

## **The Effect of Mood on Self-Referencing in a Persuasion Context<sup>1</sup>**

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## Abstract

The present study investigates the influence of mood on self-referencing. Two alternative explanations regarding self-referencing effects are contrasted. On the one hand, it can be hypothesized that self-referencing is a data-driven, high elaboration, bottom-up process, manifested under conditions of high motivation (e.g. when mood is negative). Alternatively, it can also be hypothesized that self-referencing is a schema-based top-down process, manifested under conditions of low motivation (e.g. when mood is positive). A 2 (positive versus negative mood) by 2 (self-referencing versus not self-referencing) design shows that self-referencing effects increase under conditions of negative mood, suggesting that self-referencing is a data-driven bottom-up process.

Advertisers often try to persuade consumers by encouraging them to relate the information presented in the ad to aspects of oneself (e.g. one's own personal experiences). This information processing strategy, known as self-referencing, can be induced by a variety of techniques: Photos are presented that visually place consumers in the position of the scene actor or participant (instead in that of an uninvolved onlooker), or relatively personal second-person wording is used ('You are going to a party') as opposed to rather removed third-person wording ('He/She is going to a party'). Self-referencing has been described in the literature as a cognitive process whereby individuals associate self-relevant incoming information with information previously stored in memory (one's self-concept) in order to give the new information meaning (e.g. Kuiper and Rogers 1979; Markus 1980).

Research suggests that self-referencing has a considerable impact on recall of information (e.g. Baumgartner, Sujan and Bettman 1992; Sujan, Bettman and Baumgartner 1993), as well as on product evaluations (e.g. Baumgartner et al. 1992; Sujan et al. 1993; Meyers-Levy and Peracchio 1996; Sujan et al. 1993). However, the results obtained from the different studies are not at all unequivocal. Although most studies show enhanced memory and evaluation effects as a result of self-referencing, others show detrimental effects (for a meta-analysis see Symons and Johnson 1997).

The self-reference effect is thought to occur because knowledge of oneself is rich and plentiful, containing many associations that can be related to the incoming information. The self is described in the literature as an elaborate and organized network of associations (e.g. Markus 1980). Consequently, it affects elaboration of relevant stimulus information and also individuals' evaluative judgments in a persuasion context.

Research (Burnkrant and Unnava 1995; Meyers-Levy and Peracchio 1996) reveals that both elaborations and evaluations may be more favorable when people engage in moderate rather than extremely high or low levels of self-referencing (Anand and Sternthal 1990). Referencing, or thinking about, the self is an attention-consuming task; as self-focus increases, attention to the environment decreases, and there may be interference with the encoding of new information. This is because people only have a limited processing capacity (Kardes 1998). Baumgartner for example (Baumgartner et al. 1992, Sujan et al. 1993) found that as retrieval of autobiographical memories (i.e. a form of self-referencing) increases, thoughts are more focused on the autobiographical episode, and thoughts about, and memory for, product features become less accessible. This has serious implications for evaluations: when self-referencing is high, evaluations will be based less on arguments presented in the message. When the self-related knowledge structure (e.g. an autobiographical memory) has strong positive affect, this affect will transfer to the product attitudes resulting in favorable product

evaluations. On the other hand, when the self-related knowledge structure has negative affect, the affect transfer will result in less favorable evaluations.

One of the unresolved issues about the self-reference effect in the literature concerns the plausible factors that moderate self-reference effects on persuasion. The purpose of the present research is twofold. First, we investigate the moderating influence of one of these plausible factors, namely the influence of mood, on self-referencing. Secondly, we attempt to, through the use of mood as plausible moderator, clarify the mechanisms underlying self-referencing. Two alternative explanations concerning self-referencing effects are contrasted. We will first however, review some effects of mood on elaboration and evaluation.

## **MOOD**

Recent research has shown that mood states have a considerable impact on people's processing strategies as well as on their evaluation of the attitude object. It is found that happy moods are associated with heuristic processing strategies, whereas sad moods are associated with systematic elaboration of information (e.g. Bless, Clore, Schwarz, Golisano, Rabe and Wölk 1996; Sinclair and Mark 1995). With regard to evaluations, it is observed that when people in different moods make evaluations, the typical result is that those in positive moods render more favorable evaluations than those in negative moods (e.g. Mayer, McCormick and Strong 1995; Sedikides 1992).

Several explanations have been formulated to account for these mood effects. According to memory-based models (e.g. Bower 1981; Isen 1984), mood influences evaluations by increasing the accessibility of mood-congruent information. According to Mackie and Worth (1991) for example, being in a positive mood causes people to bring more positive information to mind than does being in a negative mood. According to this affect priming principle (Isen 1987; Mackie and Worth 1989), being in a good mood limits processing capacity because of the activation of a large amount of interconnected positive material stored in memory. Hence, individuals in a good mood may not have the cognitive resources required by systematic processing strategies and may therefore default to less taxing heuristic strategies.

Alternatively, according to the affect-as-information view (Schwarz and Clore 1983), negative affect signals that the environment poses a problem, whereas positive affect signals that the environment is benign. As a result, negative affective cues may motivate detail-oriented, systematic processing, which is usually adaptive in handling problematic situations. In contrast, positive affective states, by themselves, signal no particular action requirement, and happy individuals may hence not be motivated to expend cognitive effort unless called for by other goals. In accordance with this affect-as-information hypothesis, Bless (Bless et al. 1996) found that happy moods increase, whereas sad moods decrease the reliance on general knowledge structures. Similarly, Bodenhausen (1993) argues that happy mood

participants make more use of stereotypic information when making a judgment.

Recently however, it has been argued that effects of mood on the persuasion process follow a dual process (e.g. Forgas 1995), dependent upon different conditions (e.g. involvement). Petty (Petty, Cacioppo, Strathman and Schumann 1992) indeed found evidence for affective priming when elaboration likelihood was high (indirect effect of mood on persuasion through valenced thoughts) while evidence for the affect-as-information hypothesis was found when elaboration likelihood was low (direct effect of mood on persuasion).

## **THE RELATIONSHIP BETWEEN MOOD AND SELF-REFERENCING**

Our main research question concerns the influence of mood on self-referencing. We argue that insight into the plausible moderating influence of mood on self-referencing can help us to clarify the mechanisms underlying self-referencing effects and gives us more insight into the self-concept in general. We furthermore argue that through the manipulation of mood under different self-reference conditions, more theoretical insight can be obtained concerning mechanisms responsible for observed mood effects in the persuasion literature. In the next sections, these contributions will be explained in more detail.

According to the mood-as-information theory, being in a positive mood (compared to being in a negative mood) signals

that the situation is characterized as benign, resulting in a greater reliance on general knowledge structures (see Bless et al. 1996; Bodenhausen 1993). Because the self-schema is such a well-organized cognitive schema, it can be expected that self-referencing prompts will be more effective for persuasion under conditions of positive mood: the self-reference prompt activates the self, and because people are in a good mood (and experience the situation as benign) they will rely on their self-concept when making evaluations. Note that in this case, we hypothesize that self-referencing is a top-down or schema-based process (Schank and Abelson 1977).

On the other hand however it is argued that self-referencing will only manifest itself if respondents are sufficiently motivated to process the information presented in the ad, making them responsive to the self-reference prompts (Meyers-Levy and Peracchio 1996). This reasoning is based on evidence that when processing motivation is limited, ad recipients tend not to respond to nonsalient cues such as the self-reference prompts in question (Meyers-Levy and Maheswaran 1991; Meyers-Levy and Sternthal 1991). It has been shown that individuals who favor such perfunctory processing typically base their evaluations on simple heuristic cues, such as the affect they associate with the product category, the enjoyment they derive from the ad photo or the ad copy's writing style, and the like (e.g. Alba and Hutchinson 1987; Mick 1992). Consequently, since negative affect has been found to be an effective motivator to process information in a more



detailed and systematic manner than does positive affect (Bodenhausen 1993; Petty et al. 1993), it can be expected that self-referencing prompts will only be used by respondents under conditions of negative mood. Note that in this case, we hypothesize that self-referencing is a bottom-up or stimulus based process (Schank and Abelson 1977).

The main objective of this research is to distinguish between these two alternative self-referencing explanations.

## **HYPOTHESES**

### **Effects of Self-Referencing and Mood on Product Evaluations**

Because the present study does not deal with mental schema's associated with negative emotions (such as fear or guilt), it can be expected that self-referencing will lead to more positive product evaluations. Consistent with results obtained by studies dealing with the effect of self-referencing on persuasion, it can be expected that:

**H1a:** Product evaluations will be more positive in self-referencing conditions compared to no self-referencing conditions.

We can furthermore expect that if self-referencing is a top-down process (see above), and is the result of a reliance on general knowledge structures (the self-concept in this case),

product evaluations will be more positive under conditions of positive mood:

**H1b:**<sup>1</sup> If self-referencing can be considered as a top-down process, it can be expected that under conditions of self-referencing, product evaluations will be more positive when subjects are in a positive, compared to a negative mood.

If however, self-referencing can be considered as a bottom-up process (see above), and will only manifest itself when subjects are sufficiently motivated to process, product evaluations will be more positive under conditions of negative mood:

**H1c:** If self-referencing can be considered as a bottom-up process, it can be expected that under conditions of self-referencing, product evaluations will be more positive when subjects are in a negative, compared to a positive mood.

Moreover, it can be expected that under low elaboration likelihood (e.g. Petty et al. 1993) mood can be taken as an affective cue when making evaluations (see earlier, affect-as-information hypothesis). So, for the no self-referencing condition,

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<sup>1</sup> For reasons of simplicity, we chose to contrast hypothesis b and c in the next sections to indicate contrasting explanations.

the following hypothesis concerning the effects of mood on evaluations can be formulated:

**H1d:** In the no self-referencing condition, product evaluations will be more positive when subjects are in a positive, compared to a negative mood.

Hence, if self-referencing can be seen as a schema-based top-down process, we expect a main effect of self-referencing (H1a) and a main effect of mood (H1b and H1d) on product evaluations. If however, self-referencing is more like a bottom up process, a main effect of self-referencing (H1a) and an interaction effect of mood and self-referencing (H1c and H1d) on product evaluations can be expected.

### **Effects of Self-Referencing and Mood on Positivity of Thoughts**

Self-referencing is also thought to have an effect on the valenced thoughts subjects have (Anand and Sternthal 1990; Burnkrant and Unnava 1995; Meyers-Levy and Peracchio 1996). This is because as elaboration rises (as is the case for self-referencing), people have a greater opportunity to recognize, appreciate, and reflect on the cogency of a message and the favorable information that the persuasive message mostly conveys (Meyers-Levy and Peracchio 1996). As a result, respondents generate predominantly favorable thoughts. Another explanation

is that self-referencing leads to the activation of the self-concept that is in most cases (except in cases of depression) a positively valenced mental knowledge structure (e.g. Alloy, Abramson, Murray, Whitehouse and Hogan 1997). Through the principle of affect transfer (Baumgartner et al. 1992; Sujan et al. 1993) thoughts about the product and the ad also become more positive. At this point however, distinguishing between these two explanations is not crucial.

**H2a:** In general, self-referencing will lead to a greater positivity of thoughts (number of positive thoughts compared the total number of thoughts) compared to when there is no self-referencing.

Furthermore, we can hypothesize that in the case self-referencing is a top-down process:

**H2b:** If self-referencing can be considered as a top-down process, it can be expected that in the self-referencing condition positive mood will lead to a greater positivity of thoughts compared to negative mood.

In contrast, when self-referencing is a bottom-up process:

**H2c:** If self-referencing can be considered as a bottom-up process, it can be expected that in the self-referencing

condition negative mood will lead to a greater positivity of thoughts compared to positive mood.

### **Effects of self-referencing and mood on purchase intentions**

Because self-referencing has generally been found to enhance advertising effectiveness (Baumgartner et al. 1992; Burnkrant and Unnava 1995), it can be expected that self-referencing will lead to increased purchase intentions (e.g. Krishnamurthy and Sujan 1999):

**H3a:** Overall, self-referencing will lead to higher purchase intentions compared to no self-referencing.

Also, when self-referencing can be considered as a top-down process:

**H3b:** If self-referencing can be considered as a top-down process, it can be expected that in the self-referencing condition purchase intentions will be higher when mood is positive compared to when mood is negative

In contrast, when self-referencing is a bottom-up process:

**H3c:** If self-referencing can be considered as a bottom-up process, it can be expected that in the self-referencing

condition purchase intentions will be higher when mood is negative compared to when mood is positive

### **Effects of Self-Referencing and Mood on Recall of Product Features**

It should be noted that the literature is not very clear upon what can be expected concerning the effects of self-referencing on the recall of product features.

On the one hand, it has been extensively shown that self-referencing enhances message recall (for a review see Symons and Johnson 1997). Because the self is a complex, well organized knowledge structure, its activation provides more potential linkages between new information and information that is already stored (memory structures). Because of these linkages, elaboration of the incoming information is facilitated (Anderson and Reder 1979).

On the other hand, detrimental effects of self-referencing on recall have been reported in the literature (e.g. Sujan et al. 1992). Referencing the self is an attention-consuming task, and as this referencing increases, attention to the environment diminishes (Carver and Scheier 1981) and there may be interference with the encoding of new information. Baumgartner (Baumgartner et al. 1992) showed that increased retrieval of autobiographical memories (a form of self-referencing) results in more thoughts about the autobiographical episode, and less thoughts about the product features.

Given these different research findings, we argue that it is not very opportune to formulate specific hypotheses regarding the effect of self-referencing and mood on the recall of product features. Therefore we consider our recall variable, although previously investigated in the literature, as exploratory.

## **METHOD**

### **Participants and Design**

Participants were 83 undergraduate university students. They participated on a volunteer basis.

Participants were randomly assigned to the conditions of a 2 (Mood: positive versus negative) × 2 (Self-referencing: self-referencing versus not) full factorial between-subjects design. Participants were received in groups up to 4 by the experimenters, who briefly explained that participants would be completing some independent tasks that had been combined into one session. These tasks (described below) included (a) the mood induction, (b) presentation of the ad (for a fictitious brand of orange juice), and (c) measurement of the dependent variables related to the ad: product evaluations, positivity of thoughts, purchase intentions, and recall of product attributes.

For the mood induction task, participants were asked to provide a vivid written report of either a happy or a sad life event, purportedly to help with the construction of a “Life Event Inventory” (as done by Bless et al. 1996). Subjects were led to

believe that this Life Inventory Task was unrelated to the remaining of the tasks. Reporting a happy event was intended to induce a happy mood, whereas focusing on an experienced sad event was intended to induce a sad mood. Participants were given 12 minutes to complete their reports. They were then asked several questions about the task. Embedded among these questions was a manipulation check question that read “How do you feel right now?”. Consequently 6 9-point semantic differential items (ranging from -3 over 0 to 3) were presented. These items were derived from the Mehrabian and Russel (1974) Pleasure scale (happy/ unhappy, pleased/ annoyed, satisfied/ unsatisfied, contented/ melancholic, hopeful/ despairing, relaxed/ bored). Subjects were asked to indicate to what extent these items described their feelings at the moment.

Self-referencing was manipulated by systematically varying the introductory paragraph of the ad. In the high self-referencing condition, the messages addressed subjects directly by using very personal second person wording (e.g. “Citrus Orange and your breakfast is complete ... You love a good breakfast? ...”). In the low self-referencing condition, the message was written in the third person (e.g. “Citrus Orange and his breakfast is complete ... He loves a good breakfast ...”). Similar self-referencing techniques have been described in the literature (e.g. Burnkrant and Unnava 1995; Meyers-Levy and Peracchio 1996). After the presentation of the ad, subjects were asked to answer a series of questions designed to provide a check on the validity of



the self-referencing manipulation. The questions asked about the extent subjects believed the ad was meant for them, they were personally involved by the ad, the ad was written with them in mind, the ad was relevant for them, they felt personally attracted to the ad, the ad related to them personally, they thought about their own experiences with orange juice (inspired on Burnkrant and Unnava 1995). For each of these seven questions, they indicated their agreement on a 7-point scale (strongly disagree to strongly agree).

### **Procedure**

Subjects were first asked to help the department of Psychology of the university with the collection of sad and happy life events (see earlier). Afterwards, they were presented the critical ad (either containing a self-referent prompt or not) in a standardized way. Participants were told that it was a pretest ad. The ad depicted a fictitious brand for orange juice (Citrus Orange), together with a picture of a breakfast situation and some text describing the new brand. Afterwards, subjects were asked to fill in a questionnaire containing measures about the dependent variables.

### **Dependent Variables**

The questionnaire began with the measurement of the validity of the self-referencing manipulation (see earlier). After this manipulation check, subjects were given a three-minute

cognitive response task in which subjects were asked to list all the thoughts they had when they read the orange juice ad. After they had listed all their thoughts, subjects were asked to code each thought as positive, negative, or neutral in terms of its implications for the orange juice. Instructions on the thought-listing and coding task followed Cacioppo and Petty (1981). These valenced thoughts were used to calculate the positivity of thoughts index: (number of positive thoughts / total number of thoughts) × 100.

After this thought-listing procedure, attitudes towards Citrus Orange orange juice were measured on 4 7-point semantic differential items: positive/negative, love/hate, good/bad, desirable/undesirable (Simons and Carey, 1998). These product evaluation items were averaged for analysis ( $\alpha = 0.90$ ).

Behavioral intention was measured by asking subjects about their purchase intentions on one 7-point item: “How likely is that you will actually buy Citrus Orange when it is for sale?” (e.g. Krishnamurthy and Sujana 1999). Answers had to be given from very unlikely to very likely.

The questionnaire concluded with a recall question, in which subjects were asked to write down as much as they could remember about the orange juice ad. We subsequently scored each subjects’ recall protocol by counting the number of arguments from the ad that were recalled (maximum 6).

## RESULTS AND DISCUSSION

A MANOVA analysis was performed on our dependent variables product evaluation, positivity of thoughts, purchase intentions and recall of product attributes. Overall, this analysis shows a significant main effect of self-referencing:  $F(4, 76) = 2.80, p < .05$  (power = .74), as well as a significant interaction effect of self-referencing and mood:  $F(4, 76) = 3.21, p < .05$  (power = .81). The main effect of mood was not significant ( $F < 1$ ). Table 1 gives the means and standard deviations as a function of mood and self-referencing for each dependent variable. In the remaining, we will report separate univariate tests for each variable. First however we will discuss the validity of our manipulations.

Effect	Product Evaluation		Positivity of Thoughts		Purchase Intentions		Recall of Features		
	M	(SD)	M	(SD)	M	(SD)	M	(SD)	
<b>Self-Referencing</b>									
High	3.32	(1.14)	46.16	(31.06)	3.14	(1.63)	2.00	(1.5)	
Low	2.77	(1.17)	36.24	(26.66)	2.15	(1.30)	1.80	(1.7)	
<b>Mood</b>									
Positive	3.06	(1.20)	37.21	(29.53)	2.63	(1.54)	1.98	(1.7)	
Negative	3.04	(1.18)	45.61	(28.63)	2.68	(1.58)	1.83	(1.6)	
<b>High Self-Referencing</b>									
Positive Mood	2.99	(1.34)	35.99	(28.83)	2.82	(1.59)	2.41	(1.7)	
Negative Mood	3.68	(.76)	57.36	(30.20)	3.50	(1.64)	1.55	(1.2)	
<b>Low Self-Referencing</b>									
Positive Mood	3.13	(1.06)	38.49	(30.90)	2.43	(1.50)	1.52	(1.6)	
Negative Mood	2.40	(1.19)	33.87	(21.91)	1.85	(.99)	2.10	(1.8)	

Table 1: Means and standard deviations as a function of Mood and Self-Referencing

### **Manipulation Checks**

Participants' ratings of how happy and sad they felt after the mood induction task indicated that the mood manipulation had been successful. Mean scores on the mood items ( $\alpha = .80$ ) were higher for participants who had described a positive life event compared to subjects who had described a negative life event ( $M = 2.18$  vs.  $M = 1.62$ ),  $t(81) = 2.30$ ,  $p < .05$ <sup>2</sup>.

With regard to self-referencing, a significant effect of second- versus third-person wording was found after averaging our manipulation check items ( $\alpha = .91$ ):  $t(81) = 2.27$ ,  $p < .05$  ( $M = 3.08$  vs.  $M = 2.52$ ). As intended, subjects felt that the ad related more to themselves when second-person wording was used compared to when third-person wording was used, suggesting that our self-referencing manipulation was successful.

### **Product Evaluations**

ANOVA shows a significant main effect of self-referencing on subjects' attitudes towards the advertised orange juice ( $F(1, 79) = 5.36$ ,  $p < .05$ ), as well as a significant interaction

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<sup>2</sup> Note that both scores are at the positive end of the mood scale. We argue that this has no further implications for our research. In a pilot study we found that both positive and negative mood manipulation conditions differed significantly (both in the expected direction) from a neutral condition, where people were asked to describe the room they were in. Instead of talking about 'more than usual positive' or 'more than usual negative' (which is actually the case in the

effect ( $F(1, 79) = 8.04, p < .01$ ). No main effect of mood on product evaluations was found.

Consistent with hypothesis H1a it was found that in general, self-referencing has a significant effect on product evaluations: subjects attitudes in the self-referencing condition were more positive compared to attitudes of subjects in the no self-referencing condition ( $M = 3.32$  vs.  $M = 2.77$ ). This finding is consistent with existing literature showing that self-referencing is beneficial for product evaluations. It should be noted however, that the mental knowledge structure called for by the ad is a positive one (drinking orange juice in a breakfast situation), such that the possibility remains that because of affect transfer (e.g. Baumgartner et al. 1992, Sujan et al. 1993) self-referencing has detrimental effects on product evaluations when negatively valenced knowledge structures are used (see our discussion earlier).

More importantly however, as our interaction effect already indicated, planned comparisons show more positive product evaluations when mood is positive ( $M = 3.13$ ) compared to when mood is negative ( $M = 2.40$ ) when self-reference prompts are absent:  $F(1, 79) = 4.42, p < .05$ . This finding is consistent with our hypothesis H1d. On the contrary, when the self has been prompted, product evaluations are more positive when mood is negative ( $M = 3.68$ ) compared to when mood is positive ( $M = 2.99$ ):  $F(1, 79) = 3.40, p < .05$ . Hence, support was found for our

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present study), it seems more opportune to talk about positive and negative

hypothesis H1c, suggesting that self-referencing indeed needs a certain level of motivation (by the induction of negative mood) to become effective and can be considered as an active bottom-up process. No evidence was found that self-referencing will result in a reliance in general knowledge structures when subjects are in a positive mood.

### **Positivity of Thoughts**

ANOVA shows a near to significant main effect of self-referencing on the positivity of thoughts:  $F(1, 79) = 2.86, p < .10$  and also a significant interaction effect of self-referencing and mood:  $F(1, 79) = 4.39, p < .05$ . No main effect of mood on positivity of thoughts was found ( $p > .10$ ).

Consistent with our hypothesis H2a, it was found (although marginally significant) that thoughts were more positive when a self-reference prompt was given compared to when this prompt was absent ( $M = 46.16$  vs.  $M = 36.24$ ), suggesting that self-referencing leads to a higher positivity of thoughts (at least when positively valenced mental knowledge structures are activated by the ad).

Moreover, planned comparisons show that, consistent with hypothesis H2c, when personal second-person wording is used (self-referencing condition), more positive thoughts are generated when mood is negative, compared to when mood is positive ( $M = 57.36$  vs.  $M = 35.98$ ) ( $F(1, 79) = 6.00, p < .05$ ). As for product

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moods.

evaluations, this suggests that self-referencing is a bottom-up process. No evidence for H2b was found.

In the no self-referencing condition, no effects of mood were found on positivity of thoughts ( $M = 38.49$  vs.  $M = 33.87$ ) ( $F < 1$ ). This is not so surprising, since in this condition little message elaboration is expected to occur, and subjects will base their judgment more on peripheral cues (such as felt affect during ad presentation) instead of on extensive elaborations.

### **Purchase Intentions**

In line with our hypothesis H3a, ANOVA revealed a significant main effect of self-referencing on subjects' purchase intentions:  $F(1, 79) = 10.13, p < .01$ . In general, subjects had higher intentions to buy the advertised orange juice in the future when they were exposed to the self-referencing condition compared to subjects in the no self-referencing condition ( $M = 3.14$  vs.  $M = 2.15$ ). This suggests that self-referencing enhances advertising effectiveness. No main effect of mood on purchase intentions was found ( $F < 1$ ).

Again, as for our product evaluation and positivity of thoughts results, superior self-referencing effects were found when mood was negative compared to when mood was positive: a significant interaction effect of self-referencing and mood was found on purchase intentions  $F(1, 79) = 3.87, p = .05$ . This interaction effect shows a slight increase in purchase intentions in

the self-referencing condition as mood becomes more negative ( $M = 2.82$  vs.  $M = 3.5$ ), and a slight decrease in purchase intentions in the no self-referencing condition as mood becomes more negative ( $M = 2.43$  vs.  $M = 1.85$ ). However, these effects could not be supported for by our planned comparison analysis.

### **Recall of Product Attributes**

Nor a significant main effect of self-referencing ( $F < 1$ ), nor a main effect of mood ( $F < 1$ ) was found on the recall of product attributes presented in the ad. In contrast, we did find a significant interaction effect:  $F(1, 79) = 3.99$ ,  $p < .05$ . In our self-referencing condition, a decrease in recall was observed as mood became more negative ( $M = 2.41$  vs.  $M = 1.55$ ) ( $F(1, 79) = 2.89$ ,  $p < .10$ ), while no significant effect of mood was observed in our no self-referencing condition ( $M = 1.52$  vs.  $M = 2.1$ ) ( $p > .10$ ).

These recall results support the findings of studies on the effects of autobiographical memories (e.g. Baumgartner et al. 1992; Sujan et al. 1993) suggesting that as self-referencing increases (as in our negative mood manipulation), thoughts become more focused on the autobiographical episode, and thoughts about, and memory for, product features become less accessible.

## **CONCLUSION**

The present study was able to gain more insight into the underlying mechanisms of self-referencing. By investigating the



moderating effect of mood on self-referencing, it was found that enhanced self-referencing effects were observed under conditions of negative mood. Under self-referencing conditions, product evaluations were more positive, purchase intentions higher, and positivity of thoughts greater when mood was negative compared to when mood was positive. These findings suggest that self-referencing cues are only picked up by respondents when they are sufficiently motivated to process the information that is presented to them. As a consequence, self-referencing can be seen as an active, data-driven bottom-up process.

As a reviewer correctly stated, one can argue that, because individuals in a positive mood will be less likely to process information in a detailed manner, they may have ‘missed’ the self-reference prompt. So, if subjects in the positive mood condition did not completely process the self-reference prompt, it is not possible to make the above inferences concerning bottom-up processing. However, a t-test between our two mood conditions with regard to the self-referencing manipulation check revealed no significant differences between these two conditions, suggesting that positive mood respondents did pick up the self-reference prompt. This finding makes it more likely to assume that self-referencing is a bottom-up process.

Note that our results are not consistent with the hypothesis that self-referencing is the result of a reliance in general knowledge structures (such as the self), because being in a positive mood – usually thought to increase a reliance in

knowledge structures (e.g. Bless et al. 1996) – did not lead to increased self-referencing results. In contrast, opposite results were found. At first, this finding seems in contradiction with research concerning the automatic activation of the self-concept (e.g. Bosmans, Vlerick, Van Kenhove, Hendrickx 2000), that shows an increased reliance on general knowledge structures when the self-concept is confronted with information relevant for it (e.g. a self-relevant personality trait). We would like to argue however, that automatic activation and self-referencing are two distinct mechanisms, both operating under different conditions: the first mechanism being an automatic process, the second a conscious control process. Further research however is needed to gain more insight into the similarities of and differences between automatic activation effects and self-referencing.

It should furthermore be noted that our results indicate that further research into mood effects is needed. Consistent with the mood literature, mood-congruent product evaluations were observed in our low elaboration, no self-referencing condition. At the same time, no mood effects were found on the positivity of thoughts in this condition. Both observations are consistent with dual theories (e.g. Forgas 1995; Petty et al. 1992) stating that under low elaboration conditions, mood is considered by subjects as an affective cue (heuristic process), and leads (without affecting the valence of generated thoughts) to mood congruent judgments (see the affect-as-information hypothesis, Schwarz & Clore 1983). This line of theorizing however, also predicts that

under conditions of high elaboration (like in our self-referencing condition), because of the spread of activation, positive mood leads to more positive thoughts and to more positive product evaluations (see the affective priming hypothesis, Mackie and Worth 1991). In contrast, the results obtained on our study revealed the opposite pattern. Hence, it was found that under conditions of low elaboration, (positive) mood functioned as an affective cue, while under conditions of high elaboration, (negative) mood functioned as a motivator to process such that relevant cues (like self-reference prompts) could be picked up. Further research is necessary in order to clear out these mood effects under different forms of elaboration.

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