# What lies beneath our satisfaction with purchases? How desire and distraction fight over our mental resources

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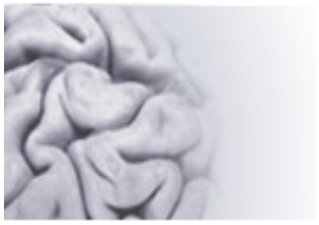

# What lies beneath our satisfaction with purchases? How desire and distraction fight over our mental resources

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**Abstract**

This paper aimed to extend the already widely supported relationship between increased food intake and distraction by looking at non-food related consumption. Distraction is suspected to impact satisfaction, which is an important determinant of the relationship quality between customer and company. A distracted sample was compared with a non-distracted sample in an online shopping environment on the number of products that people bought, how satisfied they were with the chosen products and the level of desire they experienced while shopping. Results showed that an increase in distraction was associated with an increase in satisfaction and desire, however it was not associated with an increase in number of products bought. Due to the explorative analysis using regression a need for replication of the study in an experimental setting was discussed along with other exciting future research recommendations, such as testing desire as a mediator in the relationship between distraction and satisfaction.

**What lies beneath our satisfaction with purchases? How desire and distraction fight over our mental resources**

*"Nothing in life is quite as important as you think it is, while you are thinking about it."*

- *Daniel Kahneman*

The abovementioned quote by Daniel Kahneman refers to a psychological bias known as the focusing illusion. When people fall victim to the focusing illusion, they tend to exaggerate the influence of one smaller aspect over a bigger aspect, simply because they are devoting attention to a possible relationship between the two aspects. The focusing illusion is one of many ways in which attention affects the way we perceive the world and how those perceptions subsequently influence the way we feel. Emotions are widely believed to be one of the most important drivers of our decisions and behavior, including consumer behavior (Lerner, Li, Valdesolo, & Kassam, 2015). But research also proved that we experience emotions (both positive and negative) less intense when we are distracted (Hariri, Bookheimer, & Mazziota, 2000; Quoidbach, Berry, Hansenne, & Mikolajczak, 2010). Because attention shapes the way we perceive the world, distraction is a constant threat to our focus and how intense we experience emotions. In today's modern world distractions are abundant and since emotions are the drivers of consumer behavior it is especially important to further study how these interact.

How distraction influences consumption behavior has been mainly studied in a food-related context until now. Distraction does not only seem to influence our emotions, it also seems as if being distracted makes us consume more of something. Research found that snacking while watching TV increases food intake, based on self-reported questionnaires (Gore, Foster, DiLillo, Kirk, & West, 2003). But other experimental research proved the same relationship. When participants were eating in front of the television or with friends, they ate more food than when eating a meal by themselves (Hetherington, Anderson, Norton, &

Newson, 2006). The authors explain this relationship by saying that the other tasks drive people's attention away from the eating, leading them to eat more because of impaired self-monitoring. They register what and how much they eat less effectively, which results in overeating.

But distraction also attenuates the experience of taste (Van der Wal & Van Dillen, 2013), which may result in lesser enjoyment of food. This is an undesirable effect which also may be applicable in non-food related consumption, something that has not been widely studied yet. Unsatisfied customers are a company's worst nightmare, since they may engage in harmful behavior such as negative word-of-mouth (De Matos & Rossi, 2008). But dissatisfaction may also have financially negative consequences for a company since research showed that customers that are satisfied with a store loyalty program, spend more money there and more frequently (Demoulin & Zidda, 2008). These findings illustrate why it is important to do more research into how distraction may play a role in the processes preceding satisfaction.

The focusing illusion was proved in Schkade and Kahneman's research (1998) by demonstrating that people overestimate the influence that location has on their life satisfaction. Participants believed it would be higher in California than the Midwest (both located in the USA), however results of the scores of both groups indicated no substantial difference. It seems counterintuitive that we overestimate the influence of a feeling simply because we are devoting attention to it. We believe that we just feel, without any way of control over it or mental resources to change or stop it. However, in the past years this view has been challenged by the development of the mere resource hypothesis. This hypothesis is based on the limited attentional capacity theory which assumes that the amount of attention we can devote to different mental resources (thoughts, feelings and actions) is limited (Kahneman, 1973). The mere resource hypothesis states that 'feelings – or the conscious experiences of emotion – require mental resources' (Kron, Schul, Cohen & Hassin, 2010).

This indicates that we do have control over our feelings, by controlling our attention which in its turn can become limited by the available mental resources.

To put it simply, we cannot devote the same amount of attention to all our feelings, actions and thoughts, even though intuitively it might feel like we can. As demonstrated by the focusing illusion, this can also work the other way around. By increasing the attention one devotes to a certain feeling or thought, the subjective value of it increases as well. The mere resource hypothesis has been confirmed by research that showed that increasing cognitive load leaves fewer mental resources for emotions, resulting in attenuated feelings, both positive and negative (Kron, Schul, Cohen, & Hassin, 2010).

However, it is noteworthy that the mere resource hypothesis does not make predictions about the effects of distraction. The mere resource hypothesis assumes that an increase in cognitive load leaves fewer mental resources available which then attenuates the intensity of feelings, but it stops there. It does not elaborate on how different mechanisms, such as being distracted, can influence the working memory. Van Dillen and Koole (2007) developed the working memory model of distraction, which claims that people can distract themselves from negative moods by loading their working memory capacity. They argue that distraction can increase cognitive load on working memory by taking one's attention away from one focal event to another, intentionally or unintentionally.

They tested their model by letting participants report their mood after being exposed to negative mood inducing images. But participants who had to perform a complex math task after the images reported a less negative mood than participants who performed a simple math task. The math task distracted them from their negative mood, by loading their working memory. However, the model adds that the distracting task should be unrelated to what is causing the negative mood for it to be truly a distraction. If the working memory is loaded

with other negative stimuli, it will eradicate the effect and even induce more negative emotions (Van Dillen & Koole, 2007).

That distraction can limit mental resources available for emotion regulation has been empirically proven as well. MRI brain scans showed that higher regions in our brain (such as areas used for attention and cognitive planning) attenuate the performance of more basic areas in our brain used for emotion regulation (Hariri, Bookheimer, & Mazziota, 2000) This means that being distracted by something unrelated to emotions leads to less affective responses to a certain stimulus, whereas in situations in which people devote more attention to the same stimulus their emotional response will be higher. This effect has not only been observed in negative moods, since it has been empirically proven that being distracted decreases positive affect as well (Quoidbach, Berry, Hansenne, & Mikolajczak, 2010).

The present study aims to further explore the effects of distraction on emotions and behavior in the context of consuming. More specifically, the present study will extend the already existing research on the relationship between consumption and food-intake, by testing the relationship on non-food related consumption. Moreover, the study will explore the experience of two emotions, namely satisfaction and desire, during consumption by a distracted and non-distracted sample.

**Hypothesis development**

Another way in which an increased working load may impact certain mental abilities is by influencing taste perception. That is, research found that people experience a reduced taste perception when exposed to a high task load (Van der Wal & Van Dillen, 2013). In one of the experiments, participants either ate salty or non-salty crackers while memorizing one digit or seven digits, to induce a low or high task load to impair working memory. Results showed that less mental resources are available under high task load, which resulted in a limited availability of attention for taste perception. Participants also were instructed to eat as much

crackers as they deemed necessary to experience enough taste. Results then showed that participants who were in the high-task load condition, consumed more of the salty cracker because of limited taste perception. Thus, limited taste perception leads to a higher intake of the food available to experience enough taste, which may lead again to negative consequences such as overeating of unhealthy food.

Moreover, there is even research that showed a bigger purchase of groceries due to heightened distraction due to mobile phone use in store (Grewal, Ahlbom, Beitelspacher, Noble, & Nordfält, 2018). Participants who got distracted by their mobile phone spent more time in store, deviated more from their initial plan and grocery list while shopping and this deviation led to getting even more distracted by shelf information. All of this led to increased purchases, which the authors explain by saying that the lack of attention leads to less deliberative processing, a statement in line with the limited attentional capacity theory by Kahneman (1973).

Based on these findings and the findings regarding food intake, it can be hypothesized that the more distracted you are, the more you will purchase (H1). When distracted, people feel like they need to consume more to retrieve the same level of satisfaction from their purchases, because their experience of affect is less intense than in situations in which they are not distracted.

As mentioned before, distraction reduces how intense affect is experienced, positive and negative. Research showed that when people spent time on their phone during social interactions, it made them feel distracted which resulted in less enjoyment of the time spent together with their friends and family (Dwyer, Kushlev, & Dunn, 2018). Moreover, smartphones make parents feel more distracted, resulting in impaired social interactions with their children (Kushlev & Dunn, 2019). Thus, it seems as if being distracted makes people

enjoy certain activities less, likely because they experience the positive affect associated with these kinds of activities less intensely.

Positive affect is not only a result of social interactions, the act of consumption can trigger positive affect as well. Philips and Baumgartner (2002) developed a model which states that consumers form expectations about product performance and the (dis) alignment between their expectations and product-experiences induce (negative) positive emotions, which in their turn impact satisfaction. This is an important mechanism to be aware of, since post-purchase satisfaction is commonly viewed as one of the most important explanatory variables of consumer behavior, such as word-of-mouth and product usage (Westbrook & Oliver, 1991).

Satisfaction can be defined as 'a post-choice evaluative judgement concerning a specific purchase selection' (Day, 1984). This judgement is believed to be made up of different aspects regarding the product and service, but more importantly in light of the current research, it proved to be related to consumption emotion (Westbrook & Oliver, 1991). Consumption emotion refers to the emotions experienced by the consumer during consumption experiences or product usage. Research found that positive emotions during the consumption experience, such as pleasure, led to higher satisfaction levels post-purchase. It seems logical that this relationship would be weaker when consumers are distracted, since they experience the positive affect less intensely, leading to less satisfaction with purchases.

However, the relationship between distraction and satisfaction with consumption have not been widely studied yet. It was measured in the aforementioned research of Grewal, Ahlbom, Beitelspacher, Noble and Nordfält (2018), but participants did not report a decrease in their satisfaction with the shopping experience when using their mobile phones, nor did they report an increase. The authors explain these findings by saying that the benefits that in-store mobile phone use provided, such as being able to look up certain product properties, made up for the less efficient shopping experience. The conflicting results regarding this relationship call for

more research into how distraction and satisfaction relate to each other. It has been widely supported by literature that distraction reduces the intensity of affective experiences and that positive affect increases post-purchase satisfaction. This paper will aim to test this relationship directly by means of the second hypothesis: the more distracted you are, the less satisfied you will be with purchases (H2).

Along with satisfaction, desire will be introduced as a second outcome variable in the theoretical model. Desire can be defined as 'the sense of an affectively charged cognitive event in which an object or activity that is associated with pleasure or relief of discomfort is in focal attention' (Kavanagh, Andrade, & May, 2005). According to the Elaborated Intrusion Theory, stimuli can trigger intrusive thoughts, but if we decide to cognitively elaborate on them, they can turn into very strong desires. This elaboration then may interfere with other cognitive tasks, which adds another emotion competing over our limited mental resources (Kavanagh, Andrade, & May, 2005).

However, if desire takes up enough of our attention to interfere with other cognitive tasks, depends on the timing of the desire. Being distracted may make you less prone towards tempting stimuli. However once, your attention gets caught by a desire before you get distracted, your desire will take up so much of your working memory that distraction will not save you anymore from engaging in (bad) behavior (Hofmann & van Dillen, 2012). This principle is supported by research which found that a high task load reduces food intake since recognizing temptation requires some form of attention to your surroundings, which may be lower due to limited mental resources under high task load (Van Dillen, Papies, & Hofmann, 2013). Another research found similar results, showing that being distracted reduces engagement in hedonic food consumption (Van Dillen & Andrade, 2016). It seems as if being distracted before being exposed to your desires will reduce your engagement in them. This

makes the third and final hypothesis: The more distracted you are, the less desire you will be experiencing while shopping (H3).

**Theoretical model**

As can be seen in Figure 1, distraction is expected to negatively influence 'satisfaction with purchases' (H2) and 'desire' (H3). It is also expected that the overall number of products purchased, will be higher when participants are distracted (H1). These hypotheses will be tested in an online shopping environment and participants will be divided in a high- or low-distraction condition before shopping. Participants in the high-distraction condition will be expected to purchase more, be less satisfied with these purchases and experience less desire for the products they see while online shopping compared with participants in the low-distraction condition.

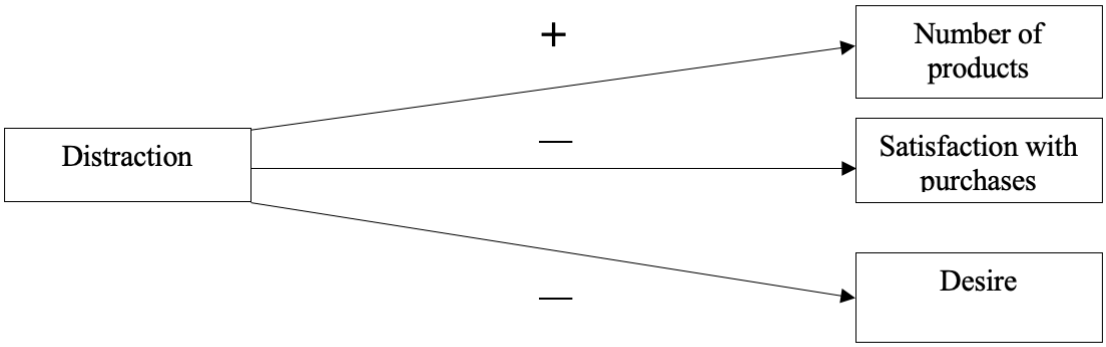


*Figure 1.* Theoretical model of the thesis

## Method

### Participants and Design

Using G*Power 2 (version 3.1.9.6.; Faul, Erdfelder, Buchner, & Lang, 2009) an a priori power analysis was conducted, based on the studies by van der Wal and van Dillen (2013). The a priori power analysis was based on an effect size of .34 and an alpha of .05. In order to reach sufficient power (>.95), there were 56 participants needed for this research.

Since the study was completed by 168 participants through Prolific, this minimum was sufficiently met. Inclusion criteria for participants were age (18-30 years old) and language (English) because the experiment was in English. It was decided to use a relatively young participant group because they are expected to be more experienced with online shopping. This diminished the occurrence of certain biases or technical errors due to inexperience with online shopping. Participants were recruited and paid online through Prolific. Participants were on average 23,57 years old (*SD* = 3.67). Of 166 participants 55% was female, one participant filled in 'rather not say' when asked about gender. One participant was removed from the original dataset since the participant's age was 31 years old, which was above the criteria of 30.

Due to the recent developments around the corona virus, this study had to be conducted online. To come up with a proper online research method was quite challenging, since the majority of the research on distraction and consumption has been conducted in field or lab experiments. On the other hand, this forced creation of new possibilities to do research on distraction which led to interesting directions for future research.

The current study consisted of a between-subjects design in which participants were divided over two conditions (distraction: low vs. high). The dependent variables were 'number of products purchased', 'satisfaction with purchases' and 'desire'. Since this research was done in collaboration with other theses, questions about media multitasking were included as well.

**Materials and procedure**

Participants participated in an online Qualtrics-survey. The survey started with an informed consent, for the participants to read and digitally sign. Based on their condition, the participants needed to memorize either an eight-digit (to induce a high task-load) or a one-digit number (to induce a low task-load), this has been proven as an effective way to limit the

attention that is available for the next task (Sternberg, 1966). To make sure that participants would truly memorize the digits, a statement about how cheating with the digits would make the results invalid was included in the introduction of the task.

Then, participants moved onto the shopping task which consisted of a list of 30 products, which included a range of various products, from a speaker to gloves, but all priced between 5 and 30 euros. However, the prices were not shown to participants in order to make sure that they could freely choose as many products as they wanted from the list, to test if they chose more products when distracted ($M$ = 6.210, $SD$ = 3.607). When they chose their desired products, they moved to a next screen in which they reported the digits they memorized. Their working memory only needed to be loaded during the shopping task and after they needed to focus on the questionnaires that came next. When they reported the digit(s) it was assumed that they did not feel distracted anymore for the remainder of the experiment.

Then, to measure the outcome variable desire, participants reported a top three of the products they most desired in the previous shopping task, indicating how much desire they felt for the products on a five-point scale ($M$ = 3.485, $SD$ = .592). Since it is a self-developed item, its validity and reliability have been tested with a pre-test before the start of the experiment ($\alpha$ = .610) thus it was decided to keep the question in the survey. In the experiment the question had to be answered three times, for every product in the top 3 ($\alpha$ = .545). The exact item for this question was: Please write down a top 3 of the products you found most desirable in the previous shopping task. Also indicate how strong sense of desire you felt to choose them. (*1 = very little desire, 5 = very much desire*).

Next, participants will answer a questionnaire as a manipulation check to measure their self-perceived attentional focus during the shopping task ($M$ = 7.523, $SD$ = 1.635). For this a questionnaire was used which consisted of four statements which had to be answered on

a 10-point scale (*1 = completely disagree, 10 = completely agree*) (Hong, Thong & Tam, 2007). The four statements were 'my attention was focused', 'I was absorbed intensely', 'I was deeply engrossed' and 'I was concentrated fully'. The items were altered to four statements and all had to be answered on the same scale. This was different from the original research, in which the items were also reversed, however the reliability of the scale proved still to be good (α = .875).

Lastly, the outcome variable, satisfaction with purchases, was measured with three items, inspired by the items in the article of Tsiotsou (2005). The questions were a bit altered depending on the products the participants could choose from during the shopping task and were again tested with a pre-test (α = .397). Because the reliability increased to α = .852 when the third item was deleted, it was decided to replace that item with a new one in the experiment's survey. The final three items were; 'How would you evaluate the quality of your chosen products?' (*1 = Very low, 5 = Very high*), 'How would you rate your overall satisfaction with your chosen products?' (*1 = Very low, 5 = Very high*) and 'How likely are you to exchange this product for another product?' (*1 = very unlikely, 5 = very likely*). The reliability analysis of these three items showed that satisfaction has a low reliability when measured with the 3 items (α = .330). However, when the third item was deleted, the reliability increased (α = .689) thus the third item (How likely are you to exchange this product for another product?) was removed from further analysis. A new variable was created, called 'Satisfaction' derived from the mean of the remaining two items ($M$ = 3.648, $SD$ = .429).

Then the survey ended with some demographic information, namely, age and gender. Thereafter a debrief was shown to the participants and they were paid through Prolific for their participation in the experiment.

**Statistical analysis**

No outliers were removed from the dataset, so data from all 167 participants was used in further analysis. It was decided to not remove any outliers since the research measures consumption style, which can greatly differ. If someone would select 15 products, that did not immediately make them an outlier according to the theoretical assumptions that this experiment was based on, the same goes for the level of satisfaction and desire. Additionally, before every analysis a visual inspection of the data has been done and all assumptions have been verified and met.

In order to verify if the manipulation was successful, an independent samples t-test was performed, which compared the means on self-reported attentional focus across the two conditions. Finally, to test the hypotheses, a MANOVA was conducted. In the MANOVA the distraction condition (low or high) acted as the independent variable and 'number of products', 'satisfaction with purchases' and 'desire' were tested as the dependent variables.

## Results

### Randomization check

As a randomization check an independent samples t-test was performed and proved not to be significant when comparing age in the 1-digit ($M$ = 23.21, $SD$ = 3.36) and 8-digit ($M$ = 23.93, $SD$ = 3.95) conditions ($t$ (165) = -1.258, $p$ = .210). To assess if gender was evenly distributed across the two conditions, a chi-square test was performed. The chi-square test reported that there was no significant association between gender and condition ($\chi^2$ (2) = 1.02, $p$ = .601).

### Manipulation check

The reported focus by participants on the manipulation check did not seem to differ significantly between the 1-digit ($M$ = 7.57, $SD$ = .17) and 8-digit ($M$ = 7.48, $SD$ = .19) conditions ($t$ (165) = .341, $p$ = .733). This means that participants in the 1-digit condition did

not report a significantly greater feeling of being focused than the participants in the 8-digit condition.

**Confirmatory analysis**

Because the manipulation proved not to be successful, the outcome variables (Table 1) were not further analyzed with a MANOVA, contrary to what was indicated in the Methods section. Since the manipulation was unsuccessful, comparisons between the two conditions cannot be properly interpreted. Table 1 shows that the differences between conditions were minimal and since the manipulation check did not differ significantly across conditions, results from this analysis would lack enough validity to be able to draw conclusions about the hypotheses.

*Table 1. Means and standard deviations across the two conditions*

| | Low distraction (N= 84) | | High distraction (N= 83) | |
|---|---|---|---|---|
| Variable | M | SD | M | SD |
| Satisfaction | 3.70 | .61 | 3.59 | .44 |
| Desire | 3.46 | .61 | 3.50 | .57 |
| Total products | 5.82 | 3.24 | 6.60 | 3.93 |

**Exploratory analysis**

Because of the unsuccessful manipulation, it was decided to test the hypotheses in an exploratory analysis by using the manipulation check as one of the predictor variables in a multiple regression analysis. The manipulation check was included as 'self-reported attentional focus' among the other variables. Another power analysis was conducted, using G*Power 2 (version 3.1.9.6.; Faul, Erdfelder, Buchner, & Lang, 2009) and it was again calculated with an alpha of .05 and an effect size of .34 based on the studies by van der Wal and van Dillen (2013). Only this time the power analysis was based on a multiple regression instead of a MANOVA. The second analysis yielded a number of 55 participants to reach sufficient power (>.95), which was nearly the same as the 56 participants based on the first power analysis. Since 167 participants joined the online experiment this minimum of 55 participants remains sufficiently met.

To test the first hypothesis, a multiple regression was conducted with 'total products' as the outcome variable ($R^2$ = .11, Adjusted $R^2$ = .09, $\Delta F$ = 6.493, $p$ < .001). Results showed that self-reported attentional focus did not significantly predict the total number of products bought (β = .032, $t$ = .406, $p$ = .685). In contrast to the expectations, this means that the first hypothesis is not supported.

To test the second hypothesis, another multiple regression analysis was conducted but this time with 'satisfaction' as the outcome variable ($R^2$ = .14, Adjusted $R^2$ = .12, $\Delta F$ = 8.828, $p$ < .001). Results indicated that self-reported attentional focus was a significant predictor of level of satisfaction (β = .191, $t$ = 2.441, $p$ = .016), meaning that the more attentional focus participants reported, the more satisfied they were with their purchases. This is in line with the second hypothesis.

Finally, to test the third hypothesis, a simple regression analysis showed that an increase in self-reported attentional focus predicts a significant increase in self-reported desire (β = .327, $t$ = 4.442, $p$ < .001). This is in line with the third hypothesis, meaning that participants who report a higher attentional focus also report higher feelings of desire.

Also, some unexpected results emerged from the exploratory analysis. Desire turned out to be a significant predictor of total number of products, (β = .310, $t$ = 3.945, $p$ < .001). This means that the more desire participants reported the more products they bought, however this was not hypothesized before. An interaction effect between desire and self-reported attentional focus on total number of products did not prove significant (β = .047, $t$ = .624, $p$ = .533). Desire also proved to be a significant predictor of satisfaction, (β = .266, $t$ = 3.440, $p$ = .001). Meaning again that the more desire participants reported, the more satisfaction with purchases they reported, however this was not hypothesized before as well. An interaction effect between desire and self-reported attentional focus on satisfaction did not prove significant (β = .032, $t$ = .428, $p$ = .669).

## Discussion

This study attempted to further investigate the influence of distraction on consumption in an online environment. However, this online environment proved to be problematic for the success of the manipulation, resulting in the use of an exploratory analysis. Even though the results should be handled with caution, two of the three hypotheses still were supported. Participants who were distracted, reported a lower feeling of satisfaction with purchases (H2) and a lower feeling of desire (H3). There were also some unexpected findings, namely distraction did not seem to increase the number of products participants bought (H1). Furthermore, an increase in desire turned out to predict an increase in the number of products bought and satisfaction with purchases.

### Strengths and limitations of current research

The manipulation to induce distraction in this study (Sternberg, 1966) has been widely used in numerous studies. However, results of its effectiveness in an online environment are not represented in scientific literature. This paper contributes to this literature by showing the unstable reliability of this measure in an online environment. This instability can be explained by the fact that participants had alternative ways to enter the digit codes than simply by memorizing them. They could have copied the digits or wrote them down on a piece of paper without being monitored as in a lab-setting.

A possible explanation for the unwillingness to memorize digits can be found in the concept of voluntary postponement (Ruthruff, Pashler, & Klaassen, 2001). This paper looked into the way dual-task performance is influenced by a limit in cognitive capacities. It was argued that participants sometimes engage in voluntary postponement, which means they are inclined to finish the first task before they start the second because they do not realize how important it is that the tasks are performed at the same time. It could be that participants in the present research were unaware of the importance of memorizing the digits while performing

the online shopping task. From a strategic point of view to perform the best on both tasks, they engaged in voluntary postponement by not actively trying to memorize the digits but looked for an alternative way to perform well on the task. This could explain why participants in the high-task load condition did not report a lesser feeling of attentional focus than participants in the low-task load condition.

Even though the use of the manipulation check as a predictor provided an alternative way to still test the hypotheses, it comes with some limitations of its own. The biggest limitation is that attentional focus was measured on a scale, and participants scored on average quite high. This means that there were more participants in the study that were not distracted than those who were, while the hypotheses are based on literature about distracted individuals. The fact that distracted individuals show a different kind of consumption behavior (being less satisfied with purchases and experiencing less desire) was still supported by this study. However, one should be aware that this has been confirmed by some way of backwards reasoning, because it is derived from mostly focused individuals showing behavior (being more satisfied with their purchases and experiencing more desire) that was not expected to be shown by distracted individuals.

Another limitation that arises by using the manipulation check as a predictor is that the hypotheses could not be tested in an experimental setting by using different conditions. This means that the results could not be used to make assumptions about a causal relationship between any of the variables. However, it does provide some interesting insights about the relationships nonetheless, but they should be handled with extra caution when interpreting.

Despite the aforementioned limitations, this study also showed some strengths worth mentioning. The first strength of the study was the development of two items to measure satisfaction with purchases, which proved to be effective. This is an important addition to the existing literature since satisfaction with purchases is a construct that not yet has a widely

used measurement. Another strength of the study is the way it tested shopping behavior in an online environment. More and more of shopping is being done online, which means that the need to test consumer behavior in an online shopping environment increases as well.

**Theoretical implications**

Despite the alternative way of testing the hypotheses, some theoretical implications can be derived from the results. The first hypothesis proposed that distracted individuals would choose a greater number of products, based on a large body of work proving that distracted individuals consume bigger portions of food (Gore, Foster, DiLillo, Kirk, & West, 2003; Van der Wal & Van Dillen, 2013; Bellisle & Dalix, 2001; Ogden et al., 2013). This increased consumption by distracted individuals was also demonstrated in a supermarket setting (Grewal, Ahlbom, Beitelspacher, Noble, & Nordfält, 2018), but it did not uphold in our online shopping setting. The mechanism behind the increased food intake of distracted individuals is also referred to as 'mindless eating'. The opposite of mindless eating is mindful eating, in which people are deliberately processing what they eat (Ogden et al., 2013). It can be argued that because of the relatively high average score of self-reported attentional focus among participants, most of them were engaging in 'mindful shopping'. This state of mindful shopping encouraged them to actively judge and process the products in front of them, resulting in a lesser number of products selected.

The second hypothesis was supported by the current research. Results indicated that focused individuals reported a higher sense of satisfaction, meaning that individuals with lesser attentional focus are less satisfied. Since the participants consisted of mostly focused individuals, the theoretical implications of these findings should be handled with caution. However, the finding that focused individuals experience (positive) affect more intensely is still in line with what is now the main assumption in general literature about the role of

distraction on our cognitive capacities (Hariri, Bookheimer, & Mazziota, 2000; Quoidbach, Berry, Hansenne, & Mikolajczak, 2010).

This paper makes an important contribution to the literature by showing that this assumption also applies to the feelings of satisfaction that consumers experience, a kind of relationship not yet widely studied. This is especially important since consuming is part of our daily life and the distractions we experience can be of various nature. Daily-life distractions can be related or unrelated to the task at hand and can hold more of a perceptual load or working-memory load and, most importantly, the differences in these distractions impact our ability to focus (Lavie, 2010). To illustrate, when you are shopping online you can get distracted by the descriptions of the products (related distraction that holds a working-memory load) or you can be distracted by the sound of your dishwasher being finished (unrelated distraction that holds a perceptual load). Thus, the varying nature of distractions we are confronted with on a daily basis are unpredictable, making it hard to keep a stable ability to focus which will subsequently impact our affective experiences. This makes the fact that focused individuals experience more satisfaction (an affective experience) when consuming (a daily activity) an important finding, since distractions are an unavoidable part of daily life. As customer satisfaction is one of the most important determinants of relationship quality between companies and customers, it is essential that the impact of distraction on satisfaction is taken into account (Hennig-Thurau, Gwinner, & Gremler, 2002).

The third hypothesis attempted to answer some of the questions that are now emerging around the impact that desire has on experienced level of distraction, which stems from the Elaborated Intrusion Theory (Kavanagh, Andrade, & May, 2005). This theory states that people will cognitively elaborate on an intrusive stimulus if they are not distracted while being exposed to it. If they cognitively elaborate on the (to them personally intrusive) stimulus, it turns into something of desire and become a big distractor. Therefore, it was

hypothesized that distracted people report lesser feelings of desire, which was confirmed by the current research that showed a decrease in focus was related to a decrease in desire.

However, the explanatory analysis also yielded some findings that were not hypothesized before, namely that desire was also a predictor of satisfaction and the number of products people chose. These findings can be explained by other research that states that if people are not distracted while being exposed to their desires, they are more likely to give in to them (Hofmann & van Dillen, 2012). Since the manipulation was unsuccessful, it becomes highly likely that participants experienced a stronger sense of desire which led them to buy more products. Desire is already proven to impact satisfaction with income (Crawford Solberg, Diener, Wirtz, Lucas, & Oishi, 2002) as well as sexual and relationship satisfaction (Ferreira, Narciso, Novo, & Pereira, 2014). Thus, this research provides an indication that a relationship between desire and satisfaction with purchases may also be added to this list.

**Future research directions**

The main limitation of this study was the unsuccessful manipulation of distraction and the effect it had on the confirmation of the hypotheses. Even though the present research found some promising results, it is essential that future research tests the same expected relationships on a truly distracted sample, to see if similar results will emerge and to test for causality. This might be done by replicating the study in a lab setting, to see if different results emerge when participants truly need to memorize the digits. This will also make the present results more generalizable, since now they cannot be compared with a distracted sample, making it hard to draw practical conclusions. However, it remains highly important to study consumption behavior in an online setting as well. Especially in the light of the current corona crisis, online shopping seems to stay part of the status quo, making this an important field of research. Future research should therefore strive to find and use a reliable way to distract people in an online setting. This might be done by looking into existing alternative

tasks, such as the Stroop task, which also loads the working memory (MacLeod, 1991) or other types of memory-tasks. It should be examined if they can be altered to an online form and then be tested on their effectiveness to induce distraction.

Furthermore, future research might look further into the relationship between desire and satisfaction with purchases. Even though it was not part of the hypotheses based on distraction literature, a strong relationship still emerged, which may provide interesting directions for development of existing theories on the relationship between desire and satisfaction. It could be that because of the on average high attentional focus in the sample, they experienced more desire which led them to experience more satisfaction. This poses the question that desire might be a mediator and should be explored in future research.

Lastly, the field of the relationship between satisfaction with consumption choices and distraction remains full of exciting new opportunities. The relationship has mostly been studied in a food-related context, however a great share of consuming is also unrelated to food. Future research might first look to test the relationship between consumption of non-food items and distraction, by replicating this study in an experimental setting so more causal conclusions can be made. However, it would also be interesting to test the influence of distraction on other types of consumption choices, like those of larger monetary value, such as cars, or more long-term consumption choices, such as buying a house. It has been proven that buying a house involves complex emotions and internal decision processes (Levy, Murphy, & Lee, 2008) and future research may study if these get impacted by distraction as well.

**Conclusion**

Despite cautious interpretation of the results, the most important findings of this paper are that distracted individuals report being less satisfied with their (online) purchases and experience lesser feelings of desire. The number of products participants purchased seemed unrelated to distraction, however an unexpected relationship emerged between distraction

with desire and separately as well with satisfaction. This paper contributes to the existing literature by providing additional support for the influence of distraction on factors related to (online) consumption, which is an essential part of daily life.

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