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When Consumers follow their Feelings: The Impact of Affective or Cognitive Focus on the Basis of Consumers' Choice

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Abstract

The authors assumed that automatic preferences based on lower order affective processes have a greater impact on choice when people focus on their affective response to choice options (affective focus) than when they try to find reasons for their preferences (cognitive focus).They further supposed that the impact of the focus during decision-making is less important when the cognitive resources of consumers are constrained. In an experiment, participants had to choose between two options while the cognitive or affective focus and processing resources were manipulated. Measures of automatic preferences correlated with choice under an affective, but not under a cognitive focus. In contrast to expectations, this effect of focus was not moderated by the manipulation of processing resources. Interestingly, the automatic measures contributed to the prediction of choice under an affective focus independently and apart from self-report measures.

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Imagine you are having a very busy working day. During the lunch break you hurry to the cafeteria and grab some snacks while already thinking about the jobs you still have to do. A few minutes later you find yourself back at your office with your favorite candy bar and a bottle of coke. In this case your choice was presumably based primarily on your gut feeling. A few days later most of the work has been done and you are back at the cafeteria. Again, you only want to have a small snack. After some thinking about what might be the best decision today, you choose a banana and a glass of milk because you conclude that this combination is good for your health. Thus, even if the choice alternatives are the same in both of these fictitious situations, you might come to a different decision depending on whether you rely on automatic preferences or whether you think about reasons for your choice. The purpose of this paper is to investigate, in the context of consumer choice, how the focus on either one's affective response to choice alternatives or on the reasons for a choice influences the relationship between automatic preferences and consumer choice.

Affective and Cognitive Focus in Consumer Judgments

Wilson and colleagues showed in many experiments that people move away from their immediate preferences when they try to find reasons for a choice. For example, Wilson and Schooler (1991) asked participants to taste different strawberry jams and evaluate them. Before participants made the evaluations, the experimenter asked half of them to analyze why they felt about each jam the way they did. Compared to participants in a control condition, people who analyzed their reasons differed significantly in their preferences for the jams. The processes that presumably

lead to changes in preferences when people deliberate are manifold. First, people who analyze reasons for their preferences may rely on more information than individuals who do not. Secondly, the process of assessing one's own preferences may be based on a distorted sample of information (Wilson, Dunn, Kraft, & Lisle, 1989). Thirdly, information that can be verbally expressed or information that is accessible in the specific context may have a stronger influence on preference judgments when people try to provide reasons for their choice. The use of such information as well as extended deliberation may also reduce the weight of attitudes in decision-making and weaken the consistency between attitudes and behavior. In three studies with different attitude objects, Wilson, Dunn, Bybee, Hyman, and Rotondo (1984) found that thinking about reasons reduced the correlation between attitudes participants indicated in questionnaires and measures of behavior or indirect measures of liking. For example, in their Study 2, people viewed different vacation scenes and were asked to indicate their liking of the pictures. When participants were not asked to think about reasons, the liking ratings correlated well with the pleasantness of their facial expressions, which were rated by hidden observers. However, when participants were asked to think about reasons, the correlation of liking ratings with facial expression decreased dramatically.

Other authors maintained that deliberation does not necessarily reduce the consistency between attitudes and behavior if different subcomponents of attitudes are taken into consideration. For example, Millar and Tesser (1986; 1992) argued that thinking about reasons why one likes or dislikes an object makes the cognitive component of an attitude salient. They proposed that behavior may be driven either cognitively or affectively, and assumed that attitudes that are measured under an affective or cognitive focus correlate with behavior when this is driven by the

respective focus (cf. also Zanna & Rempel, 1988). In line with this assumption, they found in an experiment that behavior performed for instrumental purposes correlated with the cognitive component of an attitude measure, while behavior performed for consumption purposes correlated with the affective component of an attitude measure. Kempf (1999) indicated that the reliance on affective or cognitive information may also be induced by the type of product. She argued that utilitarian product evaluations are more likely to be based on cognitive aspects, while hedonic products are more likely to be evaluated on the basis of affective reactions.

Higher Order and Lower Order Processes

Shiv and Fedorikhin (1999) showed the importance of the cognitive-affective distinction for consumer decision-making by varying the amount of processing resources and the cognitive or affective superiority of two available alternatives, chocolate cake and fruit salad. They found that most participants chose the chocolate cake (superior on the affective dimension) when being cognitively busy, and the fruit salad (superior on the cognitive dimension) when cognitive recourses were not constrained. Shiv and Fedorikhin (2002) argue that when processing resources are constrained, behavior is driven by lower order processes which constantly monitor the environment for events of affective significance. Referring to the work of Wyer, Clore, and Isbell (1999), they propose that these lower order processes may elicit affective reactions that lead to action tendencies to approach or avoid a stimulus. The concept of implicit attitudes as discussed by Wilson, Lindsey, and Schooler (2000), or Strack and Deutsch (2004) is also related to such lower order processes and the underlying memory structures. Wilson et al. (2000), for instance, regard implicit attitudes as evaluations that are activated automatically and influence people’s responses that they do not attempt to or cannot control (see also Greenwald

& Banaji, 1995). Implicit or automatic attitudes in this sense are based on lower order, associative processes that do not require much cognitive effort or control.

All the mentioned models assume that automatic processes influence judgments and behavior, but they also agree that controlled or strategic cognitive processes may determine judgments and behavior, as well. Controlled processes cover the cognitive appraisal of a situation (Pham, Cohen, Pracejus, & Hughes, 2001), as well as the application of knowledge or inferences that take more time to retrieve from memory and to apply (Smith & DeCoster, 2000). Pointing to such controlled processes, Wilson et al. (2000) posit that the effect of an automatically activated (implicit) attitude can be overridden by an explicit attitude based on more controlled processing. Similarly, Shiv and Fedorikhin (2002) argue that information relevant to the attitude object is also subject to more deliberative processes when the cognitive capacity of people is sufficient and when they are motivated to deliberate (see also Fazio, 1990; Fazio & Towles-Schwen, 1999; Strack & Deutsch, 2004).

The distinction between lower order and higher order processing seems to be especially apparent when the two processes imply contrary action tendencies. The research of Shiv and Fedorikhin (1999) illustrates such effects. As has already been mentioned, they offered participants the opportunity to choose between a chocolate cake and a fruit salad and found that participants were more likely to choose the cake when cognitive resources were limited. Presumably, lower order processes initiated an immediate positive affective response to the chocolate cake, whereas higher order processes revealed that the chocolate cake is less healthy than the fruit salad. As a result, the preferences may have changed when participants had time to think about their choice.

However, it is also reasonable to assume that under certain circumstances lower order affective reactions can have an impact on decisions when cognitive resources are not constrained (cf. Forgas, 1995; Giner-Sorolla, 1999; Pham, 2004; Schwarz & Clore, 1983). Some indications to that effect stem from the studies of Wilson and colleagues (e.g., Wilson et al., 1989). In these studies, the researchers varied whether participants had to provide reasons for their choice or not, without varying their cognitive constraints. In the conditions in which people did not have to provide reasons for their choice, cognitive resources were not limited, and participants in these conditions clearly relied on their affective responses anyway.

The experiments of Shiv and Fedorikhin (2002) also provide evidence that people who have enough time to think about their decision rely on their affective reactions under certain conditions. In some of their experiments, Shiv and Fedorikhin not only varied the decision time, but also the time participants were exposed to a stimulus. In Experiment 2, for instance, they asked participants to choose between tomato soup and pizza, the former associated with more positive thoughts, but less positive affect. They found that participants who had enough time for their decisions were much more likely to choose the pizza when they were exposed to the two options for a long time than when the exposure was short. Presumably, participants who were exposed to the soup and the pizza for a longer time relied more on their affective response. The presence of the affect-laden choice option may have shifted the focus from thoughts to affect.

Mischel and his colleagues (Mischel & Ebbesen, 1970; Mischel, Ebbesen, & Zeiss, 1973) found in several studies that children who were exposed to a reward (e.g., cookies) were less likely to accept a delay of gratification for a superior reward (e.g., more cookies at a later point of time). Interestingly, a study of Mischel et al.

(1973) furthermore showed that this effect was strengthened when the children had more time to think about the affect-laden gratification (see Metcalfe & Mischel, 1999, for a further discussion). It seems that the approach motivation elicited by the affective focus was so strong when the children had time to think about the affect-laden reward that they found it difficult to accept receiving the gratification at a later time.

To sum up, previous research points to two important variables influencing the correlation between responses that are driven by lower order processes and choice: cognitive constraints and the focus during decision making. The studies of Shiv and Fedorikhin (1999) demonstrated that people prefer a choice alternative that is superior on affect when their cognitive resources are constrained. The studies by Wilson et al. (1989), Shiv and Fedorikhin (2002), and Mischel et al. (1973) suggest that behaviour is driven by a lower order mechanism when people focus on their affective response.

The Study

The present study examines a specific correlate of lower order processes: automatic preferences. Automatic preferences are based on strong associations that are learned through experience (Betsch, Plessner, & Schallies, 2004; Olson & Fazio, 2001), and are related to an automatic, uncontrolled positive or negative evaluation and a tendency to approach or avoid a stimulus (e.g., to choose or reject a product). It was expected that the correlations between measures of automatic preferences and choice would vary depending on the constraint on processing resources and the cognitive or affective focus of participants. As a choice task a similar paradigm as Shiv and Fedorikhin (1999; 2002) was applied. People could choose between an apple and chocolate while the focus and the cognitive constraints of participants were

manipulated. Automatic preferences were assessed by two different versions of the Implicit Association Test (IAT, Greenwald, McGhee, & Schwartz, 1998): one was designed to assess the relative strength in automatic evaluation, the other to measure the relative strength of the association of a choice alternative with the individual self. Both measures were previously applied in consumer research to assess consumer attitudes and consumer brand relations implicitly (e.g., Brunel, Tietje, & Greenwald, 2004; Maison, Greenwald, & Bruin, 2001; 2004). Since it was assumed that people automatically prefer objects that are positively evaluated and associated with the self, both IAT variants are referred to as measures of automatic preferences.

In the present study, it is assumed that the correlation between automatic preferences and choice will be stronger when the cognitive resources are constrained than when they are not constrained. However, the focus should be less important when the cognitive resources are constrained. It can be assumed that in this case lower order processes determine choice and that there is not enough capacity for higher order processes elicited by a cognitive focus. Thus, under cognitive constraints high correlations can be expected independently of the focus manipulation.

Hypothesis 1: When cognitive resources are not constrained by a distraction task, the correlations between choice and the IAT measures are higher when people focus on their affective response than when they try to find reasons for their choice during decision-making.

Hypothesis 2: When cognitive resources are constrained by a distraction task, choice and the IAT measures are correlated and the effect of a cognitive or affective focus on the strength of correlations is reduced.

In addition, it is assumed that the effect of lower order affective processes cannot be adequately assessed by self-report measures, because these also reflect higher order appraisal processes (Pham et al., 2001). For instance, the cognitive appraisal that chocolate is bad for the teeth could elicit a negative affect that is not necessarily related to lower order affective responses towards chocolate. Therefore, the authors supposed that the hypothesized relation between the IAT measures and choice is to some degree independent from the relationship between choice and self-report measures assessing the affective or cognitive appraisal of the choice options.

Hypothesis 3: The hypothesized correlation pattern between the IAT measures and choice is to a significant degree independent from the correlation patterns between self-reported measures of the affective and cognitive appraisal of the choice options.

This study extends previous research in two aspects. First, the authors are not aware of any study that manipulated the affective or cognitive focus and measured the correlation between automatic preferences and choice. Shiv and Fedorikhin (1999; 2002), for instance, examined whether participants were more likely to choose an alternative that was superior on a cognitive dimension or one that was superior on an affective dimension. They did not measure the individual differences in preferences for the alternatives. There are a few studies that manipulated the focus of participants and measured the attitude-behavior correlations (e.g., Wilson et al., 1984). However, these studies used mostly self-reported measures or, in one case, facial responses. In addition, the present study examined the effect of cognitive constraint and focus in a single design. This made it possible to test whether the effect of the focus depends on cognitive resources.

Method

Participants and Design. Ninety-seven students of the University of Münster (81 female, 16 male) were randomly assigned to one of four conditions of the 2 (focus: affective vs. cognitive) X 2 (distraction: high vs. low) design. The mean age was 22.74 (ranging from 19 to 50 years). Students were rewarded for participating with either 3 Euros or course credit. In addition, they could choose between an apple and a chocolate bar.

Procedure. The experiment was conducted entirely on personal computers. In addition to the focus manipulation, a manipulation of processing resources was applied at the beginning of the experiment. After the two manipulation tasks, participants made a choice between chocolate and fruit. Afterwards, they completed the self-reported and automatic preference measures. At the end of the experiment, they were given their previously chosen snack. The self-reported and automatic measures were applied after the choice task to avoid priming a certain decision or a cognitive decision mode with the questionnaire for the self-report measures and the IAT-tasks. In particular, the automatic preference measures should not differ meaningfully if performed before or after the choice.

Manipulation of processing resources. To manipulate processing resources during choice, a procedure from Gilbert, Pelham, and Krull (1988) was adapted. One half of participants was asked to memorize a six-digit number (distraction), whereas the other half was requested to memorize a one-digit number (no distraction). To familiarize participants with this task, all were asked to memorize a four-digit number at the beginning of the experiment and then to spell their first name backwards. After that, they had to enter the number that was previously presented.

Focus manipulation. To manipulate the affective and cognitive focus, one group of participants (affective focus) was instructed to imagine a situation in which they would really enjoy eating a bar of chocolate or fruit and to think about which of the two snacks would make their mouth water more. Furthermore, they were asked to close their eyes and to take a moment to imagine the taste of chocolate or fruit. The other group (cognitive focus) was also instructed to think about their preference for one of the snacks, and, unlike the other group, to carefully analyze their reasons and to list at least five arguments concerning the snacks. The processing time for both conditions was limited to 90 seconds.

Measures

Automatic preferences. Two different versions of the IAT (Greenwald et al., 1998) were applied to measure automatic preferences. One IAT was tailored to assess the relative strength in evaluative preferences of fruit and chocolate (pleasant-unpleasant IAT; cf. Maison et al., 2004). The other one was constructed to measure the relative strength of the association of fruit or chocolate with the self (self-other IAT; cf. Brunel et al., 2004).

Following Greenwald et al. (1998), both IATs consisted of five blocks. In the initial block of the pleasant-unpleasant IAT, participants worked on a picture discrimination task. Ten unambiguous positive or negative pictures had to be assigned to the categories “pleasant” or “unpleasant.” Participants were asked to press the key “A” with the left hand when an unpleasant picture appeared on the screen and the “5” of the numeric keypad with the right hand when a pleasant picture appeared. In the next block, a discrimination task followed in which 10 pictures of fruit or chocolate appeared on the screen and had to be classified with the two keys to the categories “fruit” or “chocolate.” Then, a combined classification task followed. In 50

trials, either pleasant or unpleasant pictures or pictures of fruit or chocolate were presented and participants had to distinguish between the four concepts using the two response keys introduced in the previous tasks. Thus, in this block the correct response to two concepts was assigned to one response key and the correct response to the other concepts to the other response key (e.g., right key: pleasant + fruit, left key: unpleasant + chocolate). After the first combined classification task, a reversed classification task for the target concepts fruit vs. chocolate followed. Participants again had to distinguish between pictures of fruit and chocolate, but the assignment of the response keys switched. For example, if participants first had to press the left key for fruit, they now had to press the left key for chocolate. The final block consisted of a reversed combined classification task in which participants had to distinguish between all four concepts but using reversed keys for fruit and chocolate. In all blocks, the presented pictures were randomly selected. There were 15 positive and 15 negative pictures, and 16 pictures of fruit and 16 pictures of chocolate. It was varied whether chocolate was assigned first to the right key and fruit to the left key, or whether the opposite assignment was used first.

The self-other IAT was identical to the pleasant-unpleasant IAT, with the exception that instead of positive and negative pictures, five self-related words (e.g., me, mine) and five other-related words (e.g., others, they) were used. The corresponding categories were “self” and “other” instead of “pleasant” and “unpleasant.”

Preparation of data for statistical analyses followed the procedure recommended by Greenwald, Nosek, and Banaji (2003). To devise a measure for associative strength, the differences between the combined classification blocks were computed for both versions of the IAT. However, before that, the first two trials

of each block were eliminated, because after clicking the “start” button with the mouse, participants first needed to find the keys, and the reaction time on these trials was therefore often slow. Furthermore, the latencies of error trials were replaced by the block mean plus two standard deviations. Applying this procedure, a self-other IAT score and a pleasant-unpleasant IAT score were computed. Higher values indicate a stronger automatic preference for chocolate or a stronger association of chocolate with the self, lower values indicate a stronger automatic preference for fruit or a stronger association of fruit with the self.

Self-reported appraisal of the choice options. Self-reported appraisal of the choice options was measured with sixteen unipolar 9-point-scales. Participants were asked to indicate how much several adjectives apply to chocolate or fruit (1= not at all; 9 = very much). Half of the adjectives were related to affective aspects of the choice options (tasty, nutty, delicious, appetizing, repellent, unsavory, disgusting, unappetizing), the others were related to more cognitive aspects (healthy, digestible, salubrious, natural, unhealthy, harmful, unnatural, unwholesome). Furthermore, half of the adjectives were positive, the others negative. The ratings were combined into single scales for chocolate (affective appraisal: Cronbach alpha = .87; cognitive appraisal: Cronbach alpha = .79) and for fruit (affective appraisal: Cronbach alpha = .85; cognitive appraisal: Cronbach alpha = .68). To build a relative measure for the self-reported appraisal, the differences between the two affective appraisal scales and between the two cognitive evaluation scales were computed. Positive values indicate a more positive appraisal of chocolate as compared to fruit.

Choice. After participants analyzed their reasons or focused on their feelings concerning chocolate or fruit, they clicked a button on the screen to proceed. They then read that they had the opportunity to choose between two snacks as a reward

for their participation. The two options were represented on the screen with two big pictures and an assigned value of 30 Cents each. Participants made the choice by clicking on one of the two pictures.

Basis of Choice. Participants had to indicate on seven point bipolar scales (adapted from Shiv & Fedorikhin, 1999) if their decision was driven by thoughts vs. feelings, willpower vs. desire, prudent self vs. impulsive self, rational side vs. emotional side, and head vs. heart. The items were combined into a single scale (Cronbach Alpha = .91). Higher values indicate a more affect-driven decision.

Results

Basis of Choice

In a first step, it was analyzed whether the focus manipulation and the manipulation of processing resources with the distraction task had an impact on the perceived basis of the choice. As expected, participants in the affective focus condition perceived their decision as more affect-laden (M = 5.09, SD = 1.32) than participants in the cognitive focus condition did (M = 4.62, SD = 1.41), $F(1, 93) = 2.87$, $p < .05$, one-tailed. The manipulation of processing resources had no effect on the perceived basis of choice, $F(1, 93) < 1$, *ns*. Also, the interaction between the two experimental manipulations was not significant, $F(1, 93) < 1$, *ns*.

Correlations between IAT-measures and Choice

It was hypothesized that the focus manipulation moderates the correlation between the IAT measures and choice when cognitive resources are not constrained by the distraction task (Hypothesis 1). The inspection of the correlation patterns supported this assumption (Table 1).

[Insert Table 1 about here]

In the condition with no cognitive constraints, choice was significantly correlated with the self-other IAT, $r(24) = .58$, $p < .01$, and the pleasant-unpleasant IAT, $r(24) = .61$, $p < .01$, when participants were asked to focus on their affective response, but the correlations of choice with the self-other IAT, $r(25) = .19$, *ns*, and the pleasant-unpleasant IAT, $r(25) = .14$, *ns*, were not significant when participants were asked to think about reasons for their choice. This difference is significant as regards the correlations of choice with the pleasant-unpleasant IAT, $z = 1.86$, $p < .05$, one-tailed, and marginally significant as regards the correlations of choice with the self-other IAT, $z = 1.54$, $p < .10$, one-tailed.

In the distraction condition, high correlations of choice and the IAT measures were expected, in any case. However, the correlations of choice with the self-other IAT were again moderated by the focus manipulation. In the distraction condition, the correlations of choice with the self-other IAT were significant in the affective focus condition, $r(24) = .47$, $p < .05$, but not in the cognitive focus condition, $r(24) = -.04$, *ns*. The difference between the correlations was significant, $z = 1.80$, $p < .05$, one-tailed. In the condition with cognitive constraints, the correlations of choice with the pleasant-unpleasant IAT were not significant either when participants were asked to focus on their affective response, $r(24) = .08$, *ns*, or when they were asked to think about reasons for their choice, $r(24) = .17$, *ns*. Thus, the results did not confirm the hypothesis that the constraint of cognitive resources enhances the correlation between choice and IAT-measures (Hypothesis 2).

Neither in the distraction condition nor in the no-distraction condition did the correlations of choice with the cognitive or affective appraisal (Table 1) differ significantly when participants focused on affect as compared to when they focused

on reasons for their preferences, *z*s < .44, *ns*. There were no hypotheses concerning these correlations.

Prediction of Choice by IAT-measures and Self-reported Appraisal

To test whether the IAT-measures were still correlated with choice when controlling for the correlation between choice and self-reported appraisals of the choice options, logistic regressions analyses with choice as the dependent variable were computed. Table 2 presents an overview of the results of these analyses.

[Insert Table 2 about here]

The first regression equation included the two experimental manipulations, the IAT-measures, and the self-report measures as predictors. In this equation, only the affective appraisal of the choice options remained significant, $\beta = .87$, $\chi^2(N = 97) = 8.27$, $p < .01$. Thus, overall the best predictor of choice was the affective appraisal of the choice options. All other variables were not significant, $\chi^2(N = 97) < 2.45$, *p*s > .10. The second regression equation included all main effects and also all two-way interactions between the IAT-measures and the two experimental manipulations, the two-way interactions between the self-report measures and the two experimental manipulations, and the interaction between the two experimental manipulations. In this equation, the interaction between the focus manipulation and the self-other IAT measure was significant, $\beta = 3.53$, $\chi^2(N = 97) = 3.89$, $p < .05$. Thus, the finding that the correlation between choice and the self-other IAT was stronger when participants were asked to focus on their affective response than when they were asked to think about reasons for their preference was not substantially weakened by the consideration of the self-reported appraisals. All interactions other than the interaction between the self-other IAT and focus were not significant in this equation, $\chi^2(N = 97) < 2.37$, *p*s > .18.

In the third step, the three-way interactions between the focus manipulation, the manipulation of cognitive constraint, and each IAT and self-report measure were included in the regression equation. The three-way interactions were not significant $\chi^2(N = 97) < 3.06$, *p*s > .07.

Further analyses

Since the interaction between the focus manipulation and the self-other IAT was significant in the reported logistic regression analysis, the authors examined further the contribution of the different measures to the prediction of choice in the two focus conditions. The regression equations included all IAT and self-report measures as predictors (see Table 3 for an overview).

[Insert Table 3 about here]

Choice was the dependent variable. For the cognitive focus condition, the results were similar to the overall analysis. Only the affective appraisal was a significant predictor of choice, $\beta = .81$, $\chi^2(N = 49) = 4.71$, $p < .05$. All other predictors were not significant, $\chi^2(N = 49) < 1$, *p*s > .70. In contrast, in the affective focus condition, the self-other IAT was of greater importance, $\beta = 3.38$, $\chi^2(N = 48) = 5.41$, $p < .05$, and the unique contribution of the affective appraisal was no longer significant, $\beta = 1.19$, $\chi^2(N = 48) = 3.31$, $p = .07$. Also, the other predictors were not significant, $\chi^2(N = 49) < 1.65$, *p*s > .19. Thus, this analysis supports the hypothesis H3: under an affective focus, the relation between the self-other IAT and choice was still significant when controlling for the self-report measures.

Discussion

Previous research has shown in numerous experiments that people who think about plausible reasons for their choice move away from their spontaneous preferences (e.g., Wilson & Schooler, 1991) or switch from an affectively-based to a

cognitively-based choice (e.g., Shiv & Fedorikhin, 1999; 2002). An explanation for this phenomenon is that cognitions and higher order affective appraisals have a greater influence on choice when people focus on reasons for their choice, while the impact of automatic preferences is stronger when people focus on their affect. Support for this reasoning was provided by studies using experimental designs where most participants preferred a certain product superior on cognitive dimensions in one condition, and another product superior on affective dimensions in a second condition (Shiv & Fedorikhin, 1999; 2002). However, previous studies did not take into account that people differ in their automatic preferences that are driven by lower order processes. In order to complement existing research, the present study applied two variants of the implicit association test to measure automatic preferences and examined the influence of an affective or cognitive focus during decision making on the correlation between automatic preferences and choice.

In support of the hypotheses, it was found that the IAT measures applied to capture automatic preferences were correlated to choice more strongly when participants were asked to focus on their affective response to the choice options than when participants were asked to think about reasons for their preferences. Furthermore, in line with the hypotheses it was found that the pattern of correlations between the self-other IAT and choice was not changed substantially when controlling for the self-reported appraisal. Thus, the results indicate that there is a meaningful variability in automatic preferences, and that this variability in automatic preferences is related to choice when people focus on their affect.

The finding that under a cognitive focus the self-reported affective appraisal was the best predictor of choice is in line with the assumption that feeling-based evaluations may be determined not only by lower order mechanisms as automatic

preferences, but also by thinking processes. Several authors have argued in this sense that the source of feelings can be higher or lower order processes. For example, Pham et al. (2001) have differentiated between sources of feelings that are based on innate response programs (e.g., response to spoiled food), on learned associations (e.g., through conditioning), or on controlled appraisals. Automatic preferences can presumably be triggered by the mapping of stimulus features onto innate or acquired schematic structures, whereas individuals' responses on self-report scales are more likely to be based also on a controlled and elaborative cognitive appraisal.

The present experiment supported the assumptions regarding the impact of an affective or cognitive focus during decision-making. However, the manipulation of cognitive constraints did not affect the relation between automatic preferences and choice. The results did not confirm the hypothesis that the correlation between the IAT measures and choice would be enhanced under cognitive constraints in any focus condition. Indeed, the applied distraction task neither enhanced the correlations between choice and the IAT measures nor moderated the impact of the focus manipulation. This result seems to be astonishing because other authors (e.g., Shiv & Fedorikhin, 1999) reported that the limitation of cognitive resources may lead people to more affect-laden decisions. The task that has been applied in this experiment to distract people in one condition has been successfully used in many experiments (e.g., Gilbert et al., 1988). Therefore, the missing effects of the manipulation of cognitive constraints cannot be attributed to the task itself. Rather, it is possible that a cognitive focus in the present experiment elicited thoughts that arose without much cognitive effort. The cognitive focus may have activated appraisals about the choice options very quickly (e.g., chocolate is bad for the teeth)

and, thus, the immediate preference based on associative processing may have been overridden also when participants in the distraction condition were hindered from processing information extensively. However, the present study does not allow generalizing this finding to different choice contexts. Indeed, it is reasonable to assume that in some situations the effect of a limited processing of information could be different. For instance, the correlations between automatic preferences and choice could differ between conditions of high or low cognitive constraints when the choice options are more complex (e.g., choice between menus). When choosing between more complex options, people may experience an immediate preference for one of the options based on a holistic perception. This immediate preference might influence decisions especially under cognitive constraints. A cognitive appraisal of complex options takes more time to be constructed because people have to integrate different pieces of information (e.g., “Do I like all the ingredients?,” “Do all the components fit together?”) and, thus, it should have a greater effect on choice when there is sufficient cognitive capacity.

An interesting finding of the present study is the differential predictive value of the two IAT measures. The regression analyses showed that the self-other IAT predicted choice under an affective focus not only better than the self-report measures, as was expected, but also better than the positive-negative IAT. At first glance, this finding is surprising. For example, Greenwald et al. (2002) propose in the unified theory of implicit attitudes that objects that are related to the self are also positively evaluated and, indeed, self-other IATs and pleasant-unpleasant IATs are often highly correlated (Brunel et al., 2004). However, one explanation for the differential predictive validity of the two IAT versions may be that the pleasant-unpleasant IAT, more so than the self-other IAT, is determined also by associations

that individuals have learned from their environment but that do not reflect their personal preferences. A person might have a very strong implicit preference for chocolate while also having experienced that in her or his environment fruit is regarded very positive. Indeed, Olson and Fazio (2004) have recently argued that the pleasant-unpleasant IAT reflects, at least to some degree, such "extrapersonal associations" (p. 655) which stem from knowledge about preferences in the social environment (see also Karpinski & Hilton, 2001).

It seems plausible that the memory of an individual represents evaluations based on personal experiences, likes and dislikes, as well as knowledge about the preferences and associations in society (e.g., reference groups and the media). Consequently, it also seems reasonable that both kinds of associations may be the base of the responses in the pleasant-unpleasant IAT. However, this should be less true for the self-other IAT for which the relation to the individual self is clear and which is supposed to assess connections between products or brands and the self (Brunel et al., 2004). Also, several recent studies showed that "individualized versions" of the IAT lead to better prediction of individual behavior (Han, Olson, & Fazio, in press; Olson & Fazio, 2004). As is the case for the self-other IAT, in these individualized IAT versions the relation to the individual is made clearer by the used categories. While the self-other IAT uses target categories like fruit and chocolate and the categories self and other, individualized IATs rely on target categories and on the categories "I like" and "I don't like" in distinguishing between stimuli that have subjectively a positive or negative meaning.

Implications for Marketing and Perspectives for Future Research

A managerial implication of the present study is that marketers and brand managers should take into consideration how their customers decide between

different choice options. If customers focus on their affect during decision-making, as is the case for many fast-moving consumer products and food, managers should highlight or promote product characteristics that elicit immediate positive responses (e.g., by pictures on the packaging). If customers try to find considered reasons for their choice, managers should make the argument-based advantages of their product clear. To find out if their customers will be more likely to focus on affect or on reasons, managers should carefully analyze people's buying motivations. Since it is plausible to expect a cognitive focus for instrumental behavior and an affective focus for consumatory behavior (Kempf, 1999; Millar & Tesser, 1986; 1992), one possibility is the analysis of whether a choice is performed for instrumental or consumatory reasons. Such an analysis of motivation could be done by the use of scales that differentiate between the hedonic and utilitarian character of product categories (e.g., Voss, Spangenberg, & Grohmann, 2003), or by planning tools like the "product color matrix" (PCM; e.g., Spotts, Weinberger, & Parsons, 1997).

Furthermore, applied market research should take into account the focus of consumers during decision-making. Up to now, most market research has used self-report measures capturing either cognitive or affective appraisals that are based on higher order processes (Zaltman, 1997). Lower order processes have been neglected to a large degree. If consumer decisions are made mainly under an affective focus, the results of market research based on self-report measures may be misleading. Since one cannot expect measures that require effortful processing to predict behaviors with a strong automatic or spontaneous basis (Vargas, 2004), it is surprising that methods that capture lower order processes are not widespread in market research. This is even more astonishing if one takes into account that in scientific marketing research, response time methods have been used for more than

two decades (e.g., Aaker, Bagozzi, Carman, & MacLachlan, 1980). Applications in the academic area include the assessment of associative strength between a brand and the respective product category (Florack & Scarabis, in press), the examination of interference processes for brand names (Hennessey, Bell, & Kwortnik, 2005), or a measure of spokesperson effectiveness (Burroughs & Feinberg, 1987).

Limitations of the Present Study

One reason why market research is less concerned with the measurement of automatic preferences might be the complexity of choice in real consumer settings. The present study, as well as other recent studies (e.g., Shiv & Fedorhikin, 1999; 2002), is limited to a dual choice in a controlled context with less complexity than real life situations. For the present case, this concentration on two choice options was helpful in examining correlations between automatic preferences and choice. More complex choices make the measurement of automatic preferences with the IAT or other measures more difficult. However, most choices in real consumer contexts include decisions between much more than two possible alternatives. Therefore, it is a challenge for future research to apply methods that can be used for the assessment of automatic responses to multiple choice options. Indeed, there are already methods available to assess automatic preferences towards multiple alternatives. However, most of them are difficult to apply and make great demands on participants. For example, the reliable application of priming methods (e.g., Frings & Wentura, 2003) to measure affective evaluations of multiple choice options would require hundreds to thousands of responses by a vigilant participant. Neuropsychological methods often require expensive apparatus and are also difficult to apply in complex choice settings. Considering the importance of lower order processes for choice, the field of marketing and market research would gain a lot

from the further development of measures that capture automatic preferences with the main goal of making them suitable for complex choice settings.

Conclusion

In line with previous research, the current study shows that the focus during decision making has a considerable impact on consumer choice. In particular, the current findings suggest that people rely more on automatic preferences that are independent from higher order appraisals when they focus on their affective responses than when they think about advantages and disadvantages of choice options. Although there was no effect of a distraction manipulation on the correlation between the measures of automatic preferences and choice, the current findings do not allow for drawing conclusions about the importance of the cognitive constraints on the use of automatic preferences in choice. The choice task in this study was simple. Cognitive constraints could be of greater importance in more complex choice situations.

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Table 1

Intercorrelations of the IAT and Self-report Measures with Choice for Distracted and Non-Distracted Participants in the Affective and Cognitive Focus Conditions

	Self-Other IAT	Pleasant-Unpleasant IAT	Affective Appraisal	Cognitive Appraisal
	No Distraction (n = 49)			
Choice				
Affective Focus	.58**	.61**	.45*	.29
Cognitive Focus	.19	.14	.36	.24
	Distraction (n = 48)			
Choice				
Affective Focus	.47*	.08	.47*	.07
Cognitive Focus	-.04	.17	.43*	.20

** p < .05; ** p < .01*

Table 2

Logistic Regression Analysis for the Prediction of Choice (N = 97)

Predictor	β	*SE* β	*p*
Step 1			
Focus (X_1)	.02	.48	.97
Distraction (X_2)	-.42	.49	.39
IAT (self-other) (X_3)	1.11	.71	.12
IAT (pos. neg.) (X_4)	.10	.50	.85
Appraisal (affective) (X_5)	.87**	.30	.004
Appraisal (cognitive) (X_6)	.21	.20	.29
Step 2			
$X_1 \cdot X_2$	-1.65	1.08	.13
$X_1 \cdot X_3$	-3.53*	1.79	.05
$X_1 \cdot X_4$	-.40	1.12	.72
$X_1 \cdot X_5$	-.31	.79	.69
$X_1 \cdot X_6$	-.26	.46	.57
$X_2 \cdot X_3$	.98	1.67	.56
$X_2 \cdot X_4$	-1.16	1.16	.32
$X_2 \cdot X_5$	.43	.67	.53
$X_2 \cdot X_6$	.18	.44	.67
Step 3			
$X_1 \cdot X_2 \cdot X_3$	-2.87	4.01	.48
$X_1 \cdot X_2 \cdot X_4$	4.74	2.71	.08
$X_1 \cdot X_2 \cdot X_5$	-.86	1.89	.65
$X_1 \cdot X_2 \cdot X_6$	-.80	1.09	.46

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

Table 3

Logistic Regression Analysis for the Prediction of Choice (N = 97) for the Affective and Cognitive Focus Condition

Predictor	β	*SE* β	*p*
Affective Focus (n = 48)			
IAT (self-other)	3.38*	1.45	.02
IAT (pos. neg.)	.47	.81	.57
Appraisal (affective)	1.20	.65	.07
Appraisal (cognitive)	.47	.37	.20
Cognitive Focus (n = 49)			
IAT (self-other)	-.04	.87	.96
IAT (pos. neg.)	-.20	.69	.78
Appraisal (affective)	.81*	.37	.03
Appraisal (cognitive)	.06	.25	.82

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