Is it better to think unconsciously or to trust your first impression?

A reassessment of Unconscious Thought Theory

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Abstract

According to Unconscious Thought Theory (Dijksterhuis & Nordgren, 2006), complex decisions are best made after a period of distraction assumed to elicit "unconscious thought". Here, we suggest instead that the superiority of decisions made after distraction results from the fact that conscious deliberation can deteriorate impressions formed online during information acquisition. We found that participants instructed to form an impression made better decisions after distraction than after deliberation, thereby replicating earlier findings. However, decisions made immediately were just as good as decisions made after distraction, which suggests (1) that people had already made their decision during information acquisition, (2) that deliberation-without-attention does not occur during distraction, and (3) that ruminating about one's first impression can deteriorate decision quality. Strikingly, in another condition that should have favored unconscious thought even more, deliberated decisions were better than immediate or distracted decisions. These findings were replicated in a field study.

Keywords: unconscious thought, conscious thought, first impression, decision making, indecisiveness

When faced with a complex decision, such as choosing an apartment or buying a new car, should we refrain from thinking and let the unconscious decide for us? That is exactly what proponents of "Unconscious Thought Theory" (UTT: Dijksterhuis & Nordgren 2006) have recently recommended through a series of studies suggesting that decisions are enhanced when people's attention is diverted from conscious deliberation, for instance by asking them to solve anagrams rather than to think about the problem (Dijksterhuis, 2004; Dijksterhuis, Bos, Nordgren & Van Baaren, 2006).

While the notion that avoiding too much conscious deliberation when making choices has both intuitive appeal as well as experiential validity, UTT goes even further by ascribing superior information processing capacity to the cognitive unconscious. Moreover, unconscious thought is defined as a complex, time consuming (Dijksterhuis, 2004) and goal-dependent mechanism (Bos, Dijkterhuis, & van Baaren, 2008), rather than a fast, automatic process (e.g., Sloman, 1996). Thus, UTT depicts the unconscious as a "sophisticated" system, endowed with greater capacity and less susceptible to bias than the conscious system (Gonzales-Vallejo et al., 2008; see also Lewicki, 1992; Loftus & Klinger, 1992).

UTT's claim that complex decisions are best made without conscious thought thus contradicts most classical models of decision making (e.g., Dawes & Corrigan, 1974), which state that optimal decisions require deliberation (i.e., explicitly pondering the positive and negative aspects of each option). Perhaps because of this, the theory has attracted considerable interest (e.g., Dijksterhuis et al., 2006) and much controversy (Acker 2008; Gonzales-Vallejo, Lassiter, Bellezza & Lindberg, 2008; Lassiter, Lindberg, Vallejo, Bellezza & Phillips, 2009; Newell, Wong, Cheung & Rakow, 2009; Payne, Samper, Bettman & Luce, 2008; Rey, Goldstein & Perruchet, 2008).

Here, we challenge UTT's assumptions by suggesting that the purported advantages of "unconscious thought" result not from the superiority of unconscious information processing, but rather from the fact that too much deliberation can actually deteriorate high-quality first impressions. Thus, although we replicate the results of Dijkterhuis et al. (2006), we show that they can be explained more parsimoniously in terms of first impressions formed during information acquisition, that is, before participants are distracted or allowed to deliberate about the decision. Indeed, although we found that conscious thought can deteriorate the quality of decisions when a first impression is available, we also observed that conscious thought enhances the quality of decisions in the absence of such prior first impressions. We demonstrated this pattern of results both in a laboratory experiment, in which the quality of decision was defined normatively, and in a field study, in which we examined shoppers' satisfaction after a complex purchase.

The structure of the UTT decision task

The core demonstration of UTT's purported superiority of unconscious vs. conscious decision- making is based on the following paradigm: Prior to information acquisition, participants are instructed to form an impression of the choice objects (pre-acquisition instructions). Next, information about three or four objects such as cars or apartments, amongst which one is characterized by more positive features than the others (typically 9, 6, 6 and 3 positive features amongst 12), is presented to participants (information acquisition). During a subsequent "post-acquisition period", participants either perform a distraction task, hypothesized to elicit unconscious thought, or have to deliberate about their decision for a fixed amount of time (typically four minutes) during which they cannot consult the information anymore. Finally, participants assess the alternatives.

In a series of previous studies, we explored this paradigm extensively and found, congruent with prior research (McConnell, Sherman & Hamilton, 1994), that the pre-

acquisition instructions given to participants ("form an impression") promote online judgments (see: Hastie & Park, 1986). Indeed, in a post-task questionnaire, 69.5% of participants reported that they had already made their decision towards choice objects during information acquisition (Waroquier, Klein, Marchiori & Cleeremans, 2008 ; see also Waroquier, Marchiori, Klein & Cleeremans, accepted pending revision). This finding prompted us to question the validity of the standard UTT decision task. Indeed, according to UTT, activation of a decision goal is required for "unconscious thought" to take place. Bos et al. (2008) showed that in the absence of a goal, distraction did not result in better decisions. In other words, if people have already committed to a choice before distraction takes place, unconscious thought should not occur since the goal of "forming an impression" is already completed. Moreover, online decisions do not meet the criteria for "unconscious thought", for it is assumed not to operate during information acquisition, but rather only after information has been acquired consciously (Dijksterhuis, 2004).

Based on these considerations, we therefore decided to manipulate the extent to which people can form first impressions during information acquisition by modifying task instructions. One condition replicated the original task: Participants were instructed to "form an impression" before receiving the information. In the other condition, we instructed participants to memorize alternatives' attributes (see also Lassiter et al., 2009). Crossed with the processing instructions, we assigned participants to one of three post-acquisition conditions (immediate vs. deliberation vs. distraction). In one condition, participants immediately reported their attitude after information had been presented, whereas in the two other conditions, they were either asked to consider their decision or to solve anagrams before reporting their attitudes. Importantly, after information had been presented, but before engaging in the post-acquisition period, participants were informed that they would have to assess the alternatives later. Demonstrating that decisions made after distraction are better

than those made immediately constitutes the strongest possible test of UTT, particularly when, as was the case in our study, (1) participants had received a proper goal, and (2) the possibility of making online judgments was minimized. Indeed, without such a control condition, it is impossible to disentangle the effects of distraction from those of conscious deliberation. Although earlier research has fulfilled some of these requirements, (e.g., Dijksterhuis, 2004; Lassiter & al., 2009), we believe this study is the first to fulfill all of them. Experiment 1, which involved 294 participants, is an implementation of this design. Experiment 2 replicates Experiment 1 in a field study with actual shoppers.

Experiment 1

Method

Participants and design

A total of 294 participants (201 women and 93 men, mean age: 20), involved in various curricula at the Université Libre de Bruxelles, were randomly assigned to one of six conditions resulting from crossing two factors: Decision Mode (deliberation vs. distraction vs. immediate) and Processing Goal (impression formation vs. memorization).

Procedure

Depending on the condition, participants were either instructed to "form an impression in order to later assess four apartments" (impression formation condition) or "to memorize the features characterizing each apartment" (memorization condition). They were then exposed to 48 attributes (12 for each apartment) each displayed individually for eight seconds in a counterbalanced order. The normatively best apartment was described with 75% of positive attributes, the average apartments were described with 50% of positive attributes and the worst apartment was described with only 25% of positive attributes.

After information had been presented, participants in the "immediate" condition reported their attitude towards each of the four apartments. In both the "deliberation" and "distraction"

conditions, participants were told (through an instruction display shown for 20 sec) that they would have to assess apartments at a later stage. These instructions were shown because UTT assumes that unconscious thought is goal-dependent (Bos et al. 2008). Next, over a period of four minutes (post-acquisition period), participants were either asked to carefully consider their decision (deliberation) or to solve anagrams (distraction). After four minutes had elapsed, participants provided their attitude towards each apartment by answering the question "How do you judge these apartments?" on four continuous scales ranging from extremely negative to extremely positive (subsequently recoded on a 100- points scale).

To check that the Processing Goal manipulation was efficient, after the different phases of the experiment had been summarized to them, participants were asked (a) from which point they had fixed their opinion about the apartments (1 = "During the information presentation phase", 2 = "During the reflection/anagram solving phase" , 3 = "During the evaluation phase", 4 = "Never"); (b) to what extent they had intentionally tried to forge an opinion regarding the apartments during information presentation (1 = "I did not try at all", 9 = "I tried very hard"); and (c) to what extent they had formed an impression of the apartments during this phase (1 = "I did not form an impression at all", 9 = "I formed a very accurate impression").

To verify that the Decision Mode manipulation was efficient, we also asked participants (a) what percentage of their attention had been devoted to each of the four apartments vs. unrelated thoughts and (b) to what extent they had thought about the apartments during the post-acquisition period (1 = "not at all", 9 = "extensively").

Given that actively forming an online impression leads to superior memory than trying to memorize information (Chartrand & Bargh, 1996; Fiedler, Kaczor, Haarmann, Stegmüller & Maloney, 2008), we also included, as an additional check of the Processing Goal manipulation, a recognition task in which participants had to match the four apartments with

each of the 24 attributes (12 criteria either positive or negative). Given that the processing goal was evaluative, we assumed that memory for the best apartment was particularly likely to benefit from the impression formation instructions.

Results

Manipulation checks and memorization quality

As expected, more participants reported that they had fixed their attitudes (i.e., they did not change their opinion after this point) towards the apartments after information acquisition in the memorization condition (35.37%) than in the impression formation condition (11.56%), $\chi^2(292) = 23.20, p < .01$. Moreover, participants in the impression formation condition (M = 7.07, SE = .16) reported having tried harder to form an impression about the apartments during information acquisition than participants in the memorization condition (M = 5.85, SE = .16), $F(1,292) = 29.41, p < .01, \eta^2 = .092$. Finally, participants, reported having formed a more accurate impression during information acquisition in the impression formation condition (M = 6.16, SE = .15) than in the memorization condition (M = 5.65, SE = .16), $F(1,292) = 5.59, p < .05, \eta^2 = .019$.

In the deliberation condition, participants reported that they had devoted a higher percentage of their attention to the apartments (Ms = 84.27 and 24.46; SE = 3.15), $F(1,292)$ = 179.96, $p <$. 01, and that they had thought more about the apartments (Ms = 5.65 and 1.93; SE = .19) $F(1,292) = 190.92, p < .01$, during the post-acquisition period than did participants in the distraction condition.

To assess memory, we computed a memory score (corrected for guessing) for each apartment by adding the number of correctly recognized attributes and the number of correctly rejected attributes for each of them ($M_{correct\ responses}$= 49 %). Scores on each apartment were subjected to a mixed analysis of variance with Processing Goal as a between-subject factor. Besides a trivial main effect of the repeated factor, $F(3,876) = 34.36, p < .001, \eta^2$ =

.105 this analysis yielded a main effect of Processing Goal, $F(1, 292) = 6.98, p < .01, \eta^2 = .23$, qualified by an interaction with the apartment, $F(3,876) = 5.50, p < .01, \eta^2 = .18$. Overall, participants memorized the information better when they had been instructed to form an impression (51%) rather than to memorize attributes (48%). However, whereas memorization was better for the best apartment in the impression formation condition (62% vs. 52%), $F(1, 292) = 18.37, p < .001, \eta^2 = .59$, there was no difference for the other apartments.

Decision quality

As in previous research (Dijksterhuis & van Olden, 2006; Lassiter et al., 2009), we used the difference between the attitude towards the best apartment and the mean attitude towards the other apartments as an index of decision quality. Larger values of this index reflect a stronger preference for the (normatively) best apartment. Decision quality was examined as a function of Processing Goal and Decision Mode. An analysis of variance yielded a significant effect of Processing Goal, $F(1,288) = 18.10, p < .001, \eta^2 = .059$, qualified by an interaction with Decision Mode, $F(2,288) = 3.37, p < .05, \eta^2 = .23$. Contrary to UTT's predictions, judgments performed after a period of distraction were equivalent to those performed immediately after receiving the information (see Figure 1). Importantly, in both the immediate and in the distraction conditions, preventing participants from making their decision online (i.e., under memorization instructions) decreased the quality of their decisions, $Fs(1,288) > 10, ps < .005, \eta^2s > .035$. By contrast, participants engaged in deliberation performed fairly well independently of Processing Goal, $F(1,288) = .13, p > .7, \eta^2 = .000$.

Discussion

Experiment 1 provides a critical test of UTT's predictions since decisions made after a period of distraction were compared with those made immediately after information acquisition in a choice task that prevented online judgments while also providing a proper decision goal before engaging in the distraction period (see: Bos et al, 2008). Contrary to

UTT, the quality of decisions made after distraction was dependent on the quality of online impressions: The quality of these decisions was very high when a high quality first impression was available (impression condition) whereas it was very poor when first impressions were of poor quality (memorization quality). An almost identical pattern was obtained in the immediate condition in which decision quality was necessarily a function of online processes. By contrast, participants engaged in deliberation performed fairly well independently of the quality of online impressions. This yielded (in line with the results of Dijksterhuis et al., 2006), an apparent advantage of decisions made after distraction over those made after deliberation. However, given that decision quality was almost identical in the immediate and distraction conditions, it is unlikely that decision-relevant processes occur during distraction, as suggested by UTT. A more parsimonious account is that while participants simply report a first impression formed online after distraction, conscious thinking can deteriorate decisions that have already been made or conversely improve decisions when no high quality first impression is available.

Which processes best explain our findings? Examining the results in the "immediate" condition allows us to properly evaluate the effect of the processing goal manipulation. When instructed to "form an impression", participants who subsequently made their decision immediately were able to differentiate the best apartment from the others: Their difference in attitude (expressed on a 100 points scale) was 29 points[1]. This implies that the alternatives had been properly compared during information acquisition. Because there is no reason to assume that participants in the deliberation and in the immediate conditions formed different impressions during information acquisition, the observed difference in decision quality between these two groups is necessarily dependent on comparative processes that took place during the post-acquisition period. Thus, since the information was no longer available during this period, we surmise that participants in the deliberation condition adjusted their first

impressions by re-examining their memory of the attributes of each apartment. Crucially however, this reassessment cannot yield good results in the absence of the relevant information; indeed memory for the attributes is rather poor (50% correct answers in the recognition task). Under these conditions, a parsimonious account for our findings is that deliberation deteriorates the high-quality first impressions that people had formed online.

By contrast, in the memorization condition, participants who had to provide their attitudes immediately failed to properly differentiate the best option from the others: The difference in attitude was only 7 points (not significantly different from zero). This implies that the alternatives had been poorly compared during information acquisition. Here, we likewise suggest that in the deliberation condition, participants carried out the comparison between alternatives during the post-acquisition period on the basis of their memory for the attributes, and thus adjusted their first impressions. In this case, however, since differentiation was very poor after information acquisition, this conscious comparison process made it possible for participants to compensate for the lack of online comparison and thus to enhance the quality of their decisions.

Although the verbal reports used to check the efficiency of our manipulations may be tainted by the well-known flaws of introspection (e.g., Nisbett & Wilson 1977), the pattern of findings observed on the memory measure suggests that the processing goal manipulation was efficient. Indeed memorization was better under "impression formation" instructions, which is consistent with the literature (Chartrand & Bargh, 1996; Fiedler, et al, 2008). This effect was strongest for the best apartment, which further supports that a more accurate online evaluation was formed in this condition. Finally, the greater differentiation displayed under impression formation instructions in the immediate condition (where decision quality was a function of online processes) implies that the impression formation goal (i.e., evaluate the alternatives) manipulation was effective.

Experiment 2

Experiment 2 extends the results of Experiment 1 to people faced with real decisions. In light of our previous results, we also aimed at offering a conceptual replication of the study conducted by Dijksterhuis et al. (2006: experiment 3), who found that post-choice satisfaction among shoppers of complex products was negatively correlated with the amount of thought participants reported having devoted to their purchase.

More specifically, we examined the relationship between indecisiveness and amount of thought on shoppers' post-choice satisfaction with complex products. Indeed, indecisiveness is associated with process characteristics of decision making, such as decision latency, required amount of information, and reluctance to decide (Reed 1985; Rassin & Muris, 2005). Thus, we assume that indecisiveness exerts a similar effect on decision-makers as our experimental manipulation: It delays attitude fixation and promotes further processing of information. Moreover, lack of differentiation between alternatives is the most frequent source of uncertainty among decision-makers, and conscious deliberation is one strategy to cope with uncertainty (Lipshitz & Strauss, 1997).

Method

Participants

Participants (21 women and 18 men; mean age: 36.8) voluntarily completed an internet survey.

Procedure

Experiment 2's method was similar to that of Dijksterhuis et al. (2006, experiment 3); however we focused only on complex products (complexity score > 3, see the online supporting material of Dijksterhuis et al., 2006)[2]. Participants were presented with a list of products (e.g., car, room, camera…) and were asked to select up to three products they had purchased recently. They were then asked the following questions: (a) “Did you consider

buying this product or this kind of product before you went on the shopping trip?" ("Yes"/ "No"); (b) "How much did you think about the product between the moment you considered the purchase and the moment you bought it?" (0 = "I have not thought at all", 10 = "I have thought extensively"); (c) "To what extent were you indecisive concerning this purchase?" (0 = "not indecisive at all", 10 = "completely indecisive"); (d) "To what extent are you satisfied with your purchase?" (0 = "not satisfied at all", 10 = "completely satisfied"); (e) "How much did you think about the product after buying it?" (0 = "I have not thought at all" 10 = "I have thought extensively")

Results

Following Dijksterhuis et al. (2006), we only examined products that participants had considered buying beforehand[3] (68 observations), as it is unlikely that impulsive buyers think much at all either consciously or unconsciously about their purchase. Further, as it is impossible to measure whether people engage in unconscious thought, we simply assumed, as Dijksterhuis et al. (2006), that the amount of "unconscious thought" would be negatively linked with the (reported) amount of conscious thought.

Given that some participants picked several products, we computed the intraclass correlation for satisfaction with each purchase within participants. This correlation was not significant, which made it possible to treat observations (i.e., each purchase) as independent measures, $r = .17$, $p > .2$ (e.g., Bickel, 2006). After having centered variables and computed the interaction term by multiplying centered variables, we regressed amount of thought, indecisiveness, and their interaction on post-choice satisfaction[4]. This analysis produced only the predicted interaction between amount of thought and indecisiveness ($\beta = .55$, $p < .005$). Following Aiken and West (1991), we computed simple slopes of the amount of thought on satisfaction for three conditional values of indecisiveness (at one SD below the mean, at the mean, and at one SD above the mean). As can be seen in Figure 2, amount of thought was

positively linked to satisfaction for highly indecisive participants, $\beta = .33$, $p < .005$. For an average level of indecisiveness, amount of thought was not associated with satisfaction, $\beta = .09$, $p > 1$. In contrast, amount of thought was negatively linked with satisfaction for participants who were low in indecisiveness, $\beta = -.15$, $p < .05$.

Finally, we examined the relationship between indecisiveness and post-choice amount of thought and found, congruent with the literature (Reed, 1985), that those two measures were positively linked, $r = .29$, $p < .05$.

Discussion

The results of Experiment 2 replicate Experiment 1's findings with actual shoppers. That is, conscious deliberation enhanced purchase satisfaction for undecided shoppers, but it had the opposite effect on shoppers with a clear idea of their purchase. Thus, insofar as complex products are concerned, we replicate the results of Dijksterhuis et. al (2006), but, crucially, only for those participants who were low in indecisiveness. It is possible that samples differed in terms of their baseline level of indecisiveness.

General Discussion

The main goal of our studies was to reassess Unconscious Thought Theory, and particularly the idea that "unconscious thought" is advantageous when making complex decisions. The results of Experiment 1 show that decisions made immediately, that is, without any further thinking, conscious or otherwise, were just as good as decisions made after a period of distraction. This was true when participants were given the opportunity to form an impression of the material during information acquisition. More strikingly, this obtained in the very conditions that, according to UTT, should have been the most likely to elicit "unconscious thought", for participants were (1) prevented from making an online judgment (through memorization instructions) and (2) were given a proper decision goal before engaging in the distraction period. This pattern of results is more parsimoniously

explained without endorsing UTT's assumption that decision-relevant unconscious processes occur during distraction.

However, we also replicated Dijksterhuis et al.'s (2006) main finding that under impression formation instructions, deciding after a period of deliberation results in worse performance than after distraction. This suggests that additional deliberation about one's first impression can actually deteriorate decision quality. Crucially, this pattern reversed for people instructed not to form an impression, but to simply memorize the material: In this case, participants made better decisions in the deliberation condition than in other conditions. This finding suggests that thinking actually helps when one has not properly compared alternatives and not committed to a decision yet.

Experiment 2 involved decisions taken by real-life shoppers. Undecided participants were more satisfied the longer they had thought about their purchase. Assuming that they did not clearly differentiate between the alternatives (Lipschitz & Stauss, 1997) and needed more time to process the information (Reed, 1985; Rassin & Muris, 2005), they behaved like participants in the memory conditions of Experiment 1. The opposite pattern was obtained for participants who were not indecisive before making their purchase. Here, the more thinking, the less the satisfaction. In this case, conscious deliberation might have modified participants' initial adaptive preferences (see: Wilson and Schooler, 1991; Wilson, et al., 1993). Furthermore, committed shoppers who nevertheless continue to think about the alternatives probably weaken their initial preferences by considering the positive aspects of other options, which may in turn decrease post-choice satisfaction. Of course, we should emphasize that we do not claim that first impressions are necessarily correct. It would be useful to take other moderating variables, such as expertise, into account (e.g.: Sadler-Smith & Burke, 2009).

In our laboratory study, the accurate decisions made by participants immediately after receiving the information in the impression formation condition is best explained in terms of

conscious thought rather than in terms of fast unconscious processes such as intuition (see: Dane & Pratt, 2007), given that participants had an explicit "impression formation" goal. However in the field study, the adaptive preferences shown by participants who were not indecisive and who did not think much can be explained either in terms of fast conscious processes or in terms of fast unconscious processes.

Our results are at odds with findings that distraction enhances performance relative to an immediate condition (e.g.: Dijksterhuis, 2004, Lerouge, 2009). However, in the only published meta-analysis (Acker, 2008) this effect was not significant (but see another meta-analysis by Strick, Dijksterhuis, Bos, Sjoerdma, van Baaren, & Nordgren, in prepararation). A more recent challenge comes from two studies interpreted as demonstrating that unconscious thought occurs after information acquisition (Strick, Dijksterhuis, & van Baaren, in press) Despite their appeal, these findings should be interpreted cautiously given that in Study 1, the level of online processing was estimated on post hoc verbal reports rather than manipulated experimentally and that, in Study 2, the difference between conditions on the focal measure (i.e., correlation between online preferences and final choice) was not significant.

Given these inconsistent or inconclusive findings, method quality is particularly important and studies should be considered in light of their methodological standards. We believe that, in this respect at least, Experiment 1 is superior to previous studies.

First, attributes were pretested and matched in importance. Second, the order of presentation of the attributes was matched across conditions, which is particularly important in view of the large order effects typically observed in online decision tasks (Asch, 1946; Newell et al., 2009). Third, in contrast to earlier studies (e.g., Lassiter et al., 2009), we included several manipulation checks. Finally, and most importantly, given that standard UTT experimental instructions elicit online-judgments (Lassiter & al, 2009; Waroquier et al., 2008), it appears theoretically unclear why differences between distraction and immediate

conditions should be observed under these instructions. Unconscious thought is a goal directed process (Bos et al., 2008), and is not expected to take place if the decision-goal has already been fulfilled. For these reasons, we believe that the comparison between the immediate and distraction conditions under memory instructions provided in Experiment 1 constitutes the strongest test of UTT's predictions available so far, both methodologically and conceptually.

Finally, it is important to stress that we neither claim that decisions are always best taken consciously, nor that decision-making exclusively involves conscious processes. Indeed, there is substantial evidence (e.g., Soon et al., 2008) that simple decisions can be predicted based on brain activity well before people become aware of committing to a particular course of action. This is congruent with Wegner's notion that "conscious will is an illusion" (Wegner, 2002). Most likely, any decision is the result of a complex mixture of conscious and unconscious processes. However, we also think that certain kinds of information processing, particularly those involving propositional reasoning that involves symbol manipulation, can only occur with consciousness.

Naturally, the correlational data that we collected in Experiment 2 opens the way to alternative interpretations. Taken together, however, our studies suggest that instead of recommending people to "think unconsciously" about a decision — a double bind injunction (Bateson et al., 1956) that most people would find rather hard to follow, we should rather recommend the following: If you have a clear first impression, it is often wise to stick to it; if you don't — think a bit more!

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Footnotes

1. With respect to the percentage of positive attributes associated with each apartment (75%, 50%, 50%, 25%).
2. Based on a pretest we also included scooters and Mp3 players in the product list.
3. Including only those products or all products yielded similar results.
4. Including only the most recent purchase for each participant yielded similar results.

Figure Captions

Figure 1: Difference between the attitude toward the best apartment and the mean attitude toward the others as a function of Processing Goal and Mode of Decision

Figure2: Shoppers post-choice satisfaction as a function of amount of thought and indecisiveness

Figure 1.

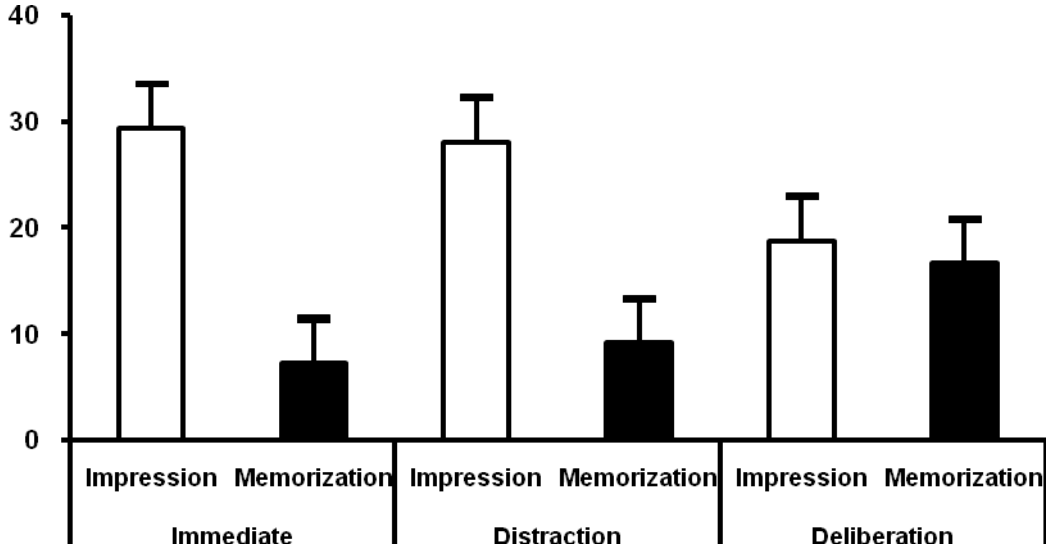
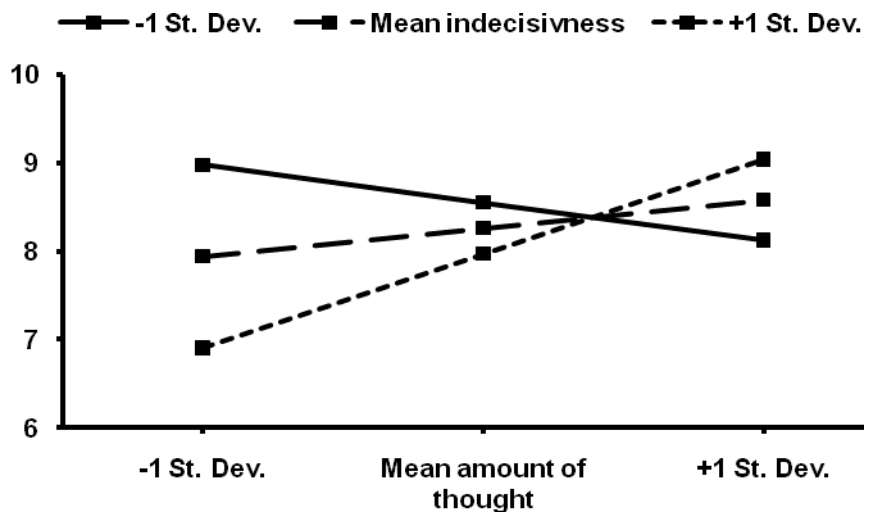

40
30
20
10
0
Impression
Memorization
Impression
Memorization
Impression
Memorization
Immediate
Distraction
Deliberation

Figure 2.


-1 St. Dev.
Mean indecisivness
+1 St. Dev.
10
9
8
7
6
-1 St. Dev.
Mean amount of thought
+1 St. Dev.