck4count>
/ items = ("<%values.deck4count%>")
/ position = (87%,36%)
/ valign = top
/ erase = false
</text>
<picture deckon>
/ items = ("factoryon.jpg")
/ erase = false
</picture>

```

COINS

```

<picture 00coin>
/ items = ("00coin.jpg")
/ erase = false
</picture>
<picture 01coin>
/ items = ("01coin.jpg")
/ erase = false
</picture>
<picture 02coin>
/ items = ("02coin.jpg")
/ erase = false
</picture>
<picture 03coin>
/ items = ("03coin.jpg")
/ erase = false
</picture>
<picture 04coin>
/ items = ("04coin.jpg")
/ erase = false
</picture>
<picture 05coin>
/ items = ("05coin.jpg")
/ erase = false
</picture>
<picture 06coin>
/ items = ("06coin.jpg")
/ erase = false
</picture>
<picture 07coin>
/ items = ("07coin.jpg")
/ erase = false
</picture>
<picture 08coin>
/ items = ("08coin.jpg")
/ erase = false
</picture>
<picture 09coin>
/ items = ("09coin.jpg")
/ erase = false
</picture>
<picture 10coin>
/ items = ("10coin.jpg")

```

```

/ erase = false
</picture>
<picture lotcoin>
/ items = ("lotcoin.jpg")
/ erase = false
</picture>
<picture coinleft>
/ items = ("00coin.jpg")
/ position = (30%, 20%)
/ valign = bottom
/ size = (12%, 12%)
/ erase = false
</picture>
<picture coinlemi>
/ items = ("00coin.jpg")
/ position = (40%, 20%)
/ valign = bottom
/ size = (12%, 12%)
/ erase = false
</picture>
<picture coinmid>
/ items = ("10coin.jpg")
/ position = (50%, 20%)
/ valign = bottom
/ size = (12%, 12%)
/ erase = false
</picture>
<picture coinrimi>
/ items = ("00coin.jpg")
/ position = (60%, 20%)
/ valign = bottom
/ size = (12%, 12%)
/ erase = false
</picture>
<picture coinright>
/ items = ("00coin.jpg")
/ position = (70%, 20%)
/ valign = bottom
/ size = (12%, 12%)
/ erase = false
</picture>
<trial coins>
/ ontrialbegin = [ values.cointotal = values.currenttotal / values.smallestvalue]
/ ontrialbegin = [if ( values.cointotal < 1) { picture.coinleft.item.1 = "00coin.jpg"; picture.coinlemi.item.1 =
"00coin.jpg"; picture.coinmid.item.1 = "00coin.jpg"; picture.coinrimi.item.1 = "00coin.jpg";
picture.coinright.item.1 = "00coin.jpg";}]
/ ontrialbegin = [if ( values.cointotal == 1) { picture.coinleft.item.1 = "00coin.jpg"; picture.coinlemi.item.1 =
"00coin.jpg"; picture.coinmid.item.1 = "01coin.jpg"; picture.coinrimi.item.1 = "00coin.jpg";
picture.coinright.item.1 = "00coin.jpg";}]
/ ontrialbegin = [if ( values.cointotal == 2) { picture.coinleft.item.1 = "00coin.jpg"; picture.coinlemi.item.1 =
"00coin.jpg"; picture.coinmid.item.1 = "02coin.jpg"; picture.coinrimi.item.1 = "00coin.jpg";
picture.coinright.item.1 = "00coin.jpg";}]
/ ontrialbegin = [if ( values.cointotal == 3) { picture.coinleft.item.1 = "00coin.jpg"; picture.coinlemi.item.1 =
"00coin.jpg"; picture.coinmid.item.1 = "03coin.jpg"; picture.coinrimi.item.1 = "00coin.jpg";
picture.coinright.item.1 = "00coin.jpg";}]
/ ontrialbegin = [if ( values.cointotal == 4) { picture.coinleft.item.1 = "00coin.jpg"; picture.coinlemi.item.1 =
"00coin.jpg"; picture.coinmid.item.1 = "04coin.jpg"; picture.coinrimi.item.1 = "00coin.jpg";
picture.coinright.item.1 = "00coin.jpg";}]

```

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]

```

/ ontrialbegin = [if ( values.cointotal == 30) { picture.coinleft.item.1 = "00coin.jpg"; picture.coinlemi.item.1 =
"10coin.jpg"; picture.coinmid.item.1 = "10coin.jpg"; picture.coinrimi.item.1 = "10coin.jpg";
picture.coinright.item.1 = "00coin.jpg";}]
/ trialduration = 1
/ branch = [if (values.gain >= 0 ) trial.igtfeedbackgain_tutorial]
/ branch = [if (values.gain < 0 ) trial.igtfeedbackloss_tutorial]
</trial>

```

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*****

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HEADLINES

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*****

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```

<picture pos_01>
/ items = ("pos_01.jpg")
/ position = (2%, 20%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_02>
/ items = ("pos_02.jpg")
/ position = (2%, 36%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_03>
/ items = ("pos_03.jpg")
/ position = (2%, 52%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_04>
/ items = ("pos_04.jpg")
/ position = (27%, 20%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_05>
/ items = ("pos_05.jpg")
/ position = (27%, 36%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_06>
/ items = ("pos_06.jpg")
/ position = (27%, 52%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_07>
/ items = ("pos_07.jpg")
/ position = (52%, 20%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_08>

```

```

/ items = ("pos_08.jpg")
/ position = (52%, 36%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_09>
/ items = ("pos_09.jpg")
/ position = (52%, 52%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_10>
/ items = ("pos_10.jpg")
/ position = (77%, 20%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_11>
/ items = ("pos_11.jpg")
/ position = (77%, 36%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture pos_12>
/ items = ("pos_12.jpg")
/ position = (77%, 52%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_01>
/ items = ("neg_01.jpg")
/ position = (13%, 20%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_02>
/ items = ("neg_02.jpg")
/ position = (13%, 36%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_03>
/ items = ("neg_03.jpg")
/ position = (13%, 52%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_04>
/ items = ("neg_04.jpg")
/ position = (38%, 20%)
/ valign = bottom
/ halign = left

```

```
/ size = (10%, 15%)
</picture>
<picture neg_05>
/ items = ("neg_05.jpg")
/ position = (38%, 36%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_06>
/ items = ("neg_06.jpg")
/ position = (38%, 52%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_07>
/ items = ("neg_07.jpg")
/ position = (63%, 20%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_08>
/ items = ("neg_08.jpg")
/ position = (63%, 36%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_09>
/ items = ("neg_09.jpg")
/ position = (63%, 52%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_10>
/ items = ("neg_10.jpg")
/ position = (88%, 20%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_11>
/ items = ("neg_11.jpg")
/ position = (88%, 36%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture neg_12>
/ items = ("neg_12.jpg")
/ position = (88%, 52%)
/ valign = bottom
/ halign = left
/ size = (10%, 15%)
</picture>
<picture bought>
/ items = ("bought.jpg")
```

```

/ position = (64%, 20%)
/ valign = bottom
/ size = (10%, 15%)
</picture>
*****

MAIN TRIALS
*****

<trial igt_tutorial>
/ ontrialbegin = [picture.deckblue.item.1 = "deckblue.jpg"; picture.deckgreen.item.1 = "deckgreen.jpg";
picture.deckred.item.1 = "deckred.jpg"; picture.deckyellow.item.1 = "deckyellow.jpg";]
/ stimulusframes = [1=igt_tutorial,deckblue, deckgreen, deckred, deckyellow, deckbluelabel, deckgreenlabel,
deckredlabel, deckyellowlabel, deckbluecount, deckgreencount, deckredcount,
deckyellowcount,selectinstructions_tutorial,coinleft, coinlemi, coinmid, coinrimi, coinright,
currenttotal_tutorial, cardsselected]
/ validresponse = (deckblue, deckgreen, deckred, deckyellow)
/ ontrialend = [values.cardsselected += 1]
/ branch = [if (values.showcoins == true) trial.coins_tutorial]
/ branch = [if (values.showcoins == false && values.gain >= 0 ) trial.igtfeedbackgain_tutorial]
/ branch = [if (values.showcoins == false && values.gain < 0 ) trial.igtfeedbackloss_tutorial]
/ ontrialend = [ if (trial.igt_tutorial.response == "deckblue") {picture.deckblue.item.1 = "deckblueon.jpg";
values.deck1count_tutorial += 1 ; text.gain_tutorial.hposition=picture.deck1.hposition;
text.loss_tutorial.hposition=picture.deck1.hposition; values.gain=expressions.getgaindecktutorial; values.loss=
(values.gain* -1) ; values.previoustotal=values.currenttotal_tutorial; values.currenttotal_tutorial =
values.currenttotal_tutorial+values.gain;}]
/ ontrialend = [ if (trial.igt_tutorial.response == "deckred") {picture.deckred.item.1 = "deckredon.jpg";
values.deck2count_tutorial += 1 ; text.gain_tutorial.hposition=picture.deck2.hposition;
text.loss_tutorial.hposition=picture.deck2.hposition; values.gain=expressions.getgaindecktutorial; values.loss=
(values.gain* -1) ; values.previoustotal=values.currenttotal_tutorial; values.currenttotal_tutorial =
values.currenttotal_tutorial+values.gain;}]
/ ontrialend = [ if (trial.igt_tutorial.response == "deckgreen") {picture.deckgreen.item.1 = "deckgreenon.jpg";
values.deck3count_tutorial += 1 ; text.gain_tutorial.hposition=picture.deck3.hposition;
text.loss_tutorial.hposition=picture.deck3.hposition; values.gain=expressions.getgaindecktutorial; values.loss=
(values.gain* -1) ; values.previoustotal=values.currenttotal_tutorial; values.currenttotal_tutorial =
values.currenttotal_tutorial+values.gain;}]
/ ontrialend = [ if (trial.igt_tutorial.response == "deckyellow") {picture.deckyellow.item.1 =
"deckyellowon.jpg"; values.deck4count_tutorial += 1 ;
text.gain_tutorial.hposition=picture.deck4.hposition; text.loss_tutorial.hposition=picture.deck4.hposition;
values.gain=expressions.getgaindecktutorial; values.loss= (values.gain* -1) ;
values.previoustotal=values.currenttotal_tutorial; values.currenttotal_tutorial =
values.currenttotal_tutorial+values.gain;}]
</trial>
<trial igt>
/ ontrialbegin = [picture.deck1.item.1 = "factory.jpg"; picture.deck2.item.1 = "factory.jpg"; picture.deck3.item.1
= "factory.jpg"; picture.deck4.item.1 = "factory.jpg";]
/ stimulusframes = [1=igt,deck1, deck2, deck3, deck4, deck1label, deck2label, deck3label, deck4label,
deck1count, deck2count, deck3count, deck4count, coinleft, coinlemi, coinmid, coinrimi, coinright,
selectinstructions, currenttotal, cardsselected]
/ validresponse = (deck1, deck2, deck3, deck4)
/ branch = [if (values.showcoins == true) trial.coins]
/ branch = [if (values.showcoins == false && values.gain >= 0 ) trial.igtfeedbackgain]
/ branch = [if (values.showcoins == false && values.gain < 0 ) trial.igtfeedbackloss]
/ ontrialend = [values.cardsselected += 1]
/ ontrialend = [ if (trial.igt.response == "deck1") {picture.deck1.item.1 = "factoryon.jpg"; values.wincount += 1;
values.deck1count += 1 ; text.gain.hposition=picture.deck1.hposition;
text.loss.hposition=picture.deck1.hposition; values.gain=expressions.getgaindeck1; values.loss= (values.gain* -
1) ; values.previoustotal=values.currenttotal; values.currenttotal = values.currenttotal+values.gain;}]
/ ontrialend = [ if (trial.igt.response == "deck2") {picture.deck2.item.1 = "factoryon.jpg"; values.wincount += -
1; values.deck2count += 1 ; text.gain.hposition=picture.deck2.hposition;
text.loss.hposition=picture.deck2.hposition; values.gain=expressions.getgaindeck2; values.loss= (values.gain* -
1) ; values.previoustotal=values.currenttotal; values.currenttotal = values.currenttotal+values.gain;}]

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/ ontrialend = [ if (trial.igt.response == "deck3") {picture.deck3.item.1 = "factoryon.jpg"; values.wincount += -
1; values.deck3count += 1 ; text.gain.hposition=picture.deck3.hposition;
text.loss.hposition=picture.deck3.hposition; values.gain=expressions.getgaindeck3; values.loss= (values.gain* -
1) ; values.previoustotal=values.currenttotal; values.currenttotal = values.currenttotal+values.gain;}]
/ ontrialend = [ if (trial.igt.response == "deck4") {picture.deck4.item.1 = "factoryon.jpg"; values.wincount += -
1; values.deck4count += 1 ; text.gain.hposition=picture.deck4.hposition;
text.loss.hposition=picture.deck4.hposition; values.gain=expressions.getgaindeck4; values.loss= (values.gain* -
1) ; values.previoustotal=values.currenttotal; values.currenttotal = values.currenttotal+values.gain;}]
</trial>
<trial igt_post>
/ ontrialbegin = [picture.deck1.item.1 = "factory.jpg"; picture.deck2.item.1 = "factory.jpg"; picture.deck3.item.1
= "factory.jpg"; picture.deck4.item.1 = "factory.jpg";]
/ stimulusframes = [1=igt,deck1, deck2, deck3, deck4, deck1label, deck2label, deck3label, deck4label,
deck1count, deck2count, deck3count, deck4count, coinleft, coinlemi, coinmid, coinrimi, coinright,
selectinstructions, currenttotal, cardsselected]
/ validresponse = (deck1, deck2, deck3, deck4)
/ ontrialend = [values.cardsselected_post += 1]
/ branch = [if (values.showcoins == true) trial.coins]
/ branch = [if (values.showcoins == false && values.gain >= 0 ) trial.igtfeedbackgain]
/ branch = [if (values.showcoins == false && values.gain < 0 ) trial.igtfeedbackloss]
/ ontrialend = [ if (trial.igt_post.response == "deck1") {picture.deck1.item.1 = "factoryon.jpg";
values.deck1count += 1 ; text.gain.hposition=picture.deck1.hposition;
text.loss.hposition=picture.deck1.hposition; values.gain=expressions.getgaindeck1_post; values.loss=
(values.gain* -1) ; values.previoustotal=values.currenttotal; values.currenttotal =
values.currenttotal+values.gain;}]
/ ontrialend = [ if (trial.igt_post.response == "deck2") {picture.deck2.item.1 = "factoryon.jpg";
values.deck2count += 1 ; text.gain.hposition=picture.deck2.hposition;
text.loss.hposition=picture.deck2.hposition; values.gain=expressions.getgaindeck2_post; values.loss=
(values.gain* -1) ; values.previoustotal=values.currenttotal; values.currenttotal =
values.currenttotal+values.gain;}]
/ ontrialend = [ if (trial.igt_post.response == "deck3") {picture.deck3.item.1 = "factoryon.jpg";
values.deck3count += 1 ; text.gain.hposition=picture.deck3.hposition;
text.loss.hposition=picture.deck3.hposition; values.gain=expressions.getgaindeck3_post; values.loss=
(values.gain* -1) ; values.previoustotal=values.currenttotal; values.currenttotal =
values.currenttotal+values.gain;}]
/ ontrialend = [ if (trial.igt_post.response == "deck4") {picture.deck4.item.1 = "factoryon.jpg";
values.deck4count += 1 ; text.gain.hposition=picture.deck4.hposition;
text.loss.hposition=picture.deck4.hposition; values.gain=expressions.getgaindeck4_post; values.loss=
(values.gain* -1) ; values.previoustotal=values.currenttotal; values.currenttotal =
values.currenttotal+values.gain;}]
</trial>
<trial headlines>
/ inputdevice = mouse
/ stimulusframes=
[1=currenttotal_headlines,continue_headlines,deck1label_headlines,deck2label_headlines,deck3label_headlines,
deck4label_headlines,coinleft, coinlemi, coinmid, coinrimi,
coinright,pos_01,pos_02,pos_03,pos_04,pos_05,pos_06,pos_07,pos_08,pos_09,pos_10,pos_11,pos_12,neg_01,
neg_02,neg_03,neg_04,neg_05,neg_06,neg_07,neg_08,neg_09,neg_10,neg_11,neg_12]
/ validresponse =
(continue_headlines,pos_01,pos_02,pos_03,pos_04,pos_05,pos_06,pos_07,pos_08,pos_09,pos_10,pos_11,pos_
12,neg_01,neg_02,neg_03,neg_04,neg_05,neg_06,neg_07,neg_08,neg_09,neg_10,neg_11,neg_12)
/ isvalidresponse =[ (values.pos_01 == 0) && (trial.headlines.response == "pos_01")]
/ isvalidresponse =[ (values.pos_02 == 0) && (trial.headlines.response == "pos_02")]
/ isvalidresponse =[ (values.pos_03 == 0) && (trial.headlines.response == "pos_03")]
/ isvalidresponse =[ (values.pos_04 == 0) && (trial.headlines.response == "pos_04")]
/ isvalidresponse =[ (values.pos_05 == 0) && (trial.headlines.response == "pos_05")]
/ isvalidresponse =[ (values.pos_06 == 0) && (trial.headlines.response == "pos_06")]
/ isvalidresponse =[ (values.pos_07 == 0) && (trial.headlines.response == "pos_07")]
/ isvalidresponse =[ (values.pos_08 == 0) && (trial.headlines.response == "pos_08")]
/ isvalidresponse =[ (values.pos_09 == 0) && (trial.headlines.response == "pos_09")]

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/ isvalidresponse =[ (values.pos_10 == 0) && (trial.headlines.response == "pos_10")]
/ isvalidresponse =[ (values.pos_11 == 0) && (trial.headlines.response == "pos_11")]
/ isvalidresponse =[ (values.pos_12 == 0) && (trial.headlines.response == "pos_12")]
/ isvalidresponse =[ (values.neg_01 == 0) && (trial.headlines.response == "neg_01")]
/ isvalidresponse =[ (values.neg_02 == 0) && (trial.headlines.response == "neg_02")]
/ isvalidresponse =[ (values.neg_03 == 0) && (trial.headlines.response == "neg_03")]
/ isvalidresponse =[ (values.neg_04 == 0) && (trial.headlines.response == "neg_04")]
/ isvalidresponse =[ (values.neg_05 == 0) && (trial.headlines.response == "neg_05")]
/ isvalidresponse =[ (values.neg_06 == 0) && (trial.headlines.response == "neg_06")]
/ isvalidresponse =[ (values.neg_07 == 0) && (trial.headlines.response == "neg_07")]
/ isvalidresponse =[ (values.neg_08 == 0) && (trial.headlines.response == "neg_08")]
/ isvalidresponse =[ (values.neg_09 == 0) && (trial.headlines.response == "neg_09")]
/ isvalidresponse =[ (values.neg_10 == 0) && (trial.headlines.response == "neg_10")]
/ isvalidresponse =[ (values.neg_11 == 0) && (trial.headlines.response == "neg_11")]
/ isvalidresponse =[ (values.neg_12 == 0) && (trial.headlines.response == "neg_12")]
/ isvalidresponse =[trial.headlines.response == "continue_headlines"]
/ ontrialend = [ if (trial.headlines.response == "pos_01") {picture.pos_01.item.1 = "bought.jpg";values.pos_01
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_02") {picture.pos_02.item.1 = "bought.jpg";values.pos_02
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_03") {picture.pos_03.item.1 = "bought.jpg";values.pos_03
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_04") {picture.pos_04.item.1 = "bought.jpg";values.pos_04
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_05") {picture.pos_05.item.1 = "bought.jpg";values.pos_05
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_06") {picture.pos_06.item.1 = "bought.jpg";values.pos_06
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_07") {picture.pos_07.item.1 = "bought.jpg";values.pos_07
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_08") {picture.pos_08.item.1 = "bought.jpg";values.pos_08
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_09") {picture.pos_09.item.1 = "bought.jpg";values.pos_09
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_10") {picture.pos_10.item.1 = "bought.jpg";values.pos_10
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_11") {picture.pos_11.item.1 = "bought.jpg";values.pos_11
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "pos_12") {picture.pos_12.item.1 = "bought.jpg";values.pos_12
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_01") {picture.neg_01.item.1 = "bought.jpg";values.neg_01
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_02") {picture.neg_02.item.1 = "bought.jpg";values.neg_02
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_03") {picture.neg_03.item.1 = "bought.jpg";values.neg_03
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_04") {picture.neg_04.item.1 = "bought.jpg";values.neg_04
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_05") {picture.neg_05.item.1 = "bought.jpg";values.neg_05
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_06") {picture.neg_06.item.1 = "bought.jpg";values.neg_06
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_07") {picture.neg_07.item.1 = "bought.jpg";values.neg_07
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_08") {picture.neg_08.item.1 = "bought.jpg";values.neg_08
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_09") {picture.neg_09.item.1 = "bought.jpg";values.neg_09
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_10") {picture.neg_10.item.1 = "bought.jpg";values.neg_10
+=1; values.currenttotal += -50;}]

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/ ontrialend = [ if (trial.headlines.response == "neg_11") {picture.neg_11.item.1 = "bought.jpg";values.neg_11
+=1; values.currenttotal += -50;}]
/ ontrialend = [ if (trial.headlines.response == "neg_12") {picture.neg_12.item.1 = "bought.jpg";values.neg_12
+=1; values.currenttotal += -50;}]
/ branch = [if ( trial.headlines.response != "continue_headlines") trial.coins_headlines ]
</trial>
<trial igtend>
/ ontrialbegin = [picture.deck1.item.1 = "factory.jpg"; picture.deck2.item.1 = "factory.jpg"; picture.deck3.item.1
= "factory.jpg"; picture.deck4.item.1 = "factory.jpg";]
/ stimulusframes = [1=igtend,deck1, deck2, deck3, deck4, deck1label, deck2label, deck3label, deck4label,
deck1count, deck2count, deck3count, deck4count, selectinstructions_end, cardsselected]
/ validresponse = (deck1, deck2, deck3, deck4)
/ ontrialend = [ if (trial.igt.response == "deck1") {values.last = 1}]
/ ontrialend = [ if (trial.igt.response == "deck2") {values.last = 2}]
/ ontrialend = [ if (trial.igt.response == "deck3") {values.last = 3}]
/ ontrialend = [ if (trial.igt.response == "deck4") {values.last = 4}]
</trial>
<trial igtend_sonja>
/ ontrialbegin = [picture.deck1.item.1 = "factory.jpg"; picture.deck2.item.1 = "factory.jpg"; picture.deck3.item.1
= "factory.jpg"; picture.deck4.item.1 = "factory.jpg";]
/ stimulusframes = [1=igtend,deck1, deck2, deck3, deck4, deck1label, deck2label, deck3label, deck4label,
deck1count, deck2count, deck3count, deck4count, selectinstructions_end, cardsselected]
/ validresponse = (deck1, deck2, deck3, deck4)
/ ontrialend = [ if (trial.igt.response == "deck1") {values.last = 1}]
/ ontrialend = [ if (trial.igt.response == "deck2") {values.last = 2}]
/ ontrialend = [ if (trial.igt.response == "deck3") {values.last = 3}]
/ ontrialend = [ if (trial.igt.response == "deck4") {values.last = 4}]
</trial>
*** Feedbacktrails ***
<trial igtfeedbackgain>
/ stimulusframes = [1=deck1, deck2, deck3, deck4, deck1count, deck2count, deck3count, deck4count,coinleft,
coinlemi, coinmid, coinrimi, coinright, gain, previoustotal, currenttotal, cardsselected, continue]
/ validresponse = (continue)
/ recorddata = false
</trial>
<trial igtfeedbackloss>
/ stimulusframes = [1=deck1, deck2, deck3, deck4, deck1count, deck2count, deck3count,
deck4count,coinleft,coinlemi,coinmid,coinrimi,coinright, loss, previoustotal, currenttotal, cardsselected,
continue]
/ validresponse = (continue)
/ recorddata = false
</trial>
<trial igtfeedbackgain_tutorial>
/ stimulusframes = [1=deckblue, deckgreen, deckred, deckyellow, deckbluecount,deckgreencount,
deckredcount, deckyellowcount,coinleft, coinlemi, coinmid, coinrimi, coinright, gain_tutorial,
previoustotal_tutorial, currenttotal_tutorial, cardsselected_tutorial, continue]
/ validresponse = (continue)
/ recorddata = false
</trial>
<trial igtfeedbackloss_tutorial>
/ stimulusframes = [1=deckblue, deckgreen, deckred, deckyellow, deckbluecount,deckgreencount,
deckredcount, deckyellowcount,coinleft, coinlemi, coinmid, coinrimi, coinright, loss_tutorial,
previoustotal_tutorial, currenttotal_tutorial, cardsselected_tutorial, continue]
/ validresponse = (continue)
/ recorddata = false
</trial>
*****

```

MAIN BLOCKS

```

*****
<block igt_tutorial>

```

```

/ trials = [ 1 = igt_tutorial ]
/ branch = [if (values.cardsselected < values.trialruns) block.igt_tutorial]
/ branch = [if (values.cardsselected >= values.trialruns) noblock]
</block>
<block igt>
/ trials = [ 1 = igt]
/ branch = [if (values.currenttotal <= values.abortamount && values.wincount <= values.routinecount &&
values.cardsselected <= values.aborttrials) block.igt ]
/ branch = [if (values.wincount > values.routinecount || values.currenttotal > values.abortamount ) noblock ]
/ branch = [ if (values.cardsselected > values.aborttrials) block.end]
/ onblockend = [ if (values.cardsselected > values.aborttrials) values.loser += 1 ]
</block>
<block dv_task>
/ branch = [ if ( script.groupid == 1) block.headlines ]
/ branch = [ if ( script.groupid == 2) block.headlines ]
/ branch = [ if ( script.groupid == 3) block.instructions_post ]
/ branch = [ if ( script.groupid == 4) block.instructions_post ]
/ branch = [ if ( script.groupid == 5) noblock ]
</block>
<block branch_pretest>
/ branch = [ if ( script.groupid == 1) block.producttest ]
/ branch = [ if ( script.groupid == 2) block.producttest ]
/ branch = [ if ( script.groupid == 3) block.producttest ]
/ branch = [ if ( script.groupid == 4) block.producttest ]
/ branch = [ if ( script.groupid == 5) noblock ]
</block>
<block headlines>
/trials = [1=instructions_headlines1; 2=headlines; 3=igtend]
</block>
<block igtend_sonja>
/trials = [1=instructions_igtend_sonja; 2=igtend_sonja; ]
</block>
<block igt_post>
/ trials = [ 1 = igt_post]
/ branch = [if (values.cardsselected_post <= values.aborttrials_post) block.igt_post ]
/ branch = [if (values.cardsselected_post > values.aborttrials_post ) block.igtend_sonja ]
</block>
*****
EXPERIMENT
*****
<expt main>
/ onexptbegin = [if (values.showcardinfo == false) text.cardsselected.textcolor = white]
/ onexptbegin = [if (values.showcardinfo == false) text.cardsselected_tutorial.textcolor = white]
/ blocks = [1= instructions_tutorial; 2= igt_tutorial; 3= instructions_tutorialend; 4= instructions_scenario; 5=
igt; 6= branch_pretest; 7= dv_task; 8=end]
</expt>
*****

```

End of Script

Appendix B

Screenshots

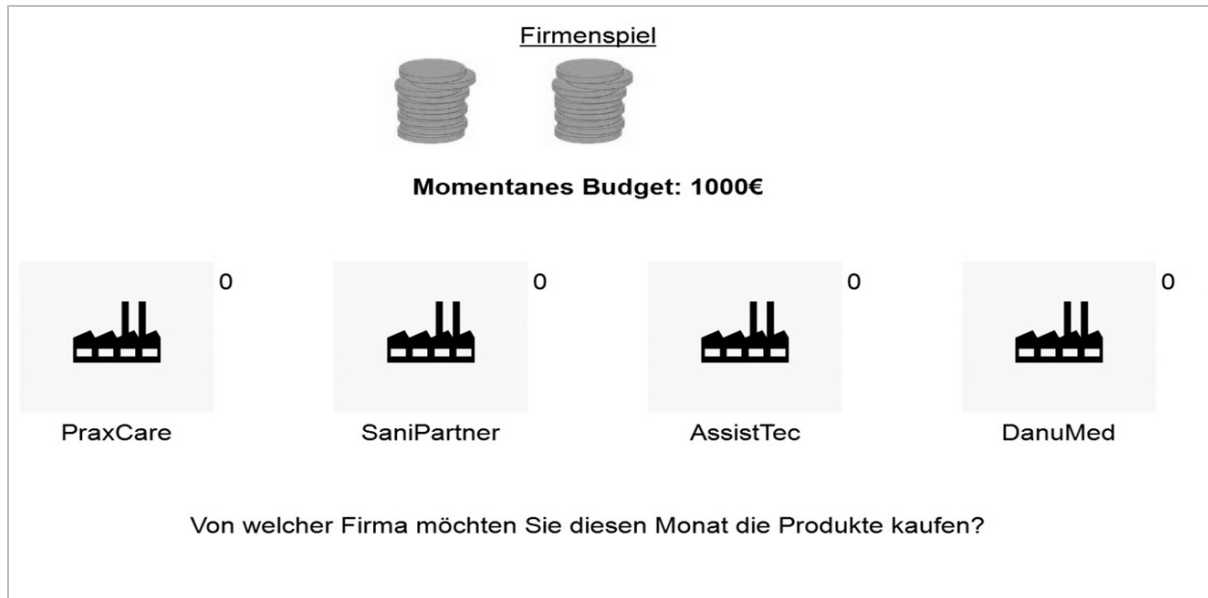


Figure B1. Screenshot of the user interface in the routine inducing phase. This picture was taken at the very start of the task. The header reads “Factory game”. Beyond the coins participants could see their current total. The bottom question reads: “Off which factory do you want to buy the products this month?”

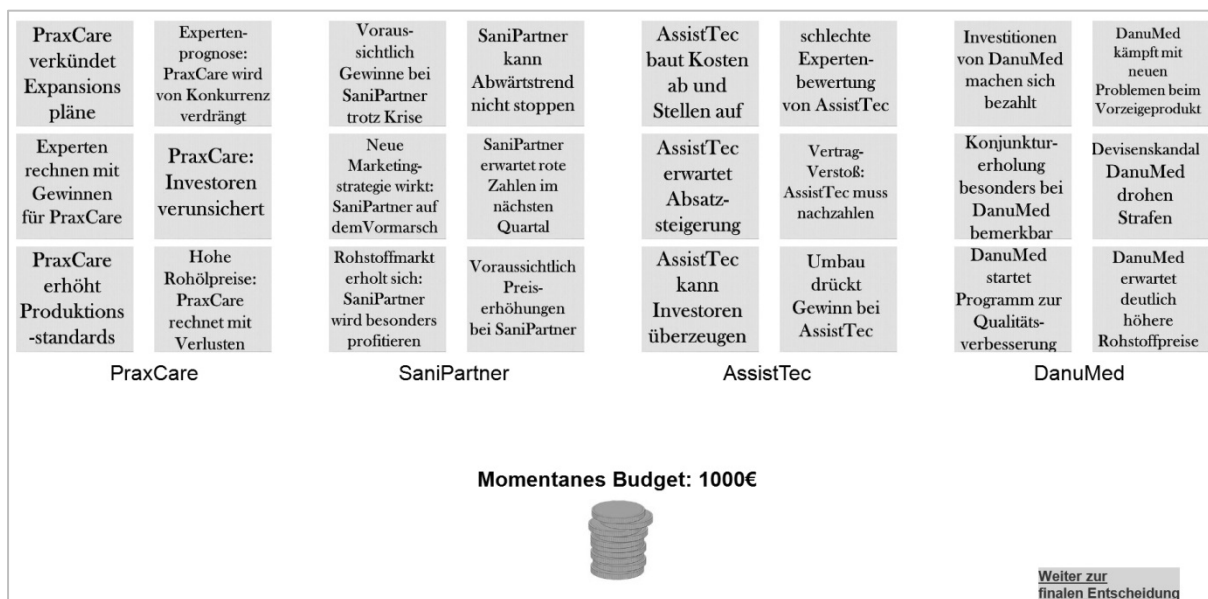


Figure B2. Screenshot of the user interface in the information search phase. The current total was dependent on participant’s success in the routine inducing task.

Appendix C

Questionnaire

Druckversion

http://www3.unipark.de/www/print_survey.php?syid=415157&__menu...

Druckversion

Fragebogen

1 VP_Nummer

Versuchspersonennummer:

Gruppe1

Gruppe2

Gruppe3

Gruppe4

Pretest

2 Intro

Herzlich willkommen zu dieser Studie!

Vielen Dank, dass Sie sich bereit erklärt haben, an dieser Studie teilzunehmen.
Die Studie wird im Rahmen einer Diplomarbeit im Arbeitsbereich für Angewandte Sozialpsychologie und Konsumentenverhaltensforschung der Universität Wien durchgeführt.

Im Folgenden werden Sie an einer Wirtschaftssimulation teilnehmen sowie zusätzlich einige Frage beantworten. Es gibt dabei keine richtigen oder falschen Antworten, nur Ihre persönliche Einschätzung zählt.
Bitte beantworten Sie daher alle Aufgaben ehrlich und gewissenhaft!

Die gesamte Bearbeitung dauert max. 45 Minuten.

Die Daten werden ausschließlich für wissenschaftliche Zwecke verwendet, **anonym** behandelt und nicht an Dritte weitergegeben.

Die Teilnahme an der Studie ist freiwillig und kann jederzeit ohne die Angabe von Gründen abgebrochen werden.

Wenn Sie damit einverstanden sind, dann klicken Sie bitte auf "Weiter".

3 Versuchspersonencode

Wir möchten Sie nun bitten, Ihren Versuchspersonencode anzugeben. Dieser Code ist notwendig, um Ihre Daten über verschiedene Studien hinweg zusammen zu führen. Bitte füllen Sie diesen daher gewissenhaft aus. Der Code hat den Vorteil, dass er nur Ihnen bekannt ist und somit Ihre Anonymität gewährleistet werden kann.

Bitte geben Sie in Kleinbuchstaben Ihren persönlichen Code ein.

Der Code setzt sich aus folgenden Komponenten zusammen:

- ZWEITER Buchstabe des eigenen Vornamens
- ERSTER Buchstabe des Vornamens der Mutter
- ERSTER Buchstabe des Vornamens des Vaters (falls nicht bekannt, * einsetzen)
- ZWEITER Buchstabe des eigenen Geburtsortes
- Tag des Geburtsdatums (z.B. 12 für 12.07. oder 08 für 08.03.)

4 MDBF Kurzversion A

Im folgenden finden Sie eine Liste von Wörtern, die verschiedene Stimmungen beschreiben. Bitte gehen Sie die Wörter der Liste nacheinander durch und klicken Sie bei jedem Wort den Button an, der die augenblickliche Stärke Ihrer Stimmung am besten beschreibt.

	überhaupt nicht = 1	2	3	4	5	6	sehr = 7
zufrieden	☐	☐	☐	☐	☐	☐	☐
ausgeruht	☐	☐	☐	☐	☐	☐	☐
ruhelos	☐	☐	☐	☐	☐	☐	☐
schlecht	☐	☐	☐	☐	☐	☐	☐
schlapp	☐	☐	☐	☐	☐	☐	☐
gelesen	☐	☐	☐	☐	☐	☐	☐
müde	☐	☐	☐	☐	☐	☐	☐

Druckversion

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gut	⊖	⊖	⊖	⊖	⊖	⊖	⊖
unruhig	⊖	⊖	⊖	⊖	⊖	⊖	⊖
munter	⊖	⊖	⊖	⊖	⊖	⊖	⊖
unwohl	⊖	⊖	⊖	⊖	⊖	⊖	⊖
entspannt	⊖	⊖	⊖	⊖	⊖	⊖	⊖

6 Gewinnspiel

Wie hoch war Ihr final erspielter Betrag?

Wenn Sie einen der 10EUR Amazon-Gutscheine gewinnen möchten, tragen Sie hier bitte Ihre eMail-Adresse ein.
Die Adresse wird von Ihren Daten gesondert gespeichert und dient lediglich dazu Sie im Falle des Gewinns zu kontaktieren.

7.1 Firmen Einschätzungen

Welche der Firmen war Ihrer Meinung nach die profitabelste?

PraxCare

SaniPartner

AssistTec

DanuMed

⊖

⊖

⊖

⊖

Wie hoch schätzen Sie den Erwartungswert dieser Firma ein?

(Der durchschnittliche Gewinn, den diese Firma über die Zeit hinweg, pro Zug erbrachte)

 EUR

Inwiefern stimmen Sie folgenden Aussagen zu?

stimme
sehr zu

stimme
überhaupt
nicht zu

Während des Spiels habe ich versucht
Gewinne zu erzielen

⊖

⊖

⊖

⊖

⊖

⊖

⊖

Während des Spiels habe ich versucht
Verluste zu vermeiden

⊖

⊖

⊖

⊖

⊖

⊖

⊖

Was waren die möglichen Gewinne für die einzelnen Firmen?

(z.B. 50, 100, etc.)

PraxCare

SaniPartner

AssistTec

DanuMed

Was waren die möglichen Verluste für die einzelnen Firmen?

(z.B. -50, -100, etc.)

PraxCare

SaniPartner

AssistTec

DanuMed

Beschreiben Sie bitte die Strategie, die Sie verfolgten, um die beste Firma zu finden.

Wie schwer ist Ihnen die Finale Entscheidung gefallen?

gar nicht
schwer

sehr schwer

⊖

⊖

⊖

⊖

⊖

⊖

⊖

⊖

⊖

7.2 Ego Depletion

Wie stark stimmen Sie folgenden Aussagen zu?

keine
Zustimmung

starke
Zustimmung

Das Firmenspiel hat mich angestrengt.

⊖

⊖

⊖

⊖

⊖

⊖

⊖

⊖

Druckversion

http://ww3.unipark.de/www/print_survey.php?syid=415157&__menu...

Das Firmenspiel hat mich gelangweilt.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Durch das Spiel fühle ich mich erschöpft.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ich habe das Spiel gerne bearbeitet.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Das Firmenspiel war sehr komplex gestaltet.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Während des Firmenspiels fühlte ich mich unter Zeitdruck.	☐	☐	☐	☐	☐	☐	☐	☐	☐

8.1 Firmen Einschätzungen

Welche der Firmen war Ihrer Meinung nach in der ersten Hälfte des Spiels die profitabelste?

PraxiCare	SaniPartner	AssistTec	DanuMed
☐	☐	☐	☐

Wie hoch schätzen Sie den Erwartungswert dieser Firma ein?

(Der durchschnittliche Gewinn, den diese Firma über die Zeit hinweg, pro Zug erbrachte)

 EUR

Welche der Firmen war Ihrer Meinung nach in der zweiten Hälfte des Spiels die profitabelste?

PraxiCare	SaniPartner	AssistTec	DanuMed
☐	☐	☐	☐

Wie hoch schätzen Sie den Erwartungswert dieser Firma ein?

(Der durchschnittliche Gewinn, den diese Firma über die Zeit hinweg, pro Zug erbrachte)

 EUR

Inwiefern stimmen Sie folgenden Aussagen zu?

	stimme sehr zu							stimme überhaupt nicht zu
Während des Spiels habe ich versucht Gewinne zu erzielen	☐	☐	☐	☐	☐	☐	☐	☐
Während des Spiels habe ich versucht Verluste zu vermeiden	☐	☐	☐	☐	☐	☐	☐	☐

Was waren die möglichen Gewinne für die einzelnen Firmen?

(z.B. 50, 100, etc.)

PraxiCare	
SaniPartner	
AssistTec	
DanuMed	

Was waren die möglichen Verluste für die einzelnen Firmen?

(z.B. -50, -100, etc.)

PraxiCare	
SaniPartner	
AssistTec	
DanuMed	

Welche Strategie haben Sie während des Spiels verwendet?

Wie schwer ist Ihnen die Finale Entscheidung gefallen?

gar nicht schwer								sehr schwer
☐	☐	☐	☐	☐	☐	☐	☐	☐

8.2 Ego Depletion

Wie stark stimmen Sie folgenden Aussagen zu?

keine Zustimmung								starke Zustimmung
---------------------	--	--	--	--	--	--	--	----------------------

Druckversion

http://ww3.unipark.de/www/print_survey.php?syid=415157&__menu...

Das Firmenspiel hat mich angestrengt.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Das Firmenspiel hat mich gelangweilt.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Durch das Spiel fühle ich mich erschöpft.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Ich habe das Spiel gerne bearbeitet.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Das Firmenspiel war sehr komplex gestaltet.	☐	☐	☐	☐	☐	☐	☐	☐	☐
Während des Firmenspiels fühle ich mich unter Zeitdruck.	☐	☐	☐	☐	☐	☐	☐	☐	☐

9.1 VG Händewaschenritual

Im Folgenden werden Ihnen einige Alltagssituationen beschrieben. Versuchen Sie sich bitte in die beschriebenen Abläufe hineinzuversetzen.

Bitte geben sie an, wie wahrscheinlich Sie sich in den jeweiligen Situationen die Hände waschen.

	nie						immer
Bevor Sie eine Mahlzeit zu sich nehmen.	☐	☐	☐	☐	☐	☐	☐
Kurz nachdem Sie nach Hause gekommen sind.	☐	☐	☐	☐	☐	☐	☐
Kurz bevor Sie das Haus verlassen.	☐	☐	☐	☐	☐	☐	☐
Nachdem Sie eine Mahlzeit zu sich genommen haben.	☐	☐	☐	☐	☐	☐	☐
Kurz nachdem Sie aufgestanden sind.	☐	☐	☐	☐	☐	☐	☐
Bevor Sie zu Bett gehen.	☐	☐	☐	☐	☐	☐	☐

Wie sehr hatten Sie bei dem Produkttest das Gefühl...?

	nie						immer
sich die Hände zu waschen	☐	☐	☐	☐	☐	☐	☐
sich zu reinigen	☐	☐	☐	☐	☐	☐	☐

Aus welchen Gründen waschen Sie sich die Hände? Welche Bedeutung hat Händewaschen für Sie?

10.1 KG Händewaschenritual

Im Folgenden werden Ihnen einige Alltagssituationen beschrieben. Versuchen Sie sich bitte in die beschriebenen Abläufe hineinzuversetzen.

Bitte geben sie an, wie wahrscheinlich Sie sich in den jeweiligen Situationen die Hände waschen.

	nie						immer
Bevor Sie eine Mahlzeit zu sich nehmen.	☐	☐	☐	☐	☐	☐	☐
Kurz nachdem Sie nach Hause gekommen sind.	☐	☐	☐	☐	☐	☐	☐
Kurz bevor Sie das Haus verlassen.	☐	☐	☐	☐	☐	☐	☐
Nachdem Sie eine Mahlzeit zu sich genommen haben.	☐	☐	☐	☐	☐	☐	☐
Kurz nachdem Sie aufgestanden sind.	☐	☐	☐	☐	☐	☐	☐
Bevor Sie zu Bett gehen.	☐	☐	☐	☐	☐	☐	☐

Aus welchen Gründen waschen Sie sich die Hände? Welche Bedeutung hat Händewaschen für Sie?

11.1 Regulatory Focus Sassenberg

Bitte geben Sie an inwiefern folgende Aussagen auf Sie zu treffen.

trifft völlig zu	trifft zu	trifft eher zu	weder noch	trifft eher nicht zu	trifft nicht zu	trifft überhaupt nicht zu
------------------	-----------	----------------	------------	----------------------	-----------------	---------------------------

Druckversion

http://ww3.unipark.de/www/print_survey.php?syid=415157&__menu...

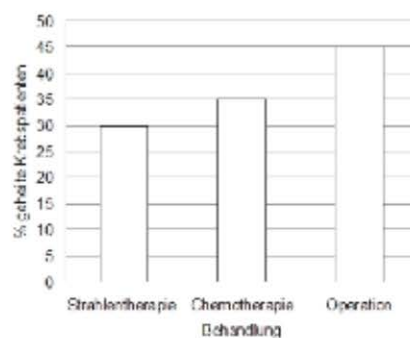
Erfolg beruhigt mich.	☐	☐	☐	☐	☐	☐	☐
Mein Motto lautet, „wer nicht wagt, der nicht gewinnt“.	☐	☐	☐	☐	☐	☐	☐
Ich halte mich eigentlich immer an Regeln und Vorschriften.	☐	☐	☐	☐	☐	☐	☐
Ich will viel erreichen.	☐	☐	☐	☐	☐	☐	☐
Wenn ich meine Ziele nicht erreiche, werde ich nervös.	☐	☐	☐	☐	☐	☐	☐
Ich bin sehr produktiv.	☐	☐	☐	☐	☐	☐	☐
Wenn ich ein Ziel wirklich erreichen will, finde ich einen Weg.	☐	☐	☐	☐	☐	☐	☐
Mein Motto lautet „Schuster, bleib bei Deinen Leisten“.	☐	☐	☐	☐	☐	☐	☐
Um meine Ziele zu erreichen, übertrete ich hin und wieder auch Regeln oder Normen.	☐	☐	☐	☐	☐	☐	☐
Das große Ganze ist für mich wichtig, nicht die Details.	☐	☐	☐	☐	☐	☐	☐
Ich strebe in meinem Leben nach Erfolg.	☐	☐	☐	☐	☐	☐	☐
	trifft völlig zu	trifft zu	trifft eher zu	weder noch	trifft eher nicht zu	trifft nicht zu	trifft überhaupt nicht zu
Ich folge meinen Idealen.	☐	☐	☐	☐	☐	☐	☐
Mein Motto lautet „in der Ruhe liegt die Kraft“.	☐	☐	☐	☐	☐	☐	☐
Ich bin manchmal fanatisch hinsichtlich des Erreichens meiner Ziele.	☐	☐	☐	☐	☐	☐	☐
Ich probiere gerne Neues aus.	☐	☐	☐	☐	☐	☐	☐
Ich bin risikobereit.	☐	☐	☐	☐	☐	☐	☐
Ich strebe nach Fortschritt.	☐	☐	☐	☐	☐	☐	☐
Ich bin keine vorsichtige Person.	☐	☐	☐	☐	☐	☐	☐
Bei wichtigen Entscheidungen ist Sicherheit für mich ein wichtiges Kriterium.	☐	☐	☐	☐	☐	☐	☐
In Arbeit und Studium ist für mich Genauigkeit sehr wichtig.	☐	☐	☐	☐	☐	☐	☐
Ich achte darauf, dass ich meine Pflichten erfülle.	☐	☐	☐	☐	☐	☐	☐
Ich setze mich ganz und gar für meine Ziele ein.	☐	☐	☐	☐	☐	☐	☐

11.2 Intro_GraphLiteracy

Im Folgenden möchten wir Sie bitten, zu verschiedenen Abbildungen die darunter stehenden Fragen zu beantworten.

11.2.1 Krebsbehandlung

Sie erhalten nun einige Informationen über Krebsbehandlungen.



Wie hoch ist der Prozentanteil der Patienten, die nach einer Chemotherapie geheilt waren?

%

Druckversion

http://ww3.unipark.de/www/print_survey.php?syid=415157&__menu...

Wie groß ist der Unterschied zwischen dem Prozentanteil von Patienten, die nach einer Operation geheilt waren und dem Prozentanteil von Patienten, die nach einer Strahlentherapie geheilt waren?

 %

11.2.2 Krebserkrankungen

Sie erhalten nun einige Informationen über Krebserkrankungen.



Von allen Menschen, die an Krebs sterben: Ungefähr welcher Prozentanteil von ihnen stirbt an Lungenkrebs?

 %

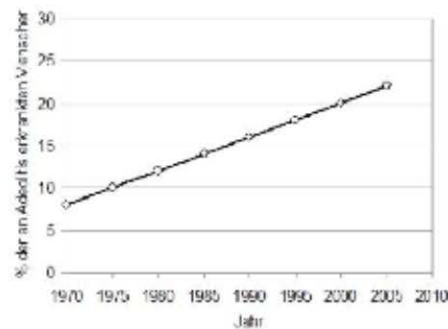
Von allen Menschen, die an Krebs sterben: Ungefähr welcher Prozentanteil von ihnen stirbt an Dickdarmkrebs, Brustkrebs und Prostatakrebs zusammengefasst?

 %

11.2.3 Adeolitis

Sie erhalten nun einige Informationen zu einer fiktiven Krankheit namens "Adeolitis".

Prozent der an Adeolitis erkrankten Menschen



Ungefähr welcher Prozentanteil der Menschen litt im Jahr 2000 an "Adeolitis"?

 %

In welchem Zeitraum stieg der Prozentanteil von Menschen mit "Adeolitis" stärker?

- ☐ von 1975 bis 1980
- ☐ von 2000 bis 2005
- ☐ die Steigerung war in beiden Zeiträumen gleich hoch.
- ☐ weiß ich nicht.

Druckversion

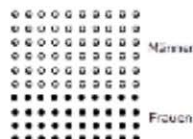
http://ww3.unipark.de/www/print_survey.php?syid=415157&__menu...

Was schätzen Sie: Welcher Prozentanteil der Menschen wird im Jahr 2010 an Adeolitis leiden?

%

11.2.4 Krankheit X

Die folgende Abbildung zeigt, wie viele Männer und Frauen es unter den Patienten gibt, die unter der Krankheit X leiden. Die Summe der Kreise ist 100.



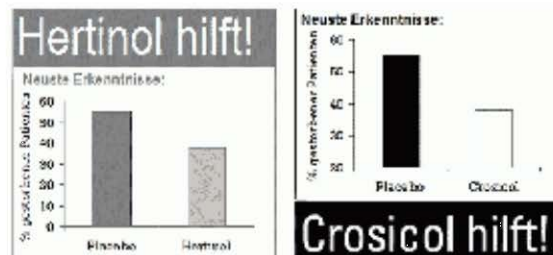
Wie viele Frauen befinden sich unter 100 Patienten mit der Krankheit X?

Wie viel mehr Männer als Frauen sind unter den 100 Patienten mit der Krankheit X?

Männer

11.2.5 Hertinol Crosicol

In einer Zeitschrift sehen Sie zwei Anzeigen. Jede wirbt für ein anderes Medikament gegen Herzerkrankungen. In jeder wird ein Schaubild gezeigt, welches die Wirksamkeit dieses Medikamentes im Vergleich zu einem Placebo, also einer Pille aus Zucker, verdeutlicht.



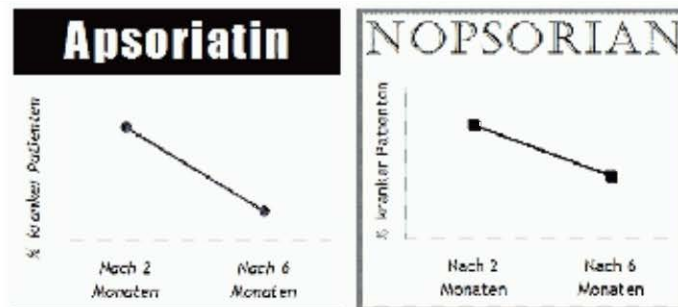
Im Vergleich zum Placebo: Bei welchem Medikament sinkt der Prozentanteil der Patienten, die sterben, stärker?

- ☐ Crosicol
- ☐ Hertinol
- ☐ Bei beiden gleich
- ☐ Kann man nicht sagen

11.2.6 Apsoriatin Nopsorian

In einer Tageszeitung sehen Sie zwei Anzeigen. Jede wirbt für ein anderes Medikament gegen die Hautkrankheit "Psoriasis". Jede Anzeige beinhaltet ein Schaubild, in dem die Wirkung dieses Medikamentes im Laufe der Behandlung dargestellt wird.

Druckversion

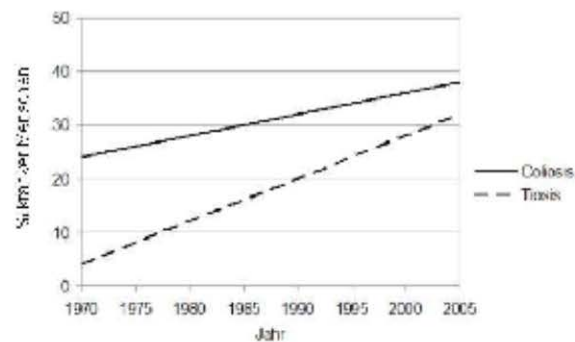
http://ww3.unipark.de/www/print_survey.php?syid=415157&__menu...

Bei welcher Behandlungsmethode sinkt der Prozentanteil kranker Patienten stärker?

- ☐ Apsoriatin
- ☐ Nopsorian
- ☐ Bei beiden gleich
- ☐ Kann man nicht sagen

11.2.7 Coliosis Tiosis

Sie erhalten nun einige Information über die fiktiven Krankheiten "Coliosis" und "Tiosis".



Bei welcher Krankheit stieg zwischen 1980 und 1990 die Erkrankungsrate stärker?

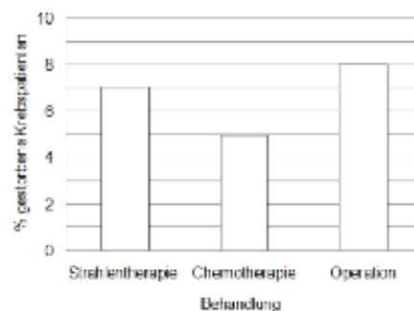
- ☐ Coliosis
- ☐ Tiosis
- ☐ Bei beiden gleich
- ☐ Kann man nicht sagen

11.2.8 Krebsbehandlung II

Sie erhalten nun einige Informationen über Krebsbehandlungen.

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Welcher Prozentanteil der Krebspatienten stirbt nach einer Chemotherapie?

%

12 Change Seeker Index

Bitte geben Sie an inwiefern diese Aussagen auf Sie zutreffen.

	völlig falsch				völlig richtig
Ich mag es lieber die gleichen alten Dinge fortzusetzen, als neue und andersartige Dinge auszuprobieren.	☐	☐	☐	☐	☐
Ich mag den Reiz des Neuen und Veränderung in meiner täglichen Routine.	☐	☐	☐	☐	☐
Ich mag einen Job, der Veränderung, Vielfalt und Reisen ermöglicht, selbst wenn er einige Gefahren mit sich bringt.	☐	☐	☐	☐	☐
Ich suche fortwährend nach neuen Ideen und Erfahrungen.	☐	☐	☐	☐	☐
Ich mag sich ständig verändernde Aktivitäten.	☐	☐	☐	☐	☐
Wenn Dinge langweilig werden, mag ich es einige neue und unbekannte Erfahrungen zu sammeln.	☐	☐	☐	☐	☐
Ich bevorzuge eine routinemäßige Lebensweise gegenüber einer unberechenbaren Lebensweise voller Veränderung.	☐	☐	☐	☐	☐

13.1 Personal Need for Structure Scale

Bitte geben Sie an inwiefern die folgenden Aussagen auf Sie zutreffen.

	trifft gar nicht zu				trifft vollkommen zu
Es bringt mich aus der Fassung, wenn ich in eine Situation komme, in der ich nicht weiß, was mich zu erwarten hat.	☐	☐	☐	☐	☐
Es stört mich nicht, wenn mich Dinge aus meiner täglichen Routine bringen.	☐	☐	☐	☐	☐
Es gefällt mir, wenn ich ein klares und strukturiertes Leben habe.	☐	☐	☐	☐	☐
Ich mag es, wenn alles seinen Platz hat und alles an seinem Platz ist.	☐	☐	☐	☐	☐
Ich genieße es spontan zu sein.	☐	☐	☐	☐	☐
Ich finde, dass ein wohlgeordnetes Leben mit regelmäßigen Abläufen langweilig ist.	☐	☐	☐	☐	☐
Ich mag unklare Situationen nicht.	☐	☐	☐	☐	☐
Ich hasse es, meine Pläne in letzter Minute zu ändern.	☐	☐	☐	☐	☐
Ich bin ungern mit Leuten zusammen, deren Verhalten nicht vorhersehbar ist.	☐	☐	☐	☐	☐
Ich finde, dass eine gewisse Routine es mir ermöglicht, mein Leben mehr zu genießen.	☐	☐	☐	☐	☐

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Ich genieße die Herausforderung, mich in unvorhersehbaren Situationen zu befinden.

☐ ☐ ☐ ☐ ☐ ☐

Ich fühle mich unwohl, wenn die Regeln in einer Situation unklar sind.

☐ ☐ ☐ ☐ ☐ ☐

14 Numeracy

Zur Beantwortung der folgenden Fragen ist es wichtig, dass Sie keine Hilfsmittel, wie Ihr Handy oder einen Taschenrechner, verwenden. Versuchen Sie bitte, die Aufgaben möglichst **schnell, intuitiv und spontan** zu beantworten!

14.1 Numeracy Frage 1

Stellen Sie sich vor, dass mit einem fairen 6-seitigen Würfel 1000 Mal gewürfelt wird. Von 1000 Würfeln, wie oft würde eine gerade Zahl geworfen werden?

14.2 Numeracy Frage 2

In einer Lotterie beträgt die Chance einen Preis von 10,00€ zu gewinnen 1%. Wie hoch ist Ihrer Meinung nach die Anzahl der Personen, die 10,00€ gewinnen würden, wenn 1000 Leute ein Los für diese Lotterie haben?

 Personen

14.3 Numeracy Frage 3

In einer Lotterie beträgt die Chance, ein Auto zu gewinnen 1 zu 1000. Wie viel Prozent der Lotterielose dieser Lotterie gewinnen ein Auto?

 %

14.4 Numeracy Frage 8

Wenn die Chance, eine Krankheit zu bekommen 10% ist, wie viele Personen würden diese Krankheit erwartungsgemäß bekommen?

A: Von 100?

 Personen

B: Von 1000?

 Personen

14.5 Numeracy Frage 9

Wenn die Chance, eine Krankheit zu bekommen 20 von 100 ist, wäre dies das Gleiche wie eine Chance von

 % zu haben, diese Krankheit zu bekommen.

14.6 Numeracy Frage 12

Nehmen Sie an, dass sich eine Bekannte von Ihnen wegen einem Knoten in der Brust einer Mammographieuntersuchung unterzieht. Von 100 Frauen wie Ihre Bekannte, haben 10 tatsächlich Brustkrebs und 90 haben keinen Brustkrebs. Von den 10 Frauen, die tatsächlich Brustkrebs haben, werden 9 von der Mammographie korrekt diagnostiziert und eine fälschlicherweise so diagnostiziert, dass sie keinen Brustkrebs hätte. Von den 90 Frauen, die keinen Brustkrebs haben, werden 81 korrekt durch die Mammographie diagnostiziert und 9 inkorrekt diagnostiziert, dass sie Brustkrebs hätten. Die unten angeführte Tabelle fasst all diese Information zusammen. Stellen Sie sich vor, das Ergebnis der Mammographie Ihrer Bekannten ist eine Diagnose auf Brustkrebs. Was ist die Wahrscheinlichkeit, dass sie tatsächlich Brustkrebs hat?

	MAMMOGRAPHIE DIAGNOSTIZIERT BRUSTKREBS	MAMMOGRAPHIE DIAGNOSTIZIERT KEINEN BRUSTKREBS	SUMME
HAT TATSÄCHLICH BRUSTKREBS	9	1	10
HAT TATSÄCHLICH KEINEN BRUSTKREBS	9	81	90
SUMME	18	82	100

 von

14.7 Numeracy_CRT1

Ein Schläger und ein Ball kosten zusammen 1,10 Euro. Der Schläger kostet 1,00 Euro mehr als der Ball. Wie viel kostet der Ball?

 Euro

14.8 Numeracy_CRT3

In einem See wächst eine bestimmte Seerosenart. Jeden Tag verdoppelt sich die Anzahl der Seerosen in dem See. Der See wächst innerhalb von 48 Tagen durch diese Seerosen vollständig zu. Wie viele Tage dauert es bis die Hälfte des Sees zugewachsen ist?

 Tage

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1.5 Numeracy_subj_1_4

Bitte beantworten Sie nun die folgenden Fragen:

	überhaupt nicht gut = 1	2	3	4	5	sehr gut = 6
Wie gut können Sie Bruchrechnen?	☐	☐	☐	☐	☐	☐
Wie gut können Sie Prozentrechnen?	☐	☐	☐	☐	☐	☐
Wie gut können Sie ein 15%iges Trinkgeld berechnen?	☐	☐	☐	☐	☐	☐
Wie gut können Sie den Preis eines um 25% reduzierten T-Shirts berechnen?	☐	☐	☐	☐	☐	☐
Hier, in dieser Reihe, ausnahmsweise bitte nichts ankreuzen.	☐	☐	☐	☐	☐	☐

1.6 Numeracy_subj_5_8

	überhaupt nicht hilfreich = 1	2	3	4	5	sehr hilfreich = 6
Wie hilfreich finden Sie beim Lesen eines Zeitungsartikels Tabellen und Diagramme?	☐	☐	☐	☐	☐	☐
	Ich bevorzuge immer Wörter = 1	2	3	4	5	Ich bevorzuge immer Zahlen = 6
Wenn Ihnen jemand etwas über die Eintrittswahrscheinlichkeit eines Ereignisses erzählt, bevorzugen Sie dabei Wörter (z. B. es passiert selten) oder Zahlen (z. B. die Wahrscheinlichkeit beträgt 1%, dass es passiert)?	☐	☐	☐	☐	☐	☐
	Ich bevorzuge immer Wahrscheinlich- keiten = 1	2	3	4	5	Ich bevorzuge immer Wörter = 6
Wenn Sie eine Wettervorhersage hören, bevorzugen Sie dass die Vorhersagen Wahrscheinlichkeiten (z. B. zu 20% regnet es heute) oder nur Wörter (z. B. es gibt eine geringe Wahrscheinlichkeit, dass es heute regnet) beinhalten?	☐	☐	☐	☐	☐	☐
	nie hilfreich = 1	2	3	4	5	sehr oft hilfreich = 6
Wie oft finden sie numerische Informationen hilfreich?	☐	☐	☐	☐	☐	☐

1.7.1 Lotterie Teil 1

Sie können im Folgenden für verschiedene Lotterien entscheiden, ob Sie diese spielen möchten oder nicht.

Jede Lotterie hat zwei mögliche Auszahlungen, die beide mit einer Wahrscheinlichkeit von je 50% eintreten. Beide Auszahlungen sind also gleich wahrscheinlich.

Bitte geben Sie für jede Lotterie an, ob Sie diese spielen möchten ("ja") oder nicht ("nein").

Bitte treffen Sie diese Entscheidung unter der Annahme, dass eine Lotterie zufällig ausgewählt und tatsächlich realisiert werden würde.

	Ja	Nein
A: mit 50 % Wahrscheinlichkeit gewinnen Sie 6 Euro und mit 50 % Wahrscheinlichkeit verlieren Sie 2 Euro	☐	☐
B: mit 50 % Wahrscheinlichkeit gewinnen Sie 6 Euro und mit 50 % Wahrscheinlichkeit verlieren Sie 3 Euro.	☐	☐
C: mit 50 % Wahrscheinlichkeit gewinnen Sie 6 Euro und mit 50 % Wahrscheinlichkeit verlieren Sie 4 Euro.	☐	☐

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D: mit 50 % Wahrscheinlichkeit gewinnen Sie 6 Euro und mit 50 % Wahrscheinlichkeit verlieren Sie 5 Euro.

E: mit 50 % Wahrscheinlichkeit gewinnen Sie 6 Euro und mit 50 % Wahrscheinlichkeit verlieren Sie 6 Euro.

F: mit 50 % Wahrscheinlichkeit gewinnen Sie 6 Euro und mit 50 % Wahrscheinlichkeit verlieren Sie 7 Euro.

17.2 Lotterie Teil 2

Sie können im Folgenden für verschiedene Paare von Lotterien entscheiden, welche Sie lieber spielen möchten. Bitte geben Sie an, welche der beiden Lotterien Sie spielen möchten, indem Sie das entsprechende Feld (Lotterie A oder B) anklicken.

Paar 1:

- | | |
|---|---|
| ☐ Lotterie A erzielt mit 1/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 9/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 1/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 9/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|---|---|

Paar 2:

- | | |
|---|---|
| ☐ Lotterie A erzielt mit 2/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 8/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 2/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 8/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|---|---|

Paar 3:

- | | |
|---|---|
| ☐ Lotterie A erzielt mit 3/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 7/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 3/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 7/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|---|---|

Paar 4:

- | | |
|---|---|
| ☐ Lotterie A erzielt mit 4/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 6/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 4/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 6/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|---|---|

Paar 5:

- | | |
|---|---|
| ☐ Lotterie A erzielt mit 5/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 5/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 5/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 5/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|---|---|

17.3 Lotterie Teil 3

Sie können im Folgenden für verschiedene Paare von Lotterien entscheiden, welche Sie lieber spielen möchten. Bitte geben Sie an, welche der beiden Lotterien Sie spielen möchten, indem Sie das entsprechende Feld (Lotterie A oder B) anklicken.

Paar 6:

- | | |
|---|---|
| ☐ Lotterie A erzielt mit 6/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 4/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 6/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 4/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|---|---|

Paar 7:

- | | |
|---|---|
| ☐ Lotterie A erzielt mit 7/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 3/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 7/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 3/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|---|---|

Paar 8:

- | | |
|---|---|
| ☐ Lotterie A erzielt mit 8/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 2/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 8/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 2/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|---|---|

Paar 9:

- | | |
|---|---|
| ☐ Lotterie A erzielt mit 9/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 1/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 9/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 1/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|---|---|

Paar 10:

- | | |
|--|--|
| ☐ Lotterie A erzielt mit 10/10 Wahrscheinlichkeit einen Gewinn von 2.00 Euro und mit 0/10 Wahrscheinlichkeit einen Gewinn von 1.60 Euro. | ☐ Lotterie B erzielt mit 10/10 Wahrscheinlichkeit einen Gewinn von 3.85 Euro und mit 0/10 Wahrscheinlichkeit einen Gewinn von 0.10 Euro. |
|--|--|

17.4 Risk Aversion Short

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Bitte geben Sie an inwiefern Sie diesen Aussagen zustimmen.

	stimme sehr zu						stimme überhaupt nicht zu	
Ich bin vorsichtig darin neue/ andersartige Produkte auszuprobieren.	☐	☐	☐	☐	☐	☐	☐	☐
Ich würde mich lieber an eine Marke halten, die ich für gewöhnlich kaufe, als etwas auszuprobieren, wovon ich nicht sehr überzeugt bin.	☐	☐	☐	☐	☐	☐	☐	☐
Ich kaufe niemals etwas das ich nicht kenne, auf die Gefahr hin einen Fehler zu machen.	☐	☐	☐	☐	☐	☐	☐	☐

18 Worum geht es

Worum ging es Ihrer Meinung nach in der Studie?

19 Ähnliche Seminarinhalte

Haben Sie schon einmal ein Seminar oder eine Vorlesung besucht, in der die Inhalte dieser Studie besprochen wurden?

- ☐ Ja
- ☐ Nein
- ☐ Weiß nicht mehr

19.1 Ähnliche Seminarinhalte 2

Um welches Seminar bzw. welche Vorlesung handelt es sich?

Bitte geben Sie den Zeitraum und den Inhalt an (soweit Sie sich erinnern).

Hat Ihr Wissen über den Inhalt der Studie Ihre Entscheidungen beeinflusst?

- ☐ Ja
- ☐ Nein

19.1.1.1 Beeinflussung_Ja

Wie hat dies Ihre heutigen Entscheidungen beeinflusst?

20 Soziodemographisch

Zum Abschluss der Studie, bitten wir Sie noch um einige Angaben zu Ihrer Person.

Alter

Geschlecht

- ☐ weiblich
- ☐ männlich

Falls Sie StudentIn sind: Bitte geben Sie Ihr Studienfach an.

Im wievielten Semester befinden Sie sich?

Ihre Muttersprache:

- ☐ deutsch
- ☐ andere

Kenntnisse der deutschen Sprache, falls andere Muttersprache als deutsch angegeben:

- ☐ Niveau eines Muttersprachlers
- ☐ Fließend in Schrift und Rede, aber nicht wie bei einer Muttersprache
- ☐ Gut
- ☐ Basiskenntnisse
- ☐ Weniger als Basiskenntnisse

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Vielen Dank für Ihre Teilnahme!

Wenn Sie Informationen bezüglich des Inhalts dieser Studie erhalten wollen, dann können Sie uns eine Email schreiben. Bitte schreiben Sie an eine der beiden Emailadressen:

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Abstract (German)

Händewaschen spielt eine allgegenwärtige Rolle im Alltag. Jüngere embodied-cognition Forschung zeigt, dass durch den physischen Akt Händewaschen robuste psychologische Phänomene weggewaschen werden können. Die zugrundeliegenden Prozesse des Wegwaschens psychologischer Effekte sind noch nicht hinlänglich geprüft. Die vorliegende Arbeit zielt darauf ab diesen Punkt zu beleuchten. Ich ging davon aus, dass Händewaschen als Hinweisreiz für Neuheit von Situationen wirkt und daher psychologische Zustände auf einen Ausgangswert zurücksetzt. Da situative Hinweisreize von Neuheit Routine induzierte Verzerrungen der Informationssuche stark beeinflussen, wurde ein Routine Paradigma benutzt, um zu untersuchen ob Händewaschen einen ähnlichen Einfluss hat. Menschen zeigen eine Verzerrung der Informationssuche zu konfirmatorischen Informationen, nachdem sie eine Routine erlernten. Diese Verzerrung verschwindet, wenn situative Hinweisreize von Neuheit ersichtlich sind. Händewaschen sollte daher ebenfalls eine konfirmatorische Verzerrung verringern, wenn es tatsächlich als situativer Hinweisreiz für Neuheit wirkt. Nach dem Erlernen einer Routine wuschen sich die TeilnehmerInnen in einem zwei Gruppen-Studiendesign entweder mit einem Alkohol basierten Handreiniger die Hände, oder sie rollten einen kleinen Ball zwischen diesen. In einer folgenden Informationssuchaufgabe untersuchte ich die Informationsakquise der TeilnehmerInnen. TeilnehmerInnen in der Händewaschen Bedingung sollten weniger einer konfirmatorischen Verzerrung unterliegen, als TeilnehmerInnen in der Kontrollbedingung. Im Gegensatz zu meinen Erwartungen unterschieden sich die Teilnehmer in beiden Bedingungen weder in ihrer Informationsakquise, noch in der Aufrechterhaltung ihrer Routine. Daher lassen die Ergebnisse der vorliegenden Arbeit vermuten, dass der erwähnte Einfluss von Händewaschen auf psychologische Effekte nicht dadurch erklärt wird, dass Händewaschen als situativer Hinweisreiz für Neuheit wirkt.

*Curriculum Vitae***RUBEN ADRIAN MAUÉ****Personal Details**

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 Nationality: German

Employment

10/2013 – 03/2015 University of Vienna, Vienna, Austria
 Faculty of Psychology, Department of Applied
 Psychology: Work, Education, Economy; *Applied
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Student research assistant

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10/2008 – University of Vienna, Vienna, Austria
Diploma in Psychology (Mag. rer. nat.)
 2005 – 2008 Veldenz Gymnasium, Lauterecken, Germany
Abitur (equivalent to A-Level)
 2001 – 2005 Burggymnasium, Kaiserslautern, Germany
 1998 – 2001 Paul-Schneider-Gymnasium, Meisenheim, Germany

Internships

05/2013 - 08/2013 University of Vienna, Vienna, Austria
 Faculty of Psychology, Department of Applied
 Psychology: Work, Education, Economy; *Applied
 Social Psychology and Consumer Research*
Research internship

Additional Skills

Languages: **German** (native); **English** (fluent); **Latin** (basic)
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 SMI BeGaze, Unipark, Adobe Photoshop

Personal Interests

Sports: biking, Jugger, hiking
 Social: movies, live-action-role-play, acting
 Other: reading, cooking