

# The effects of price framing on buying behavior. Does ego depletion play a moderating role here?



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# Table of Contents

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Abstract .....	1
Introduction .....	2-3
Theoretical Background .....	4-10
The Heuristic Theory.....	4-5
The Elaboration Likelihood Model .....	5-6
The Limited Resource Model of Self-Control.....	6-7
The Present Article .....	7-8
Summary of Hypothesis .....	9-10
Methods.....	11-14
Pre-test 1: Discount versus no discount.....	11
Pre-test 2: Does a dense environment induce ego depletion? .....	11-12
Pre-test 3: Choosing a good control condition .....	12-13
Pre-test 4: Trustworthiness of 40 percents-off discounts .....	13
Subjects and Design .....	13-14
Results .....	15-18
Main effect of depletion .....	15
Interaction effects of price framing and ego depletion.....	15-17
Interaction between amount of money spent and ego depletion, and further analyses .....	17-18
General Discussion.....	19-24
Explanation of Results.....	19-20
Theoretical and Practical Implications .....	21-24
Acknowledgements .....	24
References .....	25-28
Appendix .....	29-43

### Abstract

Price strategies and the situation consumers encounter in a shopping context influence information and consumer behavior in quite different ways. The current research investigated whether the manipulation of the atmospheric variables of volume of music and crowding in the store environment, can induce a state of self-regulatory resource depletion and whether this in turn leads to different consumer responses. A 2 (depletion vs. no depletion) x 3 (40 percent-off vs. 10 percent-off vs. control) between subject design was used. A field study found that under conditions of high volume music and crowding, consumers' self-rated depletion is significantly higher than under conditions of low volume music and low crowding. Findings from the main study suggest that when self-regulatory resources are limited, consumers tend to be more prone to fall into price strategies, even if they are unreasonable (no price information included and a 40 percent-off discount), and have higher buying rates. In contrast, when self-regulatory resources remain intact due to a calm store environment, buying rates are significantly lower and consumers think more critically about their buying behavior. In summary, the results assume that self-regulatory resource depletion plays a moderating role in price strategies. Depletion obviously does influence consumer responses in that it leads to higher buying rates.

## **Introduction**

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Numerous price strategies can be seen everywhere in the modern society. Whenever we turn on the TV, look through a newspaper, or listen to the radio advertisements, different price strategies immediately jump into our sight. These include the mailboxes, the Internet, and many more. Advertisements provide us with up-to-date information about the latest products and are a good method to introduce products and help manufactures to promote their new products. The goal of advertisement is to force people to notice their products. As they make things so attractive, we often end up buying things that we do not really need, especially when these ads are presented with price strategies, such as discounts.

Price is undoubtedly one of the most important market variables (Bauer, Klieger & Koper, 2004). It becomes apparent from the literature that there are numerous ways of price framing. Specifically, price framing is defined as how the offered price is communicated to the consumer (Briesch, Krishna, Lehman & Yuan, 2002). Framing the same information in different ways can have a great impact on consumer decision making and choice behavior. For example, Blair and Landon (1981) found that consumer estimates of the advertiser's regular price are higher for ads with a reference price than for ads without one. Reference price can be defined as a concept of an internal standard against which observed prices are compared (Kalyanaram & Winer, 1995). This effect can subsequently cause a heightened interest in the advertised offer by increasing consumer estimates of the product savings offered by the advertiser. In a study on the effects of promotion framing on price expectations and choice DelVecchio, Krishnan, and Smith (2007) found that frame affects consumers' perceptions of the promoted price and the weight they place on the promoted price. In their first study it was found that when the monetary value of a promotion is high, price expectations are significantly higher when the promotion is framed as a percentage off rather than as cents off. Hence, we use a percentage off promotion in the present study. The second study tested whether frame has an effect on post promotion choice. The results showed that when the monetary value of a promotion is high, a cent-off promotion leads to lower post promotion choice. When, on the other hand, the monetary value of a promotion is low, post promotion choice does not differ by the promotion frame. For instance, when a shampoo costs € 3,99, thus, when the monetary value is high, and a cents-off discount is used (e.g. 75 cents-off) to promote the product, consumers rather do not buy the product the next time they go shopping. In contrast, when a shampoo costs only € 1,09, thus, when the monetary value is

low, whether a percentage-off or a cents-off discount is used to promote the product does not have an effect on post promotion choice. The results from the second study give evidence that price promotion can undermine future choice for products. In a third study DelVecchio, Krishnan, and Smith (2007) examined how frame affects price expectations. It becomes apparent from the results that both the monetary value of a promotion and frame affected subjects' perceptions of the price. In a different study DelVecchio, Henard and Freling (2006) found that promotions higher than 20% of the product value have a negative effect on post promotion preference. This result indicates that consumer view very large discounts with suspicion and find them less trustworthy compared to reasonable discounts which are below 20%. Therefore, the present study uses price reductions over and under 20% in order to underline the price reductions, and its positive and negative effects of depth promotion, as well as using an authentic price reduction. Furthermore, the present study proposes that self-regulatory resource depletion plays a moderating role in explaining the effects of price strategies in an overwhelming shopping context. The rationale behind resource depletion is that self-regulatory resources, such as controlled information processing cost energy, and this energy is limited (Baumeister, Bratslavsky, Muraven & Tice, 1998). In particular, we suggest that consumers in a complex shopping context are more prone to fall into price strategies due to a limited amount of self-regulatory resources compared to consumers who are in calm store environment.

## **Theoretical background**

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### *The Heuristic Theory*

In the 1980's the number of sales promotions rapidly increased (Rayu, 1995). A lot of research since then focuses on price strategies which provide support for the effectiveness of these strategies.

Nonetheless, the question remains how these price strategies work. There are several theories that explain how such price strategies might work. One is the heuristic theory. A heuristic is defined as a mental shortcut that allows people to solve problems and make judgments quickly and efficiently (Epley, 2004). The rule-of-thumb strategies shorten decision-making time and allow people to function without constantly stopping to think about the next course of action (Kahnemann, Slovic & Tversky, 1982). In a classic study by Langer, Blank and Chanowitz (1978) of automatic responses, the use of heuristics is demonstrated. In this study, a researcher asked a small favor of people who were waiting in line to use a copy machine: "Excuse me, I have five pages. May I use the copy machine because I'm in a rush?" As a result, 94% of those who were asked let the researcher go ahead of them in line. This and many other studies show that consumers often automatically use simple heuristics without analyzing all decision-relevant information (Cialdini & Goldstein, 2004; Langer et al., 1978).

In the field of price strategies the anchoring-and-adjustment heuristic plays a central role. This is a psychological heuristic that influences the way people intuitively assess probabilities. According to this heuristic, people start with an implicit reference point (the "anchor"), such as initial impressions, perspectives, or values, and make adjustments to it to reach their estimate (Epley & Gilovich, 2006; Tversky & Kahnemann, 1974). Also in the context of price strategies the anchoring and adjustment heuristic plays an important role.

In a study by Morwitz, Greenleaf and Johnson (1998) the impact of partitioned pricing on purchase intentions and recall of total costs was examined and they found that partitioned prices decreases consumers' recalled total cost and increases their purchase intentions. Partitioned pricing can be defined as the main price, which serves as an anchor in this context, plus other charges such as installation charges, handling charges, and service charges. With the arrival of the e-commerce consumers more often come in contact with partitioned prices than they did before. For example, an online purchase of a book may include € 9,99 for the book itself and a € 3,99 surcharge for delivery. The results found by Morwitz, Greenleaf and Johnson (1998), suggest that partitioned pricing encouraged consumers to process the

information heuristically (the base price served as an anchor) and also lead to higher rates of demand.

In addition, it should be noted that people tend to base estimates and decisions on known ‘anchors’ or familiar positions, with an adjustment relative to the anchor. Example; if asked whether the population of Turkey was greater or less than 30 million, you might give one or another answer. If then asked what you thought the actual population was, you would very likely guess somewhere around 30 million, because you have been anchored by the previous question. The aforementioned example can be underlined by the results found by Epley and Gilovich (2006). Their research gives evidence that people adjust information insufficiently from an initial anchor value because they stop adjusting once their adjustments fall within an implicit range of plausible values (see also Epley, Keysar, Van Boven & Gilovich, 2004; Quattrone, Lawrence, Finkel & Andrus, 1981).

#### *The Elaboration Likelihood Model*

The Elaboration Likelihood Model gives an explanation of why consumers often rely on heuristics (Petty & Cacioppo, 1986a). In particular, the Elaboration Likelihood Model (ELM) assumes that we do not always process information the same way (Petty & Cacioppo, 1986a). According to Petty and Cacioppo, we make decisions through two different routes, specifically, the central route and the peripheral route. When people think critically about the contents of a message, they are said to take the central route to persuasion and are influenced by the strength and quality of the arguments (Petty & Cacioppo, 1986a). When people do not think critically about the contents of a message but focus instead on other cues, they take the peripheral route to persuasion (Caccioppo, Petty, Kao, & Rodriguez, 1986; Petty & Cacioppo, 1986a; Petty & Caccioppo, 1986b).

On the peripheral route to persuasion, people will often evaluate a message by using simple heuristics, or rules of thumb (Chaiken, 1987; Chen & Chaiken, 1999). If, for example, a communicator looks good, we assume that the message must be correct. Because consumers receive an incredible number of messages daily they do not carefully pay attention to every single of them. The great majorities of these messages are not worth our time and will be dismissed. There are only a limited amount of things we can pay attention to, and so we use rules of thumb, or heuristics to handle them (Chaiken, 1987). These heuristics can be considered as mental shortcuts we resort to simply because our time and cognitive capacities are limited. It seems thus that the peripheral route to persuasion is used when consumers are

confronted with price strategies, in that they rely on simple cues, such as discounts, price partitioning, or reference price. With reference to the shopping environment, crowding and many other variables might serve as cues. Especially in the context of snack food this frequently appears to be the case. For example, when walking through a store, sales promotions almost always have an eye-catching function. The size of the sales promotion posters are of such a great size that they are rarely looked over by the consumer. This eye-catching function of a sales promotion can serve as a peripheral cue for the consumer in that the consumers stops thinking about buying other products and, instead, buy the promoted product.

### *Limited Resource Model of Self-Control*

Thus far, the Elaboration Likelihood Model and heuristic theory have been introduced to explain how price strategies might work. Recently, there is another theory, the limited resource model of self-control, which can be linked to heuristic theory. Compared to the Elaboration Likelihood Model (ELM) which stresses that people do not always have the motivation and ability to process every single message they encounter, the limited resource model of self-control offers a different explanation of why consumers so often fall prey to the use of heuristics (Baumeister, Schmeichel & Vohs, 2003). The self plays a central role in this model. The rationale behind this is that the self exerts control over itself as well as the external world. Recent research has found out that active self-control can be detrimental in that it depletes some inner resources, akin to strength or energy (Baumeister et al., 2003; Baumeister & Heatherton, 1996).

The main idea behind resource depletion is that self-regulatory processes, such as controlled information processing cost energy, and this energy is limited (Baumeister, Bratslavsky, Muraven & Tice, 1998). This main idea can be compared with the central route to processing, which involves thinking carefully about the information that is relevant to a particular topic (Petty & Caccioppo, 1986a; Petty & Caccioppo, 1986b). Taking the central route to processing seems impossible when we think about the thousand of times each day we are confronted with different messages, advertisements, and so on.

When reviewing the literature, theory in the field of resource depletion gives evidence that exertion in one situation is followed by a period of reduced ability in a subsequent situation (Baumeister & Heatherton, 1996; Baumeister, Heatherton & Tice, 1994). Accordingly, any exertion of willpower or self-regulation in one task, as long as it is sufficiently demanding,



should reduce any subsequent self-regulation on a second, seemingly unrelated task (Baumeister, Muraven & Tice, 2000; Baumeister et al., 1998). As a consequence, one's resources for self-regulation are reduced and one falls back to routine and automatic behavior as a basis for decision-making (Baumeister & Vohs, 2007). Reviewing the study by Langer et al. (1978), this is exactly what happened, subjects actually had no reason to comply but clearly they did because the situation they encountered involved a heuristic (a reason).

Thus, it seems that the limited resource model of self-control can be linked to numerous or maybe even to all heuristics. For example, Gilbert (1991) found out that when people are simultaneously cognitively preoccupied with a secondary task, they draw inferences about the stimuli through intuitive or heuristic means rather than by thoroughly processing the information. In a study by Pelham, Sumarta and Myaskovsky (1994) it was shown that when people's cognitive resources are taxed (for instance, by giving them difficult tasks or by giving them two simultaneously tasks), they are unable to make use of higher-order inferential use and rely on heuristics instead to make judgments.

Notably, studies have lately begun to explore the link between self-regulation failure and buying behavior. Faber and Vohs (2007) found out that when participants' resources were depleted they were prone to spend more money and felt stronger urges to buy. Until recently, no link has been drawn between resource depletion and price framing.

### *The present article*

In the current studies, we test the hypothesis that exerting regulatory resources leaves people less able to resist sales promotions. This will be tested in a field study. Based on the results found by DelVecchio et al. (2007) that consumers do not calculate the value of a sales promotion when a percentage-off promotion is used, this, in turn, leads to greater choice. Based on this reason we focus on a percentage-off discount in the present study. This will be done by manipulating the price information on flyers from the Kentucky Fried Chicken (percent off vs. control). In the field, self-regulatory resources will be manipulated with two variables, in particular, crowding and volume of music. Milgram (1970) defined crowding as a high-density condition when the amounts of environmental stimuli exceed the capacity to cope with them. Overstimulation (higher than desired excitement) of the environment can lead to a momentary loss of self-control and a depletion of the self's crucial resources (Baumeister, Bratslavsky, Muraven & Tice, 1998). Other researchers found that high arousal reduces

people's ability to think through the implication of their actions (Tice, Bratlavsky & Baumeister, 2001).

This study proposes that people are more depleted under conditions of high crowding than under conditions of low crowding. In accordance with Eroglu and Harrell (1986), crowded environments induce tension and confusion, leading to less favorable evaluations of the shopping experience. Following from this, it seems that high crowding leads to a higher excitement than desired. This overstimulation can lead to a momentary loss of self-control which might result in an impaired state of self-regulation. Further, we also suggest that under conditions of high volume music consumers are more depleted than under conditions of low volume music. It is expected that high volume music also leads to self regulatory resource depletion in that it might induce tension and confusion. Under conditions of high crowding it may lead to overstimulation. Taken together, we hypothesize that self regulatory resource depletion is highest under conditions of high crowding and high volume music than under conditions of low crowding and low volume music. A two-way interaction is suggested in that crowding and volume of music have an effect on buying behavior. Because consumers are depleted of their inner resources by the tension and confusion caused by the crowding and high volume music, we expect to find different buying rates for the depleted consumers compared to the non-depleted consumers. It is difficult to take into account all variables that are important to make an effective decision in a buying context when the environment is shadowed by other consumers and the surrounding is loud.

Taken together, these atmospheric cues are expected to have an effect on resource depletion in that a dense environment and high volume music might deplete people's cognitive resources. Depleted consumers are less able to function effectively and will accept the price strategy, because they fall back to use habits, routine behavior, and automatic processes. As a result, people who are confronted with price strategies, in particular sales promotions in this context, will be more prone to price strategies.

*Summary of hypothesis*

Based on the preceding literature we assume to find a difference in consumers behaviour in the high crowding, high volume music environment compared to the low crowding, low volume music Fast Food Restaurant environment. As a result, we propose a main effect of price framing (10% vs. 40% vs. control) on buying rates.

H1: The inclusion of price framing has a positive impact on buying rates, When a percentage-off discount is used buying rates are higher than when no price information is included.

There has been overwhelming support (see e.g., DelVecchio et al., 2007; Morwitz et al., 1998) that framing the equivalent price information in different ways results in higher purchase intentions. In contrast to past research, the current study focuses on the role of self-control in consumer behaviour when price framing is used.

H2: A state of self-regulatory resource depletion results in higher buying rates when price framing is used.

H2a: Depleted people have higher buying rates when price framing included a 40 percent-off discount compared to a 10 percent-off discount. This is underlined by the fact that depleted consumers do not think about the credibility of a discount, rather, the high discount of 40 percent serves as a cue.

H2b: Non-depleted people will have higher buying rates when price framing included a 10 percent-off discount compared to a 40 percent-off discount. This is explained by the fact that discounts below 20 percent are seen as credible, realistic, and trustworthy (DelVecchio, Henard and Freling, 2006).

H2c: When confronted with a 10 percent-off discount buying rates do not differ significantly based on depletion vs. no depletion. This is underlined by the results found by DelVecchio, Henard and Freling (2006) that promotions lower than 20 percent of the product value have a positive effect on post promotion preference and are seen as credible and trustworthy by the consumer.

In a recent study Faber and Vohs (2007) found that when participants were in a state of self-regulatory resource depletion they were willing to spend more money, especially in unanticipated buying situations. Following from this, we expect to find similar results in that depleted consumers spend overall more money compared to their non-depleted counterparts.

H3: Depleted people will have higher buying rates compared to non-depleted people when no price information is included. This is due to the fact that depleted consumers do not think critically about the information they receive.

H3a: Depleted consumers spent more money than non-depleted counterparts.

## Methods

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The purpose of the following field study is to examine the hypotheses that crowding and high volume music induce ego depletion and that ego depletion does affect the use of shopping heuristics in that depleted consumers are more prone to fall into price strategies.

### *Pre-test 1: Discount versus no-discount*

Two pre-tests (with each 20 subjects) were conducted to confirm our proposition that when consumers have the possibility to choose, they tend to choose the most beneficial. In each pre-test the subject received a questionnaire which included one of two products of the Kentucky Fried Chicken where the price information was manipulated on flyers (40% or 30% discount vs. no price information vs. text vs. only price vs. 10% discount; see appendix). In the first pre-test subjects first had a look at the flyer and then judged it by filling in a questionnaire. In total, subjects rated eight items on a 7-point scale (1=not at all; 7=very much). Subjects were asked to evaluate the flyer with three items (adopted from Duncan & Nelson, 1985). Cronbach's alpha was high ( $\alpha=.87$ ). An example of an item is "The flyer was boring". Estimation of the price was measured with five items adopted from Maddox (1976). Cronbach's alpha was high ( $\alpha=.93$ ). An example of an item is "The price for the product is too high" (reversed). Results show that the estimation of the flyer is more positive when the flyer included a discount price ( $M = 6.24$ ,  $SD = .86$ ) than when no price information was presented ( $M = 3.18$ ,  $SD = 1.33$ ), a text was included ( $M = 3.99$ ,  $SD = 1.61$ ), and when only the price was presented ( $M = 4.65$ ,  $SD = 1.39$ ). Gender, citizenship, age, and the type of product were not responsible for the significant results found. The same pattern of results was found with the estimation of the flyer. In the second pre-test subjects had to assign a rank to the five different flyers (1=very good; 5= very bad). Results show that flyers which included a discount were given the highest grades ( $M = 1.1$ ,  $SD = .308$ ). When no price information ( $M = 4.6$ ,  $SD = .598$ ) was included on the flyer or when the flyer included a text ( $M = 4.2$ ,  $SD = .696$ ), they were ranked the least positive.

### *Pre-test 2: Does a dense and loud environment induce ego depletion?*

In order to verify that a dense environment coupled with high volume music can have a depleting effect on consumers, a pretest was conducted with 20 customers of both sexes at the Kentucky Fried Chicken to test this (9 female, 11 male;  $M = 34.80$  years old,  $SD = 12.89$ ).

Two conditions (crowding and high volume music versus no crowding and low volume music) were used to investigate whether a crowded and loud environment depletes self-regulatory resources. The crowding condition included five or more people waiting in line to order something to eat. The no crowding condition was defined as maximal five persons waiting in line. The State Ego Depletion Scale was presented (see Appendix) in order to measure self regulatory resource depletion (Ciarocco, Twenge, Muraven & Tice, under review). This scale included 25 items that are rated on a 5-point Likert scale (1 = not at all; 5 = very much). Items included in the scale are, for example, “I feel exhausted”, “A new challenge would appeal to me right now” (reversed), and “I wish I could relax for a moment”. The reliability of the State Ego Depletion Scale was high ( $\alpha=.98$ ). A univariate analysis was used to examine the data. The State Ego Depletion Scale served as the dependent variable and condition (crowding and high volume music versus no crowding and low volume music) served as the fixed factor. This analysis revealed significant effects,  $F(1,18) = 248.45$ ,  $p < .05$ . When examining the data it can be observed that the means were significantly higher for subjects in the crowding plus high volume music condition ( $M = 4.31$ ,  $SD = .23$ ) which indicates that these subjects were more depleted, compared to the no crowding condition plus low volume music condition ( $M = 1.97$ ,  $SD = .41$ ).

### *Pre-test 3: Choosing a good control condition*

In order to choose a good control condition, a third pretest was conducted for the two least ranked flyers (text versus no price information), where one is supposed to serve as a control condition in the main study. From the first pretest it becomes apparent that these two flyers were ranked least positive based on the estimation of the flyer and the price information. The aim of this pretest was to examine whether buying intentions differ significantly from each other based on which flyer they saw beforehand. For this purpose the Purchase Intention Scale from Dodds, Monroe and Grewal (1991) was adopted. This scale included three items, “I would purchase this product”, “I would consider buying this product” and “The probability that I would consider buying this product is high”; that were ranked on a 7-point Likert scale (1 = not at all; 7 = very likely). The reliability of the Purchase Intention Scale was high ( $\alpha=.98$ ). Both Flyers were ranked by each 10 subjects (6 female, 14 male,  $M = 35.05$  years old,  $SD = 14.17$ ). An ANOVA was conducted and showed that the purchase intentions were significantly lower when no price information was included on the flyer ( $M = 1.53$ ,  $SD = 1.08$ ) compared to when the price information included a text ( $M = 4.90$ ,  $SD = 2.33$ ). This

seems logical due to the fact that customers rarely buy products when they do not know the price they have to pay for it. Based on these results we choose the flyer with no price information as the control condition.

#### *Pre-test 4: Trustworthiness of 40 percents-off discounts*

To confirm the results found by DelVecchio, Henard and Freling (2006) that discounts in excess of 20 percent have a negative effect, a fourth and final pre-test was conducted in order to verify that a large discount is seen as less trustworthy and credible. 10 customers of the Kentucky Fried Chicken Restaurant participated in this pre-test and indicated whether a discount of 40 percent is trustworthy or not (7 female, 3 male;  $M = 40.90$  years old,  $SD = 12.07$ ). This was done by confronting customers with a flyer which included a 40 percent discount. Then, customers indicated whether this price reduction is trustworthy or not, “I believe the price reduction of 40 percent is very trustworthy”, on a 7-point Likert Scale (1=not at all; 7=very much). An ANOVA was conducted and showed that customers judged a 40% price reduction as rather untrustworthy ( $M = 2.80$ ,  $SD = 1.23$ ). Thus, the results found are in accordance with the findings by DelVecchio, Henard and Freling (2006). Based on these findings we expect that the buying rates in the 40 percent-off condition will be lower for non-depleted customers because these customers are not drained of their self-regulatory resources and therefore might think that this promotion is not credible. On the contrary, we predict that customers who are drained by their self-regulatory resources make use of a 40 percent sales promotions because they do not critically think about the information they receive and do not consider the fact that a discount of 40 percent is rather unrealistic.

#### *Subjects and Design*

In the main study 120 customers (57 female, 63 male;  $M = 32.15$  years old,  $SD = 12.04$ ) from the Kentucky Fried Chicken in Essen (Germany) voluntarily participated in this study. Informed written consent was obtained from each customer prior to the study.

A 2 (depletion vs. no depletion) x 3 (40% percent-off vs. 10% percent-off vs. control) between subject design was used where crowding and volume of music were manipulated to induce a depleting environment and served as the independent variables. The depleting environment included high volume music on TV (Pop music/charts) and more than five people waiting in line to order something to eat (based on the results found in pretest 2). In contrast, the non depleting environment included low volume music and maximally five

people who are waiting in line. Customers who were waiting in line were presented with a flyer (see Appendix) from the Kentucky Fried Chicken where the price information was manipulated. After customers saw the flyer the reaction time and the buying behavior were measured, which served as the dependent variables in this study. Reaction time is defined as the time interval between welcoming the customer by the cashier and ordering something to eat. Furthermore, the time of day was registered as we expected that peoples' self regulatory resources are less at the end of the day due to a long working or school day. Additionally, the turnover rates (see Appendix) serve as indicator whether or not it had been crowded at the store. At the end, subjects were thanked for voluntarily participating in this study.



## Results

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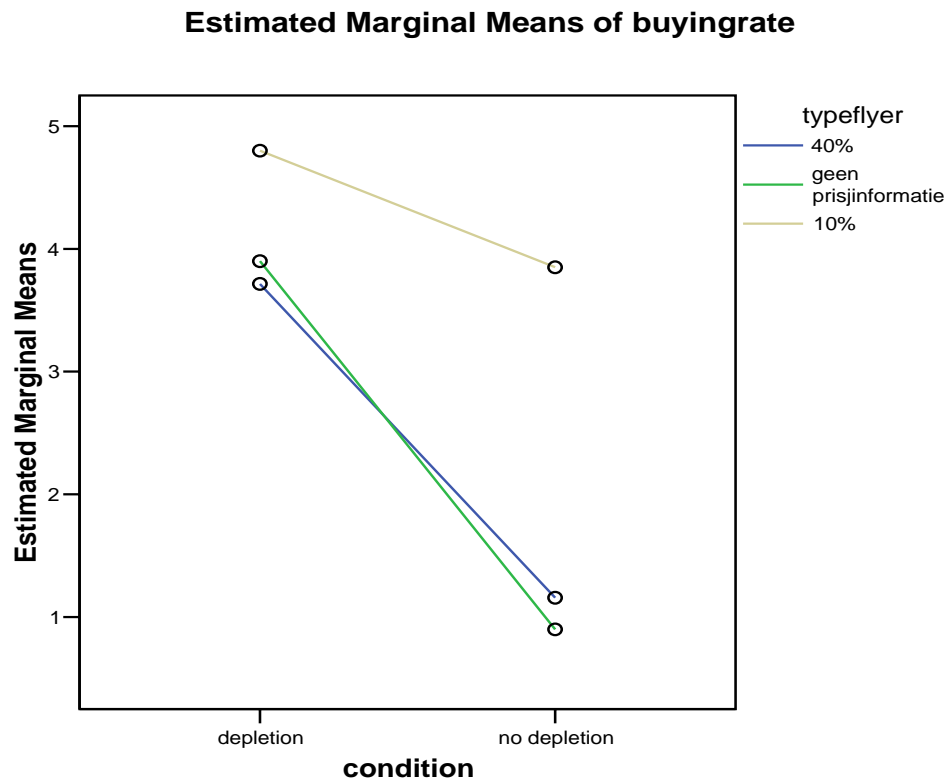
### *Main effect of depletion*

Our goal was to test the prediction that self-regulatory resource depletion has an effect on the behaviour of consumers. Specifically, we aimed to induce a state of self-regulatory resource depletion through crowding and high volume music. We tested the effect of the depleting environment with an ANOVA with buying behaviour as the dependent variable and condition (depleting environment vs. non depleting environment) as the fixed factor. As predicted, there was a significant effect of depletion condition  $F(1,118) = 32.77, p < .01$ . The results reveal that customers in the depletion condition, where crowding and high volume music were supposed to induce self-regulatory resource depletion, had significantly higher buying rates ( $M = 4.13, SD = 2.15$ ) than did customers in the no depletion condition, where no crowding and low volume music induced a calm environment ( $M = 1.98, SD = 1.98$ ). Additionally, we used the variable time of the day as covariate to test whether the results remain the same. Time of the day does not seem to be responsible for the significant results found  $F(1,117) = 8.04, (ns)$ . A median split for time of day was done and used in the subsequent analysis to be able to compare two different groups.

### *Interaction effects of price framing and ego depletion*

In the following we tested the second hypothesis that when self-regulatory resources are diminished buying rates will be higher when a 40 percent-off discount and no price information were included in the flyer compared to when self-regulatory resources were intact. Specifically, in the depletion condition we expect that the 40 percent-off discount will serve as a cue in that customers only see that there is a sales promotion but do not further think about whether this might be credible or not. As a result, higher buying rates are expected here. In the no depletion condition we expect that the buying rates in the 40 percent-off condition will be lower because these customers are not drained of their self-regulatory resources and therefore might think that this promotion is not credible. The same pattern is predicted for the flyer where no price information is included. It seems illogical to buy products with no price information. When we think rationally about buying something without knowing the price we would reject doing this, but when there is a temporarily lapse in self-control this might be rather different. We found support for this hypothesis in an ANOVA

with buying rate as the dependent variable and type of flyer and condition as fixed factors. This analysis revealed that the predicted effects reached significance.



*Figure 1.* Interaction effect of price framing and ego depletion on buying behaviour.

First, we found a significant interaction between condition (depletion vs. no depletion) and type of flyer (40 percent-off vs. 10 percent-off vs. no price information) in buying behaviour,  $F(2,114) = 3.43, p < .05$ . Second, as can be seen in figure 1, customers in the depletion condition ( $M = 3.71, SD = 2.05$ ) who saw the 40 percent-off flyer had higher buying rates than customers in the no depletion condition ( $M = 1.16, SD = 1.21$ ). Moreover, the results show that when customers' self-regulatory resources are reduced by crowding and high volume music they are more prone to sales promotions where no price information is included ( $M = 3.90, SD = 2.05$ ) compared to customers whose resources remained intact ( $M = .90, SD = 1.12$ ) due to a non depleting environment. As expected, buying rates did not differ significantly for customers who saw the flyer with a 10 percent-off discount due to depletion vs. no depletion (depletion:  $M = 4.80, SD = 2.31$ ; no depletion:  $M = 3.85, SD = 1.93$ ). In contrast to hypothesis 2a, we did not find significantly higher buying rates for the 40 percent-off flyer compared to the 10 percent-off discount flyer for depleted customers. Furthermore, a

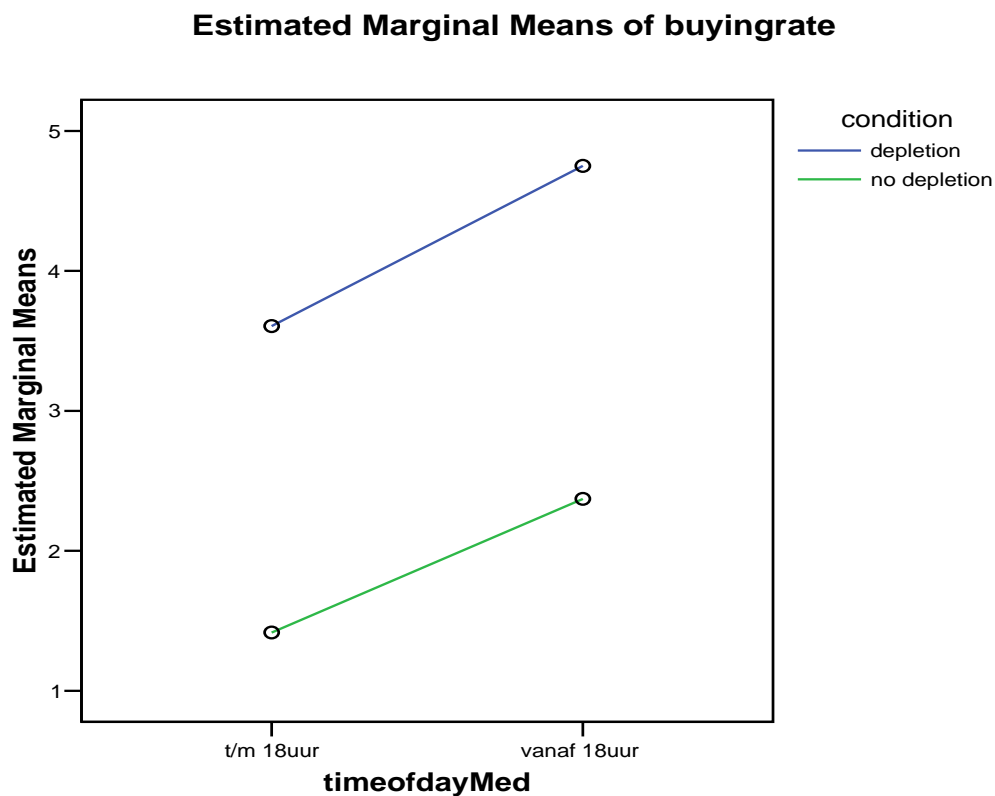
significant simple main effect of buying rate in the interaction with type of flyer and the non depleting condition was present. Customers in the non depleting environment had significantly higher buying rates when the flyer included a 10 percent-off discount ( $M = 3.85$ ,  $SD = 1.93$ ) compared to a 40 percent-off discount ( $M = 1.16$ ,  $SD = 1.21$ ) and when no price information was included ( $M = .90$ ,  $SD = 1.12$ ). The same pattern of results was found for the depletion condition, buying rates were highest when a 10 percent-off discount was included ( $M = 4.80$ ,  $SD = 2.31$ ). Taken together, it can be said that when customers are depleted of their inner resources, buying rates do not differ significantly dependent on which price framing strategy is used even when it is unreasonable to buy the product. In contrast, when people's inner resources remain intact it seems to be of great importance which price strategy is used because these people seem to think about the sales promotion they are confronted with.

#### *Interaction between amount of money spent and ego depletion and further analyses*

It was hypothesized here that customers whose resources are depleted are prone to spend more money than their non-depleted counterparts. We used an ANOVA to test for this. As we expected, customers who ordered something to eat in a depleting environment spent significantly more money ( $M = 8.05$ ,  $SD = 4.20$ ) than customers who were in a non depleting environment ( $M = 3.85$ ,  $SD = 3.87$ ;  $F(1,118) = 16.34$ ,  $p < .01$ ).

In addition, we tested whether there is a difference in buying behaviour at the end of the month compared to at the beginning of the month. The beginning of the month was defined as the 1<sup>st</sup> of the month up to the 15<sup>th</sup>, and the end of the month was defined from the 16<sup>th</sup> of the month up to the end of the month. Generally, people get their salary at the beginning of the month (in Germany), and at this time they have more money available compared to at the end of the month, when they already had to pay their bills, such as rent, insurances, taxes, and so on. Therefore, it might be the case that customers have higher buying rates at the beginning of the month than at the end of the month. We tested this with a univariate analysis but did not find any effect  $F < 1$ . When examining the data further, a trend can be seen in the expected direction. In particular, customers had higher buying rates at the beginning of the month ( $M = 3.18$ ,  $SD = 2.45$ ) than at the end of the month ( $M = 2.98$ ,  $SD = 2.23$ ;  $F(1,118) = .21$ ,  $p = .65$ ). Furthermore, we noticed the time of the day and predicted that people are more depleted at the end of the day. At the end of the day most people are drained of energy because they already had a long working day or day in school and certainly, people are also hungrier at the end of

the day. This, in turn, might lead to reduced self-control and make people more prone to price strategies. Again, we used a univariate analyses and found a marginally significant effect,  $F(1,53) = 1.53, p = .056$ . The results reveal that buying rates are higher at the end of the day. As already mentioned, a median split was done for the variable time of day in order to be able to compare two different groups, one until six pm, and the other starting at six pm. The results show that buying rates were significantly higher at the end of the day than during daytime,  $F(1,116) = 7.92, p < .05$  (see Figure 2).



*Figure 2.* Main effect of ego depletion and time of the day on buying behavior.

Overall, the results indicate that ego depletion has a moderating role in price strategies. Depletion obviously does influence consumer behavior in that it leads to higher buying rates even if it is unreasonable to buy the product, as was the case with the flyer where no price information was included.

## **General Discussion**

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### *Explanation of Results*

The purpose of this article was to examine the influence of ego depletion induced by crowding and high volume music on consumer behaviour when price framing was used. We used flyers from the Kentucky Fried Chicken and manipulated the price information on these (40 percent-off discount vs. 10 percent-off discount vs. no price information included). Specifically, we predicted that, when customers are in a state of regulatory resource depletion, this will lead to higher buying rates. Consistent with our conceptualization, we found that ego depletion obviously plays a moderating role in the buying behaviour of customers. Most importantly, we found that customers, who were constrained by their inner resources by the exciting environment which included high volume music and a crowded store environment, had higher buying rates than non depleted customers. This finding is in accordance with the results found by Faber and Vohs (2007) that people who's inner resources are constrained spent more money on products than non depleted counterparts. Besides, we proposed that when customers are in a state of self-regulatory resource depletion buying rates will be greater when a 40 percent-off discount and no price information were included compared to when self-regulatory resources were intact. Based on the Elaboration Likelihood Model (Petty & Cacioppo, 1986a), we predicted that the percent-off discount will serve as a cue in that customers only see that there is a sales promotion but do not evaluate and think about the information they are confronted with. The results are in line with our predictions and demonstrate that customers who's self-regulatory resources are reduced are prone to sales promotions where no price information is included and a 40 percent-off discount was used. In addition, this finding is in line with earlier research by Baumeister (2002) who stated that people's ability to oppose temptation is at its lowest level when the self's resources became depleted. This is due to the fact that depleted consumers rely more on heuristics, even when those lead to unfavorable or negative outcomes (Cialdini, 1994). Additionally, Cialdini (1994) found out that depleted consumers more often pick false offers than people who are not depleted. The same pattern was found in the present study with illogical price reductions and even no price information.

However, is it really that unrealistic that a 40 percents-off discount is used in the category of snack food? Rather not. When we think of the many times Fast Food Restaurants make use of coupons and discounts it might be questionable that the 40 percent-off discount was judged as

incredible in this case (see pre-test 4). Future research should explore in which product categories large discounts are seen as untrustworthy and in what product categories such large discounts may be beneficial.

The reversed pattern of results was found for customers whose resources remained intact due to a calm store environment (low volume music and non crowding environment). When confronted with the flyer where no price information was included and the flyer contained a 40 percent-off discount buying rates were significantly lower compared to the flyer where a 10 percent-off discount was used. These results indicate that retailers have to be very careful when using price framing strategies when people's self-regulatory resources are intact. It seems that when the inner resources are intact, people they think critically about the information they receive and do not make use from sales promotions that are incredible or illogical.

Nonetheless, the question remains whether the effect of ego depletion induced through crowding and high volume music is mediated through arousal. It was expected that a crowded environment leads to excitement, tension and confusion. These concepts might have led to an aroused state in consumers. Future research should examine what role arousal plays in the context of ego depletion, and if arousal can explain some of the results found in the present study.

Furthermore, our results indicate that people's resources are less at the end of the day than at daytime. This is supported by the fact that customers had overall higher buying rates after six pm than before that time. Another possible explanation for the higher buying rates at the end of the day might be that people are hungrier at the end of the day because of a long working day. Based on the fact that there numerous of products that are trying to be sold every day through different price strategies one should be cautious in generalizing the present findings to other product categories. For instance, in the domain of technology products the present findings might not be adaptable. As technical products are usually high monetary value products, different price framing strategies have to be used to attract consumers to buy them. In this domain it would rather not work if no price information is included on the product because it is much more expensive. In the context of snack food, whatever product the consumer chooses it would not be that expensive and maybe therefore, the consumer does not take so much care in evaluating the price information.

### *Theoretical and Practical Implications*

This article, together with recent empirical research by Faber and Vohs (2007), clearly points to the importance of examining the role of ego depletion and its effect on consumer behavior. Previous work by Faber and Vohs (2007) suggests that a state of regulatory resource depletion leads to stronger urges to buy and a higher amount of money spent. Our work extends previous work by demonstrating that a crowded and loud store environment has the power to reduce self-regulatory resource depletion. Pre-test 2 had shown that when people are in a dense store environment with high volume music, they have higher scores on the State Ego Depletion Scale, than people in a calm store environment. The assumption that crowding can induce ego depletion was further supported in the main study in that customers who were confronted with the flyer in the crowded environment with high volume music had much higher buying rates than people in the environment without crowding and low volume music. According to the limited resource model of self-control, the resources of customers in the crowded environment are limited (Baumeister et al, 1998), as a consequence they are depleted and react more passive and impulsive for the conservation of remaining resources rather than full exhaustion (Baumeister et al, 1998). This finding has remarkable implications for marketers as well. The finding related to the effects of diminished or reduced self-regulatory resources induced by crowding and high volume music on the choice of sales promotions suggests that factors that have the ability to reduce regulatory resources in the shopping environment are likely to increase buying rates. This is supported by the fact that people who are constrained by their inner resources are found to buy products where no price information is available. People who were in a state of self-regulatory resource depletion even bought the product when no price information was included on the flyer. When we think about buying something without even knowing the price of the product this seems rather illogical. As mentioned before, people who are in a state of ego depletion do not think about offers and their profitability, it is difficult for them to resist temptation and as a result, their responses are more passive and impulsive (Mattila and Wirtz, 2007). This is due to the fact that automatic behaviour costs less energy than controlled ones (Bargh, 1994). It seems thus that marketers could benefit from designing store environments with, for example, distracting music, high volume music, distracting scents, etc. and thereby constraining self-regulatory resources. As had been found out by Kaltcheva and Weitz (2006) retailers can use different elements of the store to influence customer arousal levels (e.g. colour, complexity of the store environment). There are numerous variables included in a store environment which can be manipulated.

Future research is necessary to find the effects that can be induced through manipulating different variables (e.g. scent, colour, music tempo, type of music, etc.) in a store environment. In addition, marketers could benefit from creating store environments that are perceived to be crowded. When going to the flea market, for example, most often it is very dense, and this might be the reason why it is easier to sell things there compared to a real store environment where it is not always possible to create a crowded environment. Also, when we think of end of season sales, we can good imagine how crowded it is at the store. At these periods stores are shown to have the highest turnover rates. Might this be due to the crowded environment? Are people more prone to sales promotions because of their diminished self-regulatory resources? The present study assumes that this is the case. Another explanation for higher buying rates in crowded situations could be that consumers who do not know which products to choose will look and observe the behaviour of co-shoppers (Crutchfield, 1955). In a crowded environment, the consumer receives informational influence from co-shoppers that has the effect to produce conformity when the consumer believes that others are correct in their judgments (Crutchfield, 1955).

Definitely, the link between consumer behaviour and price framing strategies needs much more research before one can make definite conclusions. For instance, it is certainly the case that the consumer per se plays a central role in the context of buying behaviour and consumer responses in general. There is an incredible amount of personality characteristics the consumer brings into a shopping environment which can bring a consumer to buy or reject a particular product. Future research should examine whether there is a particular group of people or if there are specific personality characteristics which make it more or less easier to induce a state of resource depletion on them. Moreover, there might be particular groups of people or particular personality characteristics that are responsible for making more or less use of sales promotions. For example, consumers who are very price sensitive might be more prone to sales promotions because they think they can save some money when buying a product that is promoted.

Another practical implication can be made from the present study. In times of the world economy crisis, as is recently a global problem, the results of this study can be of great usefulness. Starting in 2008 much of the industrialized world entered into a deep recession sparked by a financial crisis and leads to a decline in profit and rates of selling (<http://www.federalreserve.gov/newsevents/speech/mishkin20080515a.htm>). All over the world stock markets have fallen, large financial institutions have collapsed or been bought



out. Certainly, a global financial meltdown like this will affect the livelihoods of almost everyone. One possible side effect and consequence in times of the global economy crisis is that consumers are busy to economize and save their money. As almost everything we need in our daily lives has become more and more expensive, for example, meat, milk, cheese, oil, and many more, most people are trying to save money where possible. The results of the present study assume that another way to attract consumers and lead them to higher buying rates is to bring them into a state of self-regulatory resource depletion. Consumers who are in a state of self-regulatory resource depletion do not critically think about the actions taken and therefore might be more prone to spent more money. Based on the finding that complex store environment induced through crowding and high volume music has a positive effect on consumers' amount of depletion, stores could try to create an environment which is crowded. A different way to pull consumers, in a time where saving money is of great importance to consumers, is to highlight offers. When consumers think they can save some money with particular sales promotions they may be more prone to fall into price strategies and therefore make greater use of it.

Finally, the results of this study are also useful for the consumer. Apparently, we do not have the resources, time, the motivation, and the ability to process every single message we encounter in our daily lives. In our everyday live, the situations we encounter are full of price strategies and advertisements where we are supposed to engage into buying something, even if we do not need the product which is advertised. The present study has shown that consumers even buy products even when they do not know the price combined with the product. This leads to the conclusion that consumers have to be very crucial as soon as they are in an environment where products are supposed to be sold. Especially, when marketers make use of clever price framing strategies (such as partitioned pricing), the consumer has to think twice before buying a product. A study by Blackwell and Engel (2006) has shown that consumers, who are warned to look at persuasion attempts, did not pick a false offer they were confronted with. Thus, when the consumer knows that marketers are trying to induce a state of self-regulatory resource depletion though manipulating different variables, such as music, and he or she further knows that this can lead to higher buying rates, these consumers are more able to resist temptation.

In summary, the present research demonstrated that ego depletion plays a moderating role in buying behaviour and that depletion is a significant determinant of spending and buying

*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*

behaviour. We hope that this research opens the door to further explorations of the interplay between self-regulatory resource depletion and consumer responses.

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## References

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- Bargh, J.A. (1994). The four horseman of automaticity : Awareness, intention, efficiency, and control in social cognition. *Handbook of social cognition*, Mahwah, NJ: Erlbaum, 4, 680-741.
- Bauer, M., Klieger, M., & Koper, U. (2004). Mehr als nur Rabatte. McKinsey & Co. *Der Handel*.
- Baumeister, R.F. (2002). Reflections and Reviews: Yielding to temptation: Self-control failure, impulsive purchasing, and consumer behaviour. *Journal of Consumer Research*, 28 (4), 670-676.
- Baumeister, R.F., Bratslavsky, E., Muraven, M., & Tice, D.M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology*, 74, 1252-1265.
- Baumeister, R., Muraven, M. & Tice, D. (1998). Self-control as limited resource: Regulatory depletion patterns. *Journal of Personality & Social Psychology*, 74, 774-789.
- Baumeister, R.F., Heatherton, T.F., & Tice, D.M. (1994). *Losing control: How and why people fail at self-regulation*. San Diego, CA: Academic Press.
- Baumeister, R.F., & Heatherton, T.F. (1996). Self-regulation failure: An overview. *Psychological Inquiry*, 7, 1-15.
- Baumeister, R.F., Muraven, M., & Tice, D.M. (2000). Ego depletion: A resource model of volition, self-regulation, and controlled processing. *Social Cognition Special Issue: Social ignition: The interplay of motivation and social cognition*, 18(2), 130-150.
- Baumeister, R.F., Schmeichel, B.J., & Vohs, K.D. (2003). Intellectual performance and ego depletion: Role of the self in logical reasoning and other information processing. *Journal of Personality and Social Psychology*, 85 (1), 33-46.
- Baumeister, R.F., & Vohs, K.D. (2007). Self-regulation, ego depletion and motivation. *Social and Personality Psychology Compass*, 1, 1-14.
- Blair, E.A., & Landon, E.L. (1981), The effects of Reference Prices in Retail Advertisements. *Journal of Marketing*, 45, 6 -69.
- Briesch, R., Krishna, A., Lehman, D.R., & Yuan, H. (2002). A meta-analysis of the impact of price presentation on perceived savings. *Journal of Retailing*, 78, 101-118.
- Cacioppo, J. T., Petty, R. E., Kao, C. F., & Rodriguez, R. (1986). Central and peripheral routes to persuasion: An individual difference perspective. *Journal of Personality and Social Psychology*, 51, 1032-1043.

*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*

- Chaiken, S. (1987). The heuristic model of persuasion. In M. P. Zanna, J. M. Olson, & C. P. Herman (Eds.), *Social influence: The Ontario symposium*, 5, 3-40. Hillsdale, NJ: Erlbaum.
- Chen, Shih-Fen S., Monroe, K.B., & Yung-Chien, L. (1998). The effects of framing price promotion messages on consumer's perceptions and purchase intentions: Research perspectives and on retail pricing. *Journal of Retailing*, 74, 353-372.
- Cialdini, R.B. (1994). *Psychology of persuasion*. Business essentials, Collins.
- Cialdini, R.B., & Goldstein, N.J. (2004). Social influence: Compliance and conformity. *Annual Review of Psychology*, 55, 591-621.
- Ciarocco, N.J., Twenge, J.M., Muraven, M., & Tice, D.M. (under review). Measuring state self-control: Reliability, validity, and correlations with physical and psychological stress. Florida Atlantic University.
- Crutchfield, R.S. (1955). Conformity and character. *American Psychologist*, 10, 195-198.
- DelVecchio, D., Henard, D.H., & Freling, T.H. (2006). The effects of sales promotion on post promotion brand choice: A meta-analysis. *Journal of Retailing*, 82 (3), 203-213.
- DelVecchio, D., Krishnan, H.S., & Smith, D.C. (2007). Cents or percents? The effects of promotion framing on price expectations and choice. *Journal of Marketing*, 71, 158-171.
- Dodds, W.B., Monroe, K.B. & Grewal, D. (1991). Effects of price, brand and store information on buyers' product evaluations. *Journal of Marketing Research*, 28, 307- 319.
- Duncan, C.P., & Nelson, J.E. (1985). Effects of humor in a radio advertising experiment. *Journal of Consumer Research*, 14, 33-40, 64.
- Epley, N. (2004). A tale of tuned decks? Anchoring as accessibility and anchoring as adjustment. *The Blackwell Handbook of Judgment and Decision Making*, 240-256.
- Epley, N., & Gilovich, T. (2006). The Anchoring-and-Adjustment Heuristic: Why the adjustments are insufficient. *Psychological Science*, 17, 311-318.
- Epley, N., Keysar, B., Van Boven, L., & Gilovich, T. (2004). Perspective taking as egocentric anchoring and adjustment. *Journal of Personality and Social Psychology*. 87, 327-339.
- Erogul, S. A., & Harrell, G. D. (1986). Retail crowding: Theoretical and strategic implications. *Journal of Retailing*, 62, 347-363.
- Faber, R.J., & Vohs, K.D. (2007). Spent resources: Self-regulatory resource availability affects impulse buying. *Journal of Consumer Research*, 33, 537-547.
- Gilbert, D.T. (1991). How mental systems believe. *American Psychologist*, 46, 107-119.
- Mishkin, F.S. (2008). *How should we respond to asset price bubbles?* (3rd, June, 2009). <http://www.federalreserve.gov/newsevents/speech/mishkin20080515a.htm>

*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*

- Kahnemann, D., Slovic, P., & Tversky, A. (Eds.) (1982). *Judgment under uncertainty: Heuristics and biases*. New York: Cambridge University Press.
- Kalyanaram, G., & Winer, R. S. (1995). Empirical generalizations from reference price research. *Marketing Science*, 14 (3), 161-169.
- Langer, E.J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of "placebic" information in interpersonal interaction. *Journal of Personality and Social Psychology*, 36, 635-642.
- Lichtenstein, D.R., & Bearden, W.O. (1989). Conceptual influences on perception of merchant-supplied reference price. *Journal of Consumer Research*, 16, 55-66.
- Maddox, N.R. (1976). Measuring consumer satisfaction. Unpublished doctoral dissertation, Ohio State University. As cited in G.C. Bruner, & P.J. Hensel (Eds.) (1992). *Marketing scales handbook: A complication of multi-item measures*. Chicago, IL: American Marketing Association.
- Mattila, S. & Wirtz, J. (2007). The role of store environmental stimulation and social factors on impuls purchasing. *Journal of Service Marketing*, 17 (7), 587-605.
- Migram, S. (1970). The experience of living in cities. *Science*, 167, 1461, 1468.
- Pelham, B. W., Sumarta, T. T., & Myaskovsky, L. (1994). The easy path from many to much: The numerosity heuristic. *Cognitive Psychology*, 26, 103-133.
- Petty, R.E. & Cacioppo, J.T. (1986a). *The Elaboration Likelihood Model of persuasion*. New York: Academic Press.
- Petty, R. E., & Cacioppo, J. T. (1986b). The elaboration likelihood model of persuasion. In L. Berkowitz (Ed.), *Advances in experimental social psychology*, 19, 123-205. New York: Academic Press.
- Quattrone, G.A., Lawrence, C.P., Finkel, S.E., & Andrus, D.C. (1981). *Explorations in anchoring: The effects of prior range, anchor extremity, and suggestive hints*. Unpublished manuscript, Stanford University, Stanford, CA.
- Rayu, J.S. (1995). Theoretical models of sales promotions: Contributions, limitations, and a future research agenda. *European Journal of Operational Research*, 85, 1-17.
- Tice, D. Brattslavsky, E. & Baumeister, R. (2001). Emotional Distress Regulation Takes Precedence over Impulse Control: If You Feel Bad, Do it! *Journal of Personality & Social Psychology*, 80 (1), 53-67.
- Tversky, A. & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, 185, 1124-1130.

*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*

Van Westendorp, P.H. (1976). NSS-price sensitivity meter (PSM): A new approach to study consumer perceptions of prices. *Adformalie*. Nederlandse Stichting voor Statistiek (NSS): The Hague, 140-167.

Van Westendorp P.H. (1976). NSS-Price Sensitivity Meter: A New Approach to Study Consumer Perceptions of Prices. Venice Esomar Congress, Amsterdam. European Market Research Society, 139-167.

## Appendix

### Pre-test 1:



Bitte bewerten sie diesen Flyer und die Preisdarstellung in Bezug auf die folgenden Aussagen.

Die 7 Punkte Skala reicht von 1 = „gar nicht“ bis 7 = „sehr“.

	gar nicht						sehr
Dieser Flyer hat mein Interesse geweckt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das Produkt ist den Preis wert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das ist ein guter Kauf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dieser Flyer ist langweilig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Der Preis ist zu hoch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich habe dem Flyer viel Aufmerksamkeit geschenkt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich finde den Preis akzeptabel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Der Preis ist zu hoch für die Qualität des Produkts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Bitte bewerten sie diesen Flyer und die Preisdarstellung in Bezug auf die folgenden Aussagen.

Die 7 Punkte Skala reicht von 1 = „gar nicht“ bis 7 = „sehr“.

	gar nicht						sehr
Der Preis ist zu hoch für die Qualität des Produkts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Der Preis ist zu hoch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das ist ein guter Kauf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das Produkt ist den Preis wert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das ist ein guter Kauf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich habe dem Flyer viel Aufmerksamkeit geschenkt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich finde den Preis akzeptabel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dieser Flyer hat mein Interesse geweckt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dieser Flyer ist langweilig.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Bitte bewerten sie diesen Flyer und die Preisdarstellung in Bezug auf die folgenden Aussagen.

Die 7 Punkte Skala reicht von 1 = „gar nicht“ bis 7 = „sehr“.

	gar nicht						sehr
Ich habe dem Flyer viel Aufmerksamkeit geschenkt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Der Preis ist zu hoch für die Qualität des Produkts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dieser Flyer hat mein Interesse geweckt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dieser Flyer ist langweilig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Der Preis ist zu hoch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das ist ein guter Kauf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich finde den Preis akzeptabel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das Produkt ist den Preis wert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Bitte bewerten sie diesen Flyer und die Preisdarstellung in Bezug auf die folgenden Aussagen.

Die 7 Punkte Skala reicht von 1 = „gar nicht“ bis 7 = „sehr“.

	gar nicht						sehr
Der Preis ist zu hoch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich finde den Preis akzeptabel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das Produkt ist den Preis wert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dieser Flyer ist langweilig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dieser Flyer hat mein Interesse geweckt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich habe dem Flyer viel Aufmerksamkeit geschenkt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das ist ein guter Kauf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Der Preis ist zu hoch für die Qualität des Produkts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Bitte bewerten sie diesen Flyer und die Preisdarstellung in Bezug auf die folgenden Aussagen.  
Die 7 Punkte Skala reicht von 1 = „gar nicht“ bis 7 = „sehr“.

	gar nicht						sehr
Dieser Flyer hat mein Interesse geweckt.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das Produkt ist den Preis wert	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Das ist ein guter Kauf	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dieser Flyer ist langweilig	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Der Preis ist zu hoch	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich habe dem Flyer viel Aufmerksamkeit geschenkt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich finde den Preis akzeptabel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Der Preis ist zu hoch für die Qualität des Produkts	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

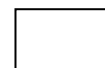
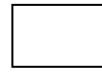
*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*

*Pre-test 1:*

Welche der folgenden Flyer spricht Sie bezogen auf die Preisdarstellung am meisten an? Bitte benoten sie diese Flyer im nebenstehenden Kästchen. Die Noten gehen von „1“ sehr gut bis „5“ schlecht.



*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*



*Pre-test 2:*

State Ego Depletion Scale (Ciarocco, Twenge, Muraven & Tice, under review)

	gar nicht			sehr	
Ich fühle mich mental erschöpft.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Es kostet mich viel Anstrengung mich zu konzentrieren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich brauche etwas Erfreuliches um mich besser zu fühlen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich fühle mich motiviert.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wäre ich mit einer schwierigen Aufgabe konfrontiert, würde ich schnell aufgeben.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich fühle mich leer.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich habe viel Energie.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich bin erschöpft.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wenn ich jetzt durch etwas abgelenkt werden würde, würde es sehr schwer sein dem Widerstand zu bieten.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde mit jeder schwierigen Aufgabe die ich bekommen würde, aufhören wollen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich fühle mich ruhig und rational.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich kann im Moment keine Informationen mehr aufnehmen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich bin in einer faulen Laune.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde es schwierig finden um jetzt voraus zu planen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*

Ich fühle mich aufmerksam und bin konzentriert.

☐☐☐☐☐

Ich will aufgeben.

☐☐☐☐☐

Das wäre jetzt ein guter Moment um eine wichtige Entscheidung zu treffen

☐☐☐☐☐

Ich habe das Gefühl das meine Willenskraft verschwunden ist.

☐☐☐☐☐

Ich bekomme meine Gedanken nicht ganz auf die Reihe.

☐☐☐☐☐

Ich kann mich im Moment gut konzentrieren.

☐☐☐☐☐

Ich habe fast keine mentale Energie mehr.

☐☐☐☐☐

Eine neue Herausforderung würde mich im Moment ansprechen.

☐☐☐☐☐

Ich würde mich gerne eben entspannen.

☐☐☐☐☐

Ich habe Mühe meine Wünsche zu zurück zu halten.

☐☐☐☐☐

Ich fühle mich entmutigt.

☐☐☐☐☐



*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*

*Pre-test 3:*



Bitte bewerten sie diesen Flyer und die Preisdarstellung in Bezug auf die folgende Aussage.

Die 7 Punkte Skala reicht von 1 = „gar nicht“ bis 7 = „sehr“.

	Nicht wahrscheinlich					sehr wahrscheinlich	
Ich würde dieses Produkt kaufen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde es in Betracht ziehen das Produkt zu kaufen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die Wahrscheinlichkeit das Produkt zu kaufen ist hoch.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





Bitte bewerten sie diesen Flyer und die Preisdarstellung in Bezug auf die folgende Aussage.

Die 7 Punkte Skala reicht von 1 = „gar nicht“ bis 7 = „sehr“.

	Nicht wahrscheinlich						sehr wahrscheinlich
Ich würde dieses Produkt kaufen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ich würde es in Betracht ziehen das Produkt zu kaufen.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Die Wahrscheinlichkeit das Produkt zu kaufen ist hoch.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*

*Pre-test 4:*



Bitte bewerten sie diesen Flyer und die Preisdarstellung in Bezug auf die folgenden Aussagen.

Die 7 Punkte Skala reicht von 1 = „gar nicht“ bis 7 = „sehr“.

	gar nicht							sehr
Ich finde die Preisreduzierung von 40% sehr glaubwürdig.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

The effects of price framing on buying behavior. Does ego depletion play a moderating role here?

## Turnover Rates

Dienstag, 10. März 2009	
Coupons	0
Basketball	0
Kino + sonstiges	0
Netto - Umsatz	2.338,45 €
Mwst.	301,48 €
	12,89 % Mwst.
07.00 - 08.00	0,00 €
08.00 - 09.00	0,00 €
09.00 - 10.00	0,00 €
10.00 - 11.00	0,00 €
11.00 - 12.00	120,18 €
12.00 - 13.00	284,87 €
13.00 - 14.00	258,83 €
14.00 - 15.00	194,90 €
15.00 - 16.00	77,08 €
16.00 - 17.00	188,17 €
17.00 - 18.00	245,28 €
18.00 - 19.00	222,70 €
19.00 - 20.00	397,26 €
20.00 - 21.00	143,46 €
21.00 - 22.00	119,77 €
22.00 - 23.00	80,21 €
23.00 - 24.00	5,73 €
00.00 - 01.00	0,00 €
01.00 - 02.00	0,00 €
02.00 - 03.00	0,00 €
03.00 - 04.00	0,00 €
04.00 - 05.00	0,00 €
05.00 - 06.00	0,00 €
06.00 - 07.00	0,00 €
	2.338,44 €
Transaktionen	348
AVG	6,72 €
Refunds Stk.	1
Refunds Euro	11,19 €
Essensmarken	0,00 €
Staff Meals Stk.	8
Staff Meals Euro	45,87 €
Eat - In	176
Eat - In NET	1.111,73 €
Eat - Out	108
Eat - Out NET	793,28 €
Drive - Thru	64
Drive - Thru NET	433,44 €
Rate 0 MWS 19% Food In Percent	
16.0000 Gross Sales	1.199,82 €
Rate 1 MWS 7% Food out Percent	
7.0000 Gross Sales	1.273,54 €
Rate 2 MWS 19% Drink In Percent	
16.0000 Gross Sales	60,20 €
Rate 3 MWS 19% Drink out Percent	
16.0000 Gross Sales	106,37 €

Umsatz Rate	2.639,93 €	Muss dass gleiche an Umsatz
Umsatz aller Kassen	2.639,93 €	
Transaktionen	348	
Eat - In	176	
Eat - Out	108	Transaktionen müssen identisch
Drive - Thru	64	
SUMME	348	
Netto - Umsatz	2.338,45 €	
Eat - In NET	1.111,73 €	
Eat - Out NET	793,28 €	Netto - Umsatz muss identisch n
Drive - Thru NET	433,44 €	

The effects of price framing on buying behavior. Does ego depletion play a moderating role here?

Dienstag, 17. März 2009	
Coupons	0
Basketball	0
Kino + sonstiges	0
Netto - Umsatz	2.262,10 €
Mwst.	315,64 €
	13,95 % Mwst.
07.00 - 08.00	0,00 €
08.00 - 09.00	0,00 €
09.00 - 10.00	0,00 €
10.00 - 11.00	0,00 €
11.00 - 12.00	111,66 €
12.00 - 13.00	220,19 €
13.00 - 14.00	330,93 €
14.00 - 15.00	108,38 €
15.00 - 16.00	156,82 €
16.00 - 17.00	134,77 €
17.00 - 18.00	241,03 €
18.00 - 19.00	301,36 €
19.00 - 20.00	258,35 €
20.00 - 21.00	150,24 €
21.00 - 22.00	142,79 €
22.00 - 23.00	84,82 €
23.00 - 24.00	20,75 €
00.00 - 01.00	0,00 €
01.00 - 02.00	0,00 €
02.00 - 03.00	0,00 €
03.00 - 04.00	0,00 €
04.00 - 05.00	0,00 €
05.00 - 06.00	0,00 €
06.00 - 07.00	0,00 €
	2.262,09 €
Transaktionen	326
AVG	6,94 €
Refunds Stk.	0
Refunds Euro	0,00 €
Essensmarken	3,07 €
Staff Meals Stk.	8
Staff Meals Euro	48,44 €
Eat - In	181
Eat - In NET	1.268,78 €
Eat - Out	95
Eat - Out NET	666,03 €
Drive - Thru	50
Drive - Thru NET	327,29 €
Rate 0 MWS 19% Food In Percent 16.0000 Gross Sales	1.340,11 €
Rate 1 MWS 7% Food out Percent 7.0000 Gross Sales	1.017,87 €
Rate 2 MWS 19% Drink In Percent 16.0000 Gross Sales	64,93 €
Rate 3 MWS 19% Drink out Percent 16.0000 Gross Sales	154,83 €

Umsatz Rate	2.577,74 €	Muss dass gleiche an Umsatz
Umsatz aller Kassen	2.577,74 €	
Transaktionen	326	
Eat - In	181	
Eat - Out	95	Transaktionen müssen identisch
Drive - Thru	50	
SUMME	326	
Netto - Umsatz	2.262,10 €	
Eat - In NET	1.268,78 €	
Eat - Out NET	666,03 €	Netto - Umsatz muss identisch n
Drive - Thru NET	327,29 €	

*The effects of price framing on buying behavior. Does ego depletion play a moderating role here?*