How Impulsive Are Your Shopping Habits? An Investigation into the Moderating Effects of Neuroticism and Conscientiousness on the Relationship Between Distraction and Impulse Purchasing Behavior Within an Online Environment

Allgeier, Emma

How Impulsive Are Your Shopping Habits?

An Investigation into the Moderating Effects of Neuroticism and Conscientiousness on the Relationship Between Distraction and Impulse Purchasing Behavior Within an Online Environment

Emma Gwyneth Allgeier

In collaboration with Bruna Buttenbender and Emma Franke

Master Thesis in Economic and Consumer Psychology

Institute of Psychology

Faculty of Social and Behavioural Sciences – Leiden University

Date: January 2022

First Examiner of the University: Dr Anouk van der Weiden

Second Examiner of The University: Floor van Meer

Table of Contents

Abstract

With the rapid increase in consumption, impulse purchasing behaviour is skyrocketing, especially online. Previous research suggests that both distraction as well as personality types influence consumption but as of yet, this relationship has not been investigated together. This research examines the moderating effects of the personality types of neuroticism and conscientiousness on the relationship between distraction and impulse purchasing behavior. Participants' impulsivity was tested in an online shopping task under either high or low levels of distraction, which was followed by a Big-5 questionnaire testing individuals' personality types. Results showed that while not significant, distraction increased impulse purchasing behaviour overall, as well as significantly increasing impulse purchasing for neurotic individuals. Low levels of conscientiousness were found to have significantly more of an effect on impulse purchasing compared to higher levels of conscientiousness when under high levels of distraction, however, no effect was found in the low distraction condition. These findings offer up new directions for future research.

Keywords: *Consumption, Distraction, Impulse Purchasing Behaviour, Personality, Neuroticism, Conscientiousness*

How Impulsive Are Your Shopping Habits?

An Investigation into the Moderating Effects of Neuroticism and Conscientiousness on the Relationship Between Distraction and Impulse Purchasing Behavior Within an Online Environment

How many times did you really need to leave the house during the pandemic? And for what? In recent years, everyday life has gradually moved online, especially throughout the COVID-19 outbreak (Abbruzzese, et al., 2020; Shamshiripour, et al., 2020; Mouratidis & Papagiannakis, 2021). Grocery shopping, catching up with friends and doctor's appointments were all activities that typically required you to leave the house, but can now be done from the comfort of your own home, via online stores and video calls (Abbruzzese, et al., 2020, Mouratidis & Papagiannakis, 2021). With the digitisation of everyday life, online consumption has drastically increased (Digital Commerce 360, 2021), as have the levels of constant distractions surrounding us (Toniolo-Barrios & Pitt, 2021). But what impact does this digitization of everyday life have on your behaviour? Do the increased levels of distraction make us more impulsive? Does this lead to increased levels of consumption? And how do individual differences, such as personality, influence this?

Distractions are all around us, and research has suggested that distraction diverts attentional focus from the task at hand (Lavie, 2010), which in many ways can lead to individuals acting more impulsively (Chen, et al., 2020), especially when it comes to consumption and purchasing behaviour (Van de Wal & van Dillen, 2013; Grewal, et al., 2018). Personality research has also contributed to the literature on distraction, suggesting that certain personality types are more susceptible to distractions (Eysenck & Graydon, 1989), and in turn more vulnerable to impulsiveness in comparison to others (Whiteside & Lynam, 2001). Throughout the global pandemic, people have been asked to stay at home, subsequently fusing their home and working environment into one, which has led to an enormous increase in the

permanent levels of distractions that surround us (Toniolo-Barrios & Pitt, 2021). But what effects do these increased levels of distraction actually have on people and how do their different personality types effect their susceptibility to these distractions? Are some personality types more vulnerable than others? And how does this influence their consumption habits and in turn their vulnerability to impulse purchasing behaviour?

A multitude of previous research has investigated the effects that distraction has on consumption (Grewal, et al., 2018; Fiese, et al.,2015; Sciandra, et al., 2019), but the moderating effects of personality types, specifically neuroticism and conscientiousness, have not yet been investigated in relation to the effect that distraction has on consumption, specifically impulse purchasing behaviour. The effects of personality on the susceptibility to distraction (Eysenck & Graydon, 1989) and the vulnerability to impulsivity (Whiteside & Lynam, 2001) have been tested, but only in an in-person context, and previous research attempts have only addressed the effects of these two phenomena separately. As of yet, no one has investigated the moderating effects of neuroticism and conscientiousness in relation to the effect that distraction has on impulse purchasing behaviour, nor on how this is reflected in an online environment.

Problem definition

In early 2020, the world was thrown into unexplored territory, with life as we know it being catapulted into an online environment in order to help tame the outbreak and stop the spread of the COVID-19 virus. With public spaces closing and individuals being asked to stay and work from home, this resulted in all but essential stores closing for the best part of 18 months (Pollák, et al., 2021). This temporary closure of brick-and-mortar stores resulted in an increase in online shopping and digital consumption of products, also known as e-commerce.

Throughout the pandemic, online consumption skyrocketed, with an increase of 24.1% from $3.46 trillion (2019) to $4.29 trillion in 2020. Total global retail sales, on the other hand,

only increased by 1% in the same time period (Digital Commerce 360, 2021). Although consumption only increased by 1% overall the rapid rise in online consumption (24.1%) has a multitude of consequences on different aspects of consumer behaviour and the economy. An increase in consumption is said to be a positive attribute to the economy, as an increase in spending leads to an increase in GDP (Gross Domestic Product), which in turn results in the desired effect of economic growth (Sidrauski, 1967). On the other hand, increased consumption is detrimental to sustainability due to its misuses of land and resources, and increased levels of waste and pollution (Garcia, et al., 2021), which in turn has a negative effect on society (Keles, 2012).

On account of individuals working and staying at home, levels of distraction in the home – now people's new work environment have steadily increased. While working from home, distractions are all around us, ranging from human and pet distractions to ambient noise, snacks, and social media (Toniolo-Barrios & Pitt, 2021). These distractions do not only apply to the working day but also carry over into individuals' private lives. Instead of a centred focus on the task at hand, there has been an influx in multi-tasking (Cao, et al., 2021) and permanent distraction impacting people's lives (Umucu,& Lee, 2020).

With levels of distraction increasing throughout the pandemic, and consumption levels being at their all-time high, there is theoretical reasoning to believe that the increase in levels of consumption and with that impulse purchasing behaviour may be related to the increased levels of distraction. This paper will aim to address the overarching factors and individual differences needed in order to explain this phenomenon.

Theoretical background

Consumption

Consumption plays a vast role in everyday life (Deaton, 1992), and is defined as the amount of something that is used, or the process of using something (Cambridge Dictionary, 2021b). Shopping has been defined as the action of purchasing something from a store; either in a physical or in an online environment (Cambridge Dictionary, 2021a), and has been said to play a large part in individuals' regular consumption habits (Deaton, 1992). Within the commercial world, the aim is to increase consumption, and large corporations and foundations often prey on individuals' inability to control themselves and their impulsiveness when it comes to consumption. This is often referred to as impulse purchasing (buying) behaviour; the act of spontaneously purchasing or taking ownership of a product without any previous planning and no deeper thought (Piron, 1991; Thompson & Prendergast, 2015).

In recent years, a lot of research has investigated the phenomenon of impulse purchasing (Stern 1962). Thomas (1997) found that impulse purchasing behaviour relies on an emotional shift in the individual, influencing their buying tendencies. Thomas also suggested that stress levels and increased levels of excitement or distraction positively influence these buying habits, increasing impulsivity and the consumption associated with it. Research has found that through the use and development of the internet, purchasing opportunities have increased, leading to online shoppers being more impulsive than shoppers in a traditional brick and mortar environment (Donthu & Garcia, 1999).

A variety of research has been conducted to establish which characteristics influence impulse purchasing. Tinne (2010) compiled a list of the characteristics influencing impulse purchasing, which consisted of: age (Wood,1998), gender, self-discrepancy (Dittmar et al., 1995), culture (Kacen & Lee, 2002), mood, shopping enjoyment, impulse buying tendencies (Beatty & Ferrel, 1989) and materialism (Richins & Dawson, 1992). Research also found that

an individual's personality type affected impulse purchasing (Youn & Faber, 2000; Thompson & Prendergast, 2015), as did levels of distraction (Chen, et al., 2020).

The Effects of Distraction on Consumption

The effects of distraction have long been investigated, and distraction has been defined as the process of interrupting attention and is often said to influence decision making (VandenBos & American Psychological association, 2007; Speier, 1999). Research suggests that distraction can increase consumption (Van de Wal & van Dillen, 2013) and impulsivity (Chen, et al., 2020), due to distraction taking away the attentional focus from the activity at hand. This results in an oversight of the true amount that has been consumed. This has often been explained in the realm of food consumption, where the presence of a distractor increases the amount of food that is being consumed (Ogden et al., 2013; Boon et al., 2002; Friese et al., 2008; Ward & Mann, 2000; Van de Wal & van Dillen, 2013). However, this relationship can also be related to consumption in terms of shopping behaviour. Within this realm, research suggests that individuals will consume more while shopping when they are distracted, as the distraction takes away attentional focus from the focal task (what they initially came to the store to buy). This results in increased purchasing behaviour whilst distracted, compared to when there is no distraction present (Grewal, et al., 2018), which is consistent with attention capacity theories, suggesting that focused performance declines when distracted (Chaiken, 1980; Craik, et al., 1996).

Based on the previous research on the relationship between distraction and its effects on consumption (Grewal, et al., 2018; Sciandra et al., 2019), it is unsurprising that the increase in levels of distraction in the home throughout the global COVID-19 pandemic has resulted in an increase in online consumption and impulse purchasing behaviour (Toniolo-Barrios & Pitt, 2021). This increase has been reflected in consumption data demonstrating a 32.4% increase in consumption from before the pandemic (2019) to the height of the pandemic (2020) resulting

in a $830 billion growth in revenue for online consumption (Digital commerce 360, 2021; Schmidt et al., 2021).

As mentioned in the above research, the presence of distraction not only increased consumption but also increased impulsivity (Thompson & Prendergast, 2015; Chen, et al. 2020). This has led to the prediction that individuals exposed to higher levels of distractions will be more impulsive than individuals exposed to lower levels of distraction, leading to the formulation of the following hypothesis:

H1= As levels of distraction increase, impulsive purchasing behaviour also increases in such a way that individuals in the high distraction condition purchase more than individuals in the low distraction condition.

Several factors are said to influence an individuals' susceptibility to distraction, and with that also the impulse purchasing that occurs as a result of that distraction. Eysenck and Graydon (1989) investigated the effects of personality on an individual's susceptibility to distraction; these findings showed that individuals with certain personality traits may be more susceptible to distractions, and more vulnerable to impulsiveness.

Personality

Researchers have always been fascinated by, and have tried to make sense of, other people's characteristics and what makes people behave the way they do (Golton, 1884). What is now widely known as personality has been said to play a large role in this. The definition and characterization of personality has evolved over the decades – from a large collection of descriptive terms (Galton, 1884) to Thurstone's list of 60 most commonly used adjectives to describe people (Thurstone, 1934), which was later reduced to a list of 35 variables (Cattell, 1947). This list was subsequently categorized into a five-factor structure of variables repeatedly reported by investigators (Fiske 1949, Norman, 1963; Smith 1967). The current, most used

definition, laid out by Allport (1961) defines personality as the characteristic patterns of thoughts, feelings and behaviour that make up an individual (Allport 1961). Following this re-definition, personality was re-categorised into the Big-5 personality traits consisting of Extraversion, Agreeableness, Neuroticism, Conscientiousness and Openness to Experience (Goldberg, 1993).

Each of the proposed personality traits have specific characteristics that relate to and define them (Goldberg, 1993). Extraversion was characterised through assertiveness, emotional expression, excitability, and sociability (Wilt & Revelle, 2009), while agreeableness was defined by trust, kindness, affection, and prosocial or altruistic behaviours (Graziano & Tobin, 2009). Neuroticism on the other hand had been characterized by emotional instability, stress, depression, and anxiety (Widiger 2009). The characteristics defining conscientiousness included thoughtfulness, goal-directed behaviours, and high impulse control (Roberts, et al., 2009). The final trait, openness to experiences, was defined by characteristics such as creativity, imagination, and insight (McCrae & Sutin, 2009).

The Interaction Between Personality and Distraction

Eysenck and Graydon (1989) investigated the effects of personality on an individual's susceptibility to distraction. These findings showed that individuals with high trait anxiety were more susceptible to distraction, which was also supported by Keogh and French (2001)'s research. The study also suggested that neurotic introverted individuals were more susceptible to distraction than stable extroverts under certain conditions (Eysenck & Graydon, 1989).

Alternative research also found that individuals with high levels of conscientiousness were less susceptible to distractions and were able to focus more on the task at hand, compared to individuals with lower levels of conscientiousness, who were more susceptible to the effects of distraction (Gordon, 2021; Seddigh, et al., 2016).

Effects of Personality on Impulse Purchasing Behavior

As previously mentioned, research has shown that personality can influence an individual's susceptibility to distraction (Eysenck & Graydon, 1989; Keogh & French, 2001; Seddigh, et al., 2016; Gordon, 2021). Research has also highlighted the connection between distraction and impulse purchasing behavior (Thompson & Prendergast, 2015; Chen, et al. 2020). Different personality types are said to increase an individuals' vulnerability to impulse purchasing behaviour (Whiteside & Lynam, 2001; Farid & Ali, 2018).

Neuroticism

Research into personality types has found a positive correlation between neuroticism and impulse purchasing behaviour (Silvera, et al., 2008; McCrae & Costa, 2008; Shahjehan, et al., 2012). Research suggested that increased levels of neuroticism had a positive relationship with impulse purchasing behaviour and distraction. Individuals with high levels of neuroticism were categorised by their tendency for anxiety, self-doubt, depression and other negative feelings and emotions, especially in relation to stressors (Ormel, et al., 2004). Therefore, individuals with high levels of neuroticism were said to be less emotionally stable, making them more vulnerable to impulse purchasing and distraction, compared to individuals with low levels of neuroticism (Silvera, et al., 2008; McCrae & Costa, 2008; Shahjehan, et al., 2012).

Distraction has also been said to divert attention from the goal at hand, therefore, theory suggests that higher levels of neuroticism would predict an increase in impulse purchasing behaviour, especially when individuals are under high levels of distraction. This has led to the formulation of the following hypothesis:

H_2 = Neuroticism moderates the effect of distraction (high vs low levels) on impulse purchasing behaviour, in such a way that individuals with high levels of neuroticism are more positively affected by the effects that distraction has on impulse purchasing behavior than individuals with lower levels of neuroticism.

Conscientiousness

Previous studies suggest that personality types can influence an individual's vulnerability to impulse purchasing (Whiteside & Lynam, 2001), as well as their susceptibility to distraction (Eysenck & Graydon, 1989). Research has found that there is a negative correlation between conscientiousness and impulse purchasing (Farid & Ali 2018; Badgaiyan & Verma, 2014; Miao, et al., 2019). Conscientiousness is defined by the tendency to be organized, goal-directed, self-disciplined, and efficient (Roberts, et al., 2009), and it has been said that higher levels of conscientiousness make individuals less susceptible to impulse purchasing and distraction (McCrae & Costa, 2008). Individuals with lower levels of conscientiousness on the other hand have been found to be less thoughtful, and less likely to plan therefore, making them more susceptible to impulse purchasing and distractions (Roberts, et al., 2014).

Distraction is said to take away attention from the task at hand, suggesting that the presence of a distraction would increase the amount of online purchasing. However, individuals with high levels of conscientiousness have high levels of impulse control and are incredibly goal directed, which has shown to make individuals with high levels of conscientiousness more resistant to the effects of distraction in relation to goal-directed behaviour (Russell, et al., 2017). In contrast, individuals with low levels of conscientiousness lack self-control and are more impulsive. Therefore, high levels of distraction may reduce the effectiveness of the already low levels of goal-directed behaviour and self-regulation in individuals with low levels of conscientiousness. Due to Russell et al. (2017)'s findings that individuals with high levels of conscientiousness are relatively resistant to the influence of distraction, we would predict that the increase in impulse purchasing behaviour would be larger in individuals with low levels of conscientiousness than in individuals with high levels of conscientiousness when these individuals are distracted. This theory has lead us to formulate the following hypothesis:

H_3= Conscientiousness moderates the effect of Distraction (High vs Low levels) on impulse purchasing behaviour in such a way that individuals with low levels of conscientiousness will be more positively affected by the effects that distraction has on impulse purchasing behavior than individuals with higher levels of conscientiousness.

Method

Design

This study was conducted as part of a larger study investigating consumer behaviour in an online environment. The study's design consisted of a 2-group design (High Distraction vs Low distraction) with 2 covariates (Neuroticism & Conscientiousness) testing the effect of distraction on impulsivity in an online environment. The independent variable was distraction, this was a fixed between subject variable with two levels (high distraction vs low distraction). The dependent variable was impulse purchasing behaviour which was a continuous between subject variable. The study consisted of two continuous within subject covariates: conscientiousness and neuroticism.

Participants

Participant Sample Size

A G*Power analysis (Faul et al., 2009) was conducted in order to calculate the minimum sample size needed in this study in order to provide sufficient power to detect a large effect. For the G*Power calculation an ANCOVA was selected for the statistical tests, with fixed effects, main effects, and interactions, using a large effect size F of 0.483, an alpha error probability of 0.05, and power probability of 0.95. The effect size used in this calculation was based on the large effect size found in van der Wal and van Dillen's (2013)'s article on distraction, as this was the closest to what we would be conducting in terms of manipulating distraction. In order to ensure a large effect size, an F value of 0.483 (van der Wal & van Dillen,

2013) was used in our G*Power calculation which resulted in a minimum requirement of 114 participants for this study to ensure sufficient power to detect a large effect size.

Participant Eligibility

All participants in this study were between the ages of 18 and 65; due to ethical reasons we only selected participants over the age of 18. On account of our study being conducted online focusing on online shopping and online consumption, we decided that the cut-off age for participants should be 65. This seemed to be an appropriate age at which the general population still uses the internet on a regular basis, including for online shopping. Although many individuals over the age of 65 do in fact still use the internet, this may not be completely representative of the overall population and would therefore potentially skew our results (Perrin & Atske 2021). Due to the study using the pound sterling currency (£), the study was restricted to individuals living within the United Kingdom, so that participants were familiar with the currency and to prevent any issues and confusion with currency conversion. The study had no gender restrictions.

Participant Recruitment

All participants for this study were recruited using prolific (www.prolific.co). The selection process for eligible participants was exclusively conducted by prolific, by only presenting the study to individuals who met our predetermined characteristics. The selection criteria we provided indicated that participants must be between the ages of 18 and 65, speak English and be a UK resident, as our study would be working with the pound sterling currency (£). If participants fully completed the study, they would be compensated with £1.90, which was in accordance with prolific's minimum payment regulations for a study lasting 15 minutes.

Participant recruitment and participation was conducted on the 11th of November 2021. The final sample consisted of 136 participants between the ages of 18 and 65 (M = 31.98, SD

= 11.338), with 50.73% of the sample identifying as male (*M* = 31.88, *SD* = 11.45), 48.53% of the sample identifying as female (*M* = 31.73, *SD* = 11.200) and 0.74% of the sample identifying as other.

Measures

Distraction

Participants' levels of distraction were manipulated by using a digit span task as used in van der Wal and van Dillen (2013). In this task participants' levels of distraction were manipulated with either high or low cognitive load. The participants in the high distraction condition were presented with an 8-digit long string of numbers (57649371), whereas the low distraction condition were presented with only a single digit (8) (see Appendix 1). In each condition the digits were presented on the screen for 2 seconds and then disappeared again. The digits were only presented for a maximum of 2 seconds in order to prevent participants from cheating in the distraction task (e.g., write down the digits, screenshot the page, etc.). As this study was being held online, we could not personally supervise individuals while undergoing the study and cheating in the distraction task would mean that the results obtained would be obsolete. A previous study, conducted by van Dillen and van Steenbergen (2018) demonstrated that when participants were given more time to remember the digits, the distraction task was less effective. Van Dillen and van Steenbergen (2018) as well as our own preliminary trials showed that 2 seconds was the perfect timing for individuals to have the opportunity to view and remember the digits, while not giving them the time and opportunity to cheat.

As part of the manipulation check for the distraction task, participants were asked to recall the digit(s) they had previously been asked to remember and were asked to write them down. If the individual recalled the number incorrectly, they were presented with a selection task, where they were asked to select the number they had previously been shown from a choice

of 4 very similar numbers (see Appendix 2). This was used to gauge if participants were distracted enough throughout the study, enabling us to remove participants who did not pay attention or who were not sufficiently distracted, so that our data will not be compromised.

Global and Local Focus

Participants' global and local focus was manipulated using the Navon task (Navon, 1977). This Task was not part of the current thesis, for more information see Appendix 3.

Impulsivity

Individuals' impulsivity was measured in an online shopping task, which required participants to look through a variety of items, with prices, simulating an online shopping store. Participants were instructed to add the items they would like to hypothetically purchase to their shopping basket, using their own budget. The items presented in the task consisted of a mixture of different types of items, some useful some not, covering all kinds of categories, from home office to living and kitchen (see Appendix 4). The simulated store had a similar array of items as the ones sold in the well-known store Flying Tiger. The items used in the study all fell into a cheap to moderate price bracket, ranging from £1 to £10, encouraging individuals to be as impulsive with their purchasing as they would be in an offline setting, while still being within budget for people from all financial backgrounds. Research has shown that individuals are automatically less impulsive when purchasing more expensive items, such as furniture or technology, as these often require a lot of thought and decision making before the actual purchase of the product occurs (Iyer, et al., 2020). Due to this, we made sure that all products were within a price range that was financially accessible to everyone.

Customer Satisfaction and Need for Gratification

Customer satisfaction was measured with a question adapted from Grewal et al. (2018) and need for gratification was measured with adapted questions from Van Dillen and Andrade (2016). This was also not part of the current thesis, for more information see Appendix 5.

Personality Questionnaire

In order to gauge the individual's personality type, a personality questionnaire was administered, focusing on the Big-5 inventory (BFI), established by Goldberg (1992), and consisted of 44 questions which participants had to answer on a 5-point Likert scale, ranging from 1 (*strongly disagree)* to 5 (*strongly agree)* (Goldberg, 1992; see Appendix 6). This questionnaire consisted of questions such as "I see myself as someone who is talkative", "I see myself as someone who tends to be lazy", "I see myself as someone who tends to find fault with others", "I see myself as someone who is emotionally stable", "I see myself as someone who does a thorough job", "I see myself as someone who is inventive", etc. The reliability checks for the personality questionnaire indicated that the overall reliability for the questionnaire was quite high (α = .703). The subscale for the personality trait of conscientiousness, consisting of 9 items was also very reliable (α = .814) as was the subscale for neuroticism, consisting of 8 items (α = .830). The mean score for the personality trait of conscientiousness in this sample was 3.482 (*SD* = .656), and the mean score for the personality trait of neuroticism in this sample was 3.163 (*SD* = .760).

Procedure

Once the study was visible to eligible participants on prolific, they were asked to sign up to the study. Prolific showed participants a summary of the study and what devices the study was available on (laptop or desktop computer) so that participants were aware of what the study entailed before signing up to it or had the opportunity to opt out and not partake. Once individuals had signed up, prolific (www.prolific.co) directed them to our Qualtrics page on

which the study was being conducted. When participants entered the study, they were presented with an information sheet detailing the information of the study (see Appendix 7). Subsequently, individuals were asked to consent to the study. To do so, they were presented with a consent form, which required them to tick 4 boxes, detailing individual aspects of the study that they were consenting to (see Appendix 8). Following this, participants' Prolific ID was automatically recorded by Qualtrics. If participants did not tick all the boxes, and therefore did not consent to the study, they were redirected to an end page, which resulted in them not being paid for their participation.

The study had two conditions – the high distraction condition and the low distraction condition. Each condition followed the same procedure except for the distraction task (see Appendix 1), where each participant was either highly distracted or only slightly distracted.

Following the distraction task, individuals were asked to participate in the Navon task to prime the participants to either a global or local focus (Navon, 1977; see Appendix 3). For the main task of this study, participants were presented with a shopping task, measuring participants' impulsivity (see Appendix 4). Following the shopping task, the manipulation check for the Navon task was conducted (see Appendix 3), after which participants were asked about their need for gratification and then directed to watch a short, entertaining video clip. Following this, participants were once again asked about their need for gratification and their customer satisfaction regarding the video (see Appendix 5). Afterwards, the manipulation check for the digit span task was conducted, as participants no longer needed to be distracted for the remainder of the study (see Appendix 2). An attention check consisting of questions about the video the participants had been previously shown followed this (see Appendix 5). Subsequently, participants were asked to answer a personality questionnaire (see Appendix 6). This questionnaire was scheduled after the shopping task and video in order to prevent the personality inventory questions affecting the participants behaviour in the shopping task, and

to make sure participants were not primed in any way. This ensured that the effect we measured was mainly the effect of distraction and reduced the likelihood of the effect being due to another phenomenon (Tulving & Schacter, 1990).

Finally, participants were asked for some demographic information, consisting of their age and gender (see Appendix 9). Following this they were presented with a debrief sheet containing all the details regarding the true aims of the study, information about what we will be doing with the collected data, and what we hoped to find with the results of this study. The form also provided details of how the participants could contact the researcher for more information and on how participants could withdraw from the study if they wished to do so at a later date (see Appendix 10).

Ethical Considerations

Ethical approval was obtained on the 8th of November 2021 by the Leiden University Psychology Research Ethics Committee. The application for ethical approval was submitted by Dr Anouk van der Weiden.

Plan of Statistical Analysis

All the response data from the participants was collected via prolific and Qualtrics and was then exported to SPSS (IBM SPSS Statistics 26). Once the data had been exported, we cleaned the data: any data of participants that had not completed the study was removed. Furthermore, we looked at the manipulation check for the digit span and any participants that had failed the manipulation check were also removed. This process will be explained in more detail in the results section. As this study was part of a larger study, only the data that was relevant to the aims and hypothesis of this current study were analysed, which resulted in any unrelated data being removed. Once the data had been cleaned it was re-labelled in a more coherent way and the data from Goldberg's (1993) personality questionnaire was re-coded in

order to ensure that all items were posed in the same direction, ensuring that the data would be an accurate reflection of the participants' scores. The data was checked for inconsistencies and was then transformed to compute a mean score per personality trait for each individual, as well as a new variable indicating the total amount of items they selected in the shopping task.

Following this, the preliminary checks were conducted on the data, assumptions for the analysis of covariance (ANCOVA) were checked, then checks on the randomisation of the data were conducted as well as a manipulation check, which was followed by reliability checks of the inventories we used in the study. Following this, an ANCOVA was conducted on the data to test the effect that distraction had on impulsive purchasing behaviour with personality (neuroticism and conscientiousness) as a moderator, and any significant relationships for the interactions were tested through a simple slopes analysis.

Results

Data preparation

174 people's data was collected in total. 23 participants either timed out or did not fully complete the study and were therefore removed from the data set, this resulted in a total of 151 participants' data remaining in the study. Another participant was excluded from the analysis as she consistently responded with the same answer for the personality questionnaire, showing that she was not answering the questions truthfully as a continuous selection of "*Strongly Agree*" for the personality questionnaire would result in answers that completely contradict themselves once the data had been reverse coded. Due to this we removed this participant, which resulted in at total of 150 participants.

Assumption checks

First, assumption checks for the ANCOVA were conducted. For this, the dependent variable was the amount of products purchased (Impulsivity), the independent variable was

distraction, and the covariates were the personality types of Conscientiousness and Neuroticism.

Unfortunately, not all the assumptions had been met. The assumption of normality was not met for this data set. A Shapiro-Wilk test indicated that the Impulsivity results for Low levels of distraction were not normally distributed $W(76) = 0.843$, $p < .001$, nor were the results for impulsivity at high levels of distraction $W(63) = 0.916$, $p < .001$. When looking at the histograms depicting the relationship between impulse purchasing behaviour at both high and low levels of distraction, you can see that although the relationship was positively skewed, it was still within the realm of the normality curve (see Figure 1 and 2). The box plot for the data also indicated that there were 4 outliers (see Figure 3). Although the above-mentioned Shapiro-Wilk test indicated that the data was not normally distributed, ANCOVA is relatively robust against a violation of the normality assumption when group size is above 25, suggesting that this should not be a problem for the current analysis at hand (Field, 2018).

When further investigating the outliers, we decided to remove any participants that added more than 23 items to their shopping cart as this was 2 standard deviations above the mean ($M = 9.15$, $SD = 6.72$). This resulted in 3 of the 4 outliers being removed from the analysis due to them being either 3 standard deviations ($SD = 29.31$) or 4 standard deviations ($SD = 36.03$) above the overall mean. The fourth of the indicated outliers was not removed as they were still within 2 standard deviations of the overall mean ($M = 9.15$, $2SD = 22.59$) and within 2 standard deviations of the mean for their respective (low) distraction condition ($M = 8.71$, $2SD = 22.41$).

Although it is more common to remove participants that are 3 standard deviations above the mean, we noticed that when sorting participants scores of the items they purchased in rank order, the scores more than 2 standard deviations above the mean were much further apart than anywhere else in the sample (29,34,41 items purchased). The second outlier (29 items

purchased) was extremely close to the 3 standard deviations cut off point, and we found that when including this outlier, the results were extremely skewed, due to the large gap between that outlier(29 items purchased) and the previous(22 items purchased.) After the removal of the 3 outliers, 147 participants remained.

Randomization Checks

Checks on the distribution of the data indicated that the personality type of neuroticism was equally distributed across the low distraction (M = 3.11, SD = .799) and high distraction (M = 3.22, SD =.714) conditions, $t(134) = -.787$, $p = .433$. The checks also indicated that levels of conscientiousness were also equally distributed across the low distraction (M = 3.49, SD = .651) and the high distraction (M = 3.47, SD = .667) condition, $t(134) = .187$, $p = .852$ (see Figure 4 and 5). When looking at the distribution of age across the low distraction (M = 30.34, SD = 9.81) and high distraction (M = 33.84, SD = 12.75) conditions this was also equally distributed $t(134) = -1.808$, $p = .073$, suggesting that age did not significantly differ between the distraction conditions (see Figure 6). The Chi-Square test for gender across the distraction conditions showed that gender was also equally distributed $X^2(1, N = 135) = 397$, $p = .528$.

Manipulation check

Analysis of the manipulation check for the distraction task indicated that 58 individuals answered the recall question incorrectly, all were in the high distraction condition. Following this, we looked at individuals' answers to the recognition part of the manipulation check, which was presented only if the participants had incorrectly recalled the digits. Only 11 answered the selection task incorrectly. Subsequently, the 11 participants' original recall questions were analysed. Of these 11 participants, 0 recalled more than 50% of the digits correctly, leading to them all being removed from the data set as this meant they were not distracted enough throughout the study, as they had not paid enough attention to the distraction task, as indicated by their inability to recall the numbers sufficiently. This resulted in 136 participants being

included in the final analysis. This number was still high enough in order to assume a large effect size, as the previously mentioned G*Power calculation suggested that a minimum number of 114 participants were required for the analysis to assume a large effect size.

ANCOVA

For the main analysis, an ANCOVA was conducted. This was made up of one dependent variable – the amount of products purchased (impulsivity), one independent variable – levels of distraction (high vs low distraction) and two moderator variables – the personality types of conscientiousness and neuroticism.

Main Effects

The results of the ANCOVA showed that Neuroticism had a significant main effect on impulsivity $F(1,130) = 4.622$ $p = .033$, $\eta_p^2 = .034$, showing that impulsivity was significantly higher for individuals with higher levels of neuroticism ($M = 8.86$, $SD = 5.56$) than individuals with lower levels of neuroticism ($M = 8.33$, $SD = 5.57$). However, the main effect of Conscientiousness was not significant $F(1,130) = .563$, $p = .454$, nor was the main effect of distraction $F(1,130) = 1.774$, $p = .185$. Although the effects of distraction on impulsivity was not significant, individuals added more items to their cart in the high distraction condition ($M = 9.29$, $SD = 5.84$) than they did in the low distraction condition ($M = 8.00$, $SD = 5.27$).

Interaction Effects

When looking at the interaction terms, we find that the interaction effect for distraction and neuroticism is non-significant $F(1,130) = 0.004$, $p = .950$. However, the interaction term for distraction and conscientiousness on the other hand is marginally significant $F(1,130) = 2.787$, $p = .097$, $\eta_p^2 = .021$. Due to the marginal significance of the interaction between conscientiousness and distraction, it was appropriate to explore the direction of the slopes of the interaction.

Simple Slopes Analysis

In order to examine the simple slopes of the interaction between distraction and conscientiousness and to test our specific hypothesis, participants impulsivity was assessed separately for participants scoring low on the conscientiousness personality trait (1SD below the mean) and for participants scoring high on the conscientiousness personality trait (1SD above the mean). This was based on the estimated marginal means as used in Aiken and West (1991). This analysis revealed that individuals with lower levels of conscientiousness experienced a significantly stronger effect for impulsivity $F(1,132) = 4.161$, $p = .043$, $\eta_p^2 = .03$, than those with higher levels of conscientiousness did $F(1,132) = .015$, $p = .903$.

When splitting the data based on levels of distraction, the simple slope analysis revealed that in the low distraction condition there was a marginally significant effect for conscientiousness $F(1,71) = 3.375$, $p = .070$, $\eta_p^2 = .045$. The results for the high distraction condition on the other hand were not significant for conscientiousness $F(1,59) = .364$, $p = .549$. These results show that there is a stronger effect in the low distraction condition, but this is not quite significant.

Discussion

This study aimed to extend previous research on distraction and consumption, by considering the role that personality has on this relationship.

The first hypotheses addressed in this paper assumed a direct effect of distraction on impulse purchasing behaviour. We hypothesized that higher levels of distraction would increase impulse purchasing behaviour in all individuals. The results indicated that although not significant, individuals in the high distraction condition did on average add more items to their shopping carts than individuals in the low distraction condition. However, due to the non-significant main effect of distraction on impulsivity, the H1 had to be rejected.

Although the results from this study regarding the main effect of distraction on consumption are non-significant, they are in line with previous research by Van de Wal and van Dillen (2013), who suggested that individuals under higher levels of distraction would consume more than individuals under lower levels of distraction. These findings were subsequently supported by Chen et al. (2020), suggesting that distraction increases impulsivity. However, it was unexpected to find a non-significant result for this main effect, as most, if not all previous research that we had found, encountered no problems replicating this effect (Bellini & Aiolfi, 2017; Grewal et al., 2018). The lack of significance for these results could be due to this study being conducted online, whereas most, if not all previous research was conducted in an in-person setting. While conducting this study online had some advantages, it could have also meant that there was less control over the participants' actions and that we could not sufficiently induce nor control the levels of distractions across the participants, which in turn could have resulted in a weakened effect of distraction. Although the manipulation check for the distraction task checked and excluded participant that were not paying sufficient attention (and subsequently failed the manipulation check) this did not ensure that the overall level of distraction was high enough. The distraction task may have been too easy and therefore participants could have potentially not been under high enough levels of distraction to show a true effect.

Our second and third hypotheses focused on the moderation effects that personality had on the effects of distraction on impulse purchasing behaviour. Our second hypothesis zoomed in on the personality type of neuroticism and theorised that higher levels of neuroticism would increase the individual's impulsiveness overall, especially when under high levels of distraction. The results revealed that the main effect of neuroticism was significant, showing that individuals who were highly neurotic, were in fact more impulsive than those who were not, however the interaction between distraction and neuroticism on the other hand was not

significant. Due to the non-significant interaction effect between distraction and neuroticism the H2 was rejected.

Although these results do not support our overall hypothesis, the trends are partly in line with results from previous research. Research suggested that individuals with increased levels of neuroticism would be more impulsive than those without; due to their lack of emotional stability (Silvera, et al., 2008; McCrae & Costa, 2008; Shahjehan, et al., 2012), which is reflected in the results found for the significant main effect of neuroticism on impulse purchasing behaviour. However, the rest of our results in relation to neuroticism were not in line with the theory that suggested that the effect of distraction would increase the already heightened levels of impulsivity in individuals with higher levels of the neurotic personality trait (Eysenck & Graydon, 1989; Keogh & French, 2001; Ormel, et al., 2004). The lack of significance in these results could be due to the previously discussed insignificant effect of distraction on impulse purchasing. As most previous research suggests that the effect of distraction would increase impulse purchasing, we based our assumptions and hypothesis on this. However, our results indicated a non-significant effect for distraction on impulse purchasing behaviour, which could in turn have effected, and been the cause of the non-significant results for the interaction between distraction and neuroticism. An alternative explanation could be a ceiling effect for the interaction effect of neuroticism and distraction. This would suggest that because individuals with higher levels of neuroticism are already more impulsive than those with lower levels of neuroticism, the effect of distraction, in combination with the high levels of neuroticism would level out the effect on impulse purchasing behaviour.

Our third hypothesis focused on the personality type of conscientiousness and theorised that higher levels of conscientiousness would protect against the effects of distraction, decreasing the vulnerability to impulsiveness, whereas individuals with lower levels of conscientiousness would be more impulsive overall. The results showed several interesting

things regarding the main effect of conscientiousness on the effect of impulsivity as well as the interaction between distraction and conscientiousness and its effect on impulsivity.

Firstly, the main effect for conscientiousness was not significant, however the interaction effect between distraction and conscientiousness was marginally significant. When looking at the direction of this marginally significant result for the interaction term between distraction and conscientiousness, results found that individuals with lower levels of conscientiousness experienced a significantly stronger effect of distraction on impulsivity compared to those with higher levels of conscientiousness who displayed no effect. Due to the marginally significant result for the interaction terms, we can cautiously accept our H3.

Although the hypothesis can be accepted this can only be done with caution. The results for individuals with low levels of conscientiousness are in line with previous findings on the vulnerability of impulsivity across the personality trait of conscientiousness. Research by Roberts, et al. (2014) suggested that individuals with lower levels of conscientiousness were found to be less thoughtful, and less likely to plan, therefore making them more susceptible to impulse purchasing behavior, which was somewhat in line with the trends that our study found. Alternative research also suggested that individuals with lower levels of conscientiousness were more susceptible to distractions (Gordon, 2021; Seddigh, et al., 2016), which could explain why our results were strongest for highly distracted individuals with low levels of conscientiousness. However, these results must still be interpreted with caution, as the original interaction effect (between distraction and conscientiousness) was only marginally significant. In order to get a full understanding and a reliable conclusion, this effect would need to be further investigated.

Strengths and Limitations

Limitations of this Study

This study had a few limitations. First, this study was conducted online which may have affected the effectiveness of the distraction task. Due to the COVID-19 pandemic, we had to follow all the appropriate precautions and restrictions in order to keep ourselves and our participants safe, which resulted in an in-person investigation not being possible. This meant we could not sufficiently check if participants were distracted enough and were not cheating in the distraction condition, meaning we had to trust participants to follow the rules that were laid out at the start of the study. Although the conducted manipulation check ruled out any participants who we thought did not pay sufficient attention, this manipulation check could have been too lenient in terms of what answers sufficed as individuals being sufficiently distracted. On the other hand, the distraction task as a whole may not have been distracting enough, and the task may have just been too easy and with that did not distract the participants to a sufficiently high enough level, which may have influenced our results for the distraction manipulations. This could in part be the reason that our main effect between distraction and impulse purchasing behaviour was not significant, which could have in turn also affected the significance of the rest of the results, as these were all based upon the assumption that participants were sufficiently distracted, at either a high or low distraction level.

As this study aimed to test the previously outlined effects in an online environment, this does not mean that the study as a whole was limited by its completion online. This merely means that it would have been easier and (potentially) more effective to manipulate distraction in an in-person environment. The study as a whole could, and should, have still been conducted in an online environment but in a lab setting, where the researchers would have had more control over the manipulation of distraction.

An alternative way to ensure a stronger and more successful manipulation of distraction may have been to test individuals on the digit(s) they were asked to remember at multiple times throughout the study, rather than just at the end of the study. In order to combat a potential repeated exposure effect, individuals could be asked to only recall certain parts of the digit string at each different manipulation check point. This would still require individuals to pay enough attention to the digit(s) without repeatedly testing them on the whole set of digits, reducing the effects of repetition. The manipulation checks could also be presented for a limited period of time to prevent participants from having time to cheat in the recall procedure.

Strengths of this study

A strength of this study is the fact that it was the first study of its kind. As far as the literature used in the research for this study would suggest, this is the first study that looks at the effect of distraction on impulsive purchasing behavior within an online environment whilst assessing the moderation effect of different personality traits. This research enhances the understanding and opens up the possibility for further research in this field, as well as addressing the importance of the investigation of the effects of distraction on impulsivity in an online environment.

An additional strength of this research is the generalisability and validity of the measures used. The results in this study are generalisable due to the varied sample that was used. The study had minimal exclusions indicating that participants only had to reside in the UK, which resulted in a varied participant sample consisting of a variety of ages (18-65), genders and nationalities. The measures used in this study also had a high validity; with the overall validity of the Big-5 personality trait questionnaire being high ($\alpha = .703$), and the individual personality types being even higher (Neuroticism $\alpha = .830$, Conscientiousness $\alpha = .814$).

Future Research

Further research should aim to extend and elaborate on what we have found in this study. As this study only found one (marginally) significant result for the interaction effect between distraction and conscientiousness and a single main effect for neuroticism, it would be wise to further investigate the role that distraction has on impulse purchasing behaviour and how neuroticism and conscientiousness moderate this effect. As our hypotheses regarding personality traits assumed there was a significant effect between distraction and impulsivity, which we did not find in this study, it would be wise to reinvestigate this overall effect. All the research we looked into for this paper focused on the effects that distraction had on consumption in an in-person setting, typically a brick-and-mortar environment, therefore it would be useful to first investigate if this effect could in fact be replicated in an online environment, before investigating the additional moderation effects of neuroticism and conscientiousness. The baseline effect of distraction on consumption in an online environment should first be investigated, as the lack of research into the effects of distraction in an online environment may be due to the possibility that distraction does in fact not have an influence on behaviour when conducted in an online setting. Although this seems unlikely, as there is also no evidence suggesting the latter, it is a possibility, and therefore needs to be investigated first. The effect distraction has on consumption could, for instance, be tested by examining how much individuals are willing to spend online whilst they are watching TV. For example, online grocery shopping habits could be compared between individuals who added items to their basket while just focusing on the task at hand with no distractions, compared to individuals who added items to their basket while watching TV. This could be a within subject design, comparing participants' weekly shops over an elongated period of time - sometimes whilst distracted and watching TV, and at other occasions whilst not distracted and focusing on the task at hand.

If the main effect of distraction on impulse purchasing behaviour in an online setting were to be significant, this may then generate a significant interaction between distraction and neuroticism, whilst also strengthening the existing (marginally significant) interaction between distraction and conscientiousness.

Although this study aimed to test the effects of distraction on impulsivity in an online environment, and as such was the first of its kind, it would be interesting to see if the moderating effects of personality (conscientiousness) we found in this study could be replicated in a brick-and-mortar environment. Although most of the separate research on distraction, consumption and personality has been conducted in an in-person or brick and mortar setting, the examination of the effects together has, to our knowledge, not yet been addressed anywhere else but in this study, and therefore a replication in an offline setting would be an interesting route of research to address. In order to test the moderating effects of personality types on the effect that distraction has on consumption, a field study could be conducted with a design similar to *Grewal et al*. (2018), analysing peoples' buying choices while distracted on their phone. For the distraction measure, individuals could either be texting, answering emails, or talking on the phone. In order to measure impulsivity, the number of products people purchased could be taken into consideration, and participants could then be asked about how many of these products weren't on their shopping list or were not planned purchases. As for personality, individuals could be asked to complete Goldberg's (1993) Big-5 personality questionnaire to determine their levels of neuroticism and conscientiousness.

Alternatively, it would be interesting to investigate whether culture moderates the effect distraction has on impulse purchasing behavior. Most of the research into impulsive purchasing behaviour which we came across, both in an online and in-person environment, was conducted in the western world, which leads to the assumption that there could potentially be a gap in the research for groups of different cultural background. Previous research by Kacen and Lee

(2002) suggested that spending habits vary depending on cultural factors, such as if a country has an individualistic or a collectivist standpoint. This theory would suggest that individuals within an individualistic culture (i.e., the majority of the western world) would be generally more impulsive than individuals within a collectivist culture (i.e., countries such as Japan, China, Korea, Brazil, and India). This then poses the question of how and to what extend culture moderates the effect of distraction in impulse purchasing. Would the impulsivity of individuals within a collectivist culture change when distracted, and would this change be the same as the potential increase that may be shown in individuals from an individualistic culture? One way to test this would be to conduct a study using a shopping and distraction task like the one we described in the current thesis, testing samples from 3 collectivist cultures, and 3 individualistic cultures. The comparison of the results between the cultures may indicate a trend within or across culture types. Based on (the lack of) previous research (Kacen & Lee, 2002), one could hypothesise that, generally, individuals from an individualist culture would be more impulsive than those from a collectivist culture, but more research needs to be conducted into this to theorise and formulate full hypotheses. Nonetheless, this would be an interesting angle of research to investigate.

Implications

The results of this study are vital in the current age of digital consumption (Frick, et al., 2021). Not only are they key in helping understand the effects that everyday distractions have on our levels of impulsivity and in turn also on our online consumption habits, they also help to address how individual differences in personality influence simple everyday tasks. Throughout the global COVID-19 pandemic, nearly all retail was moved online, and people were spending most of their work and free time at home, resulting in levels of distraction skyrocketing (Umucu,& Lee, 2020; Cao, et al., 2021; Toniolo-Barrios & Pitt, 2021). This study has helped to shed a theoretical light on the potential negative side effects of these new

permanent levels of distraction, while also highlighting how individual differences in personality traits can significantly affect an individual's vulnerability as well as their reaction to distractors in these new and ever-changing times.

The findings of this study can be utilised in many way, and for different gains: although the results are only marginally significant and need further investigation to truly examine underlying effects, it introduces the basis to an important new field of research. Large companies and corporations may use the trends and results put forward in this paper in order to shift their advertisement focus and strategies. In order to increase their sales figures, companies and corporations may target individuals with higher levels of neuroticism and lower levels of conscientiousness, by increasing distractions and taking advantage of their susceptibility to distraction and in turn their vulnerability to impulse purchasing behaviour. On the other hand, the trends and results highlighted in this study can also be utilised in order to help provide information and protect consumers, specifically those with higher levels of neuroticism and lower levels of conscientiousness, warning individuals of the danger of distraction, and of their own vulnerabilities. Shedding light on the strategies and tactics that may be used against customers to increase their vulnerability to their own impulsiveness, can help individuals become more self-aware of methods used by larger corporations to induce impulsivity, thus helping individuals protect themselves against their impulsive spending habits. One small intervention that individuals could use to protect themselves from excessive impulse purchasing is to make sure that they are actively trying to focus on the specific task at hand rather than multitasking whilst shopping. Highlighting the potentially negative effects distraction has on consumption especially for certain personality types, can help individuals understand the potential severity of their vulnerabilities and encourage them to make small changes to their lives to help protect them from overspending, and falling into a trap of impulse purchasing.

Conclusion

With the rapid increase in consumption and in turn, impulse purchasing behaviour, it is important to understand the factors influencing impulse purchasing behaviour. By testing the moderation effects of neuroticism and conscientiousness on the effect distraction has on consumption (impulse purchasing behaviour) in an online environment, we established that in contrary to previous research, distraction did not have a significant effect on consumption in an online environment. Neuroticism, however, had a significant main effect on consumption, which supported our predictions. The significant interaction effect of conscientiousness and distraction on consumption also supported our predictions. This paper, therefore, makes an important contribution to the literature on distraction, personality, and consumption, and paves the way for a new and important field of research while, at the same time, posing a multitude of managerial implications as well as implications for the average consumer.

References

Abbruzzese, J., Ingram, D., & Click, S. (2020, 28 March). *The coronavirus pandemic drove life online. It may never return.* NBC News. https://www.nbcnews.com/tech/internet/coronavirus-pandemic-drove-life-online-it-may-never-return-n1169956

Allport, G. W. (1961). Pattern and growth in personality

Badgaiyan, A. J., & Verma, A. (2014). Intrinsic factors affecting impulsive buying behaviour—Evidence from India. *Journal of Retailing and consumer services*, 21(4), 537-549.

Beatty, S., Ferrel, E., 1998. Impulse buying: modeling its precursors. *J. Retail.* 72 (0022–4359). http://dx.doi.org/10.1016/S0022-4359(99)80092-X

Bellini, S., & Aiolfi, S. (2017). The impact of mobile device use on shopper behaviour in store: An empirical research on grocery retailing. *International Business Research*, *10*(4), 58-68.

Boon, B., Stroebe, W., Schut, H., & IJntema, R. (2002). Ironic processes in the eating behaviour of restrained eaters. *British journal of health psychology*, *7*(1), 1-10.

Bosnjak, M., Galesic, M., & Tuten, T. (2007). Personality determinants of online shopping: Explaining online purchase intentions using a hierarchical approach. *Journal of Business Research*, *60*(6), 597-605.

Cambridge Dictionary. (2021a). *Shopping Definition*. https://dictionary.cambridge.org/dictionary/english/shopping

Cambridge Dictionary. (2021b). *Consumption Definition*. https://dictionary.cambridge.org/dictionary/english/consumption

Cao, H., Lee, C. J., Iqbal, S., Czerwinski, M., Wong, P. N., Rintel, S., Hecht, J.T., Teevan, J., Yang, L. (2021). Large scale analysis of multitasking behavior during remote meetings. In *Proceedings of the 2021 CHI Conference on Human Factors in Computing Systems* 1-13

Cattell, R. B. (1947). Confirmation and clarification of primary personality factors. *Psychometrika*, *12*(3), 197-220.

Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of personality and social psychology*, *39*(5), 752.

Chen, L., Nath, R., & Tang, Z. (2020). Understanding the determinants of digital distraction: An automatic thinking behavior perspective. *Computers in Human Behavior*, *104*, 106195.

Craik, F. I., Govoni, R., Naveh-Benjamin, M., & Anderson, N. D. (1996). The effects of divided attention on encoding and retrieval processes in human memory. *Journal of Experimental Psychology: General*, *125*(2), 159.

Deaton, A. (1992). *Understanding consumption*. Oxford University Press.

Digital Commerce 360, Internet Retailer. (2021, 16 juni). COVID's impact on online shopping. Digital Commerce 360. https://www.digitalcommerce360.com/article/coronavirus-impact-online-retail/

Digital Commerce 360. (2021, september). *Global online sales reach nearly $4.29 trillion in 2020*. https://www.digitalcommerce360.com/article/global-ecommerce-sales/

Dittmar, H., Beattie, J. and Friese, S. (1995). Gender Identity and Material Symbols: Objects and Decision Considerations in Impulse Purchases, *Journal of Economic Psychology*,16(3): 491-511.

Donthu, N., & Garcia, A. (1999). The internet shopper. *Journal of advertising research*, *39*(3), 52-52.

Eysenck, M. W., & Graydon, J. (1989). Susceptibility to distraction as a function of personality. *Personality and Individual Differences*, *10*(6), 681-687

Fagley, N. S. (2012). Appreciation uniquely predicts life satisfaction above demographics, the Big 5 personality factors, and gratitude. *Personality and individual Differences*, *53*(1), 59-63.

Farid, D. S., & Ali, M. (2018). Effects of personality on impulsive buying behavior: Evidence from a developing country. *EconStor Open Access Articles*, 31-43

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods*, 41, 1149-1160.

Field, A. P. (2018). Discovering statistics using IBM SPSS statistics (5th edition.).

Fiese, B. H., Jones, B. L., & Jarick, J. M. (2015). Family mealtime dynamics and food consumption: An experimental approach to understanding distractions. *Couple and Family Psychology: Research and Practice*, *4*(4), 199.

Fiske, D. W. (1949). Consistency of the factorial structures of personality ratings from different sources. *The Journal of Abnormal and Social Psychology*, *44*(3), 329.

Frick, V., Matthies, E., Thøgersen, J., & Santarius, T. (2021). Do online environments promote sufficiency or overconsumption? Online advertisement and social media effects on clothing, digital devices, and air travel consumption. *Journal of Consumer Behaviour*, *20*(2), 288-308.

Friese, M., Hofmann, W., & Wänke, M. (2008). When impulses take over: Moderated predictive validity of explicit and implicit attitude measures in predicting food choice and consumption behaviour. *British Journal of Social Psychology*, *47*(3), 397-419.

Galton, F. (1884). Measurement of character. *Fortnightly Review*, *36*, 179–185.

Garcia, A. C., Ambrose, A., Hawkins, A., & Parkes, S. (2021). High consumption, an unsustainable habit that needs more attention. *Energy Research & Social Science*, *80*, 102241.

GDPR.eu. (2019, 19 februari). General Data Protection Regulation (GDPR) Compliance Guidelines. https://gdpr.eu/

Goldberg LR (1993). The structure of phenotypic personality traits. *The American Psychologist*. 48 (1): 26–34.

Goldberg, L. R. (1992). The development of markers for the Big-Five factor structure. *Psychological assessment*, *4*(1), 26.

Gordon, S. (2021, 20 maart). Understanding How Conscientiousness Affects Your Behavior. *Verywell Mind.* https://www.verywellmind.com/how-conscientiousness-affects-your-behavior-4843763

Graziano, W. G., & Tobin, R. M. (2009). Agreeableness. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 46–61). The Guilford Press.

Grewal, D., Ahlbom, C. P., Beitelspacher, L., Noble, S. M., & Nordfält, J. (2018). In-store mobile phone use and customer shopping behavior: Evidence from the field. *Journal of Marketing*.

IBM Corp.(2019). IBM SPSS Statistics for Windows [Software], Version 26.0. Armonk, NY: IBM Corp

Iyer, G. R., Blut, M., Xiao, S. H., & Grewal, D. (2020). Impulse buying: a meta-analytic review. *Journal of the Academy of Marketing Science*, *48*(3), 384-404.

Kacen, J. J., & Lee, J. A. (2002). The influence of culture on consumer impulsive buying behavior. *Journal of consumer psychology*, *12*(2), 163-176.

Keles, R. (2012). The quality of life and the environment. *Procedia-Social and Behavioral Sciences*, *35*, 23-32.

Keogh, E., & French, C. C. (2001). Test anxiety, evaluative stress, and susceptibility to distraction from threat. *European Journal of Personality, 15(2)*, 123-141.

Lavie, N. (2010). Attention, distraction, and cognitive control under load. *Current directions in psychological science*, *19*(3), 143-148.

McCrae, R. R., & Costa Jr, P. T. (2008). The five-factor theory of personality.

McCrae, R. R., & Sutin, A. R. (2009). Openness to experience. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 257–273). The Guilford Press.

Miao, M., Jalees, T., Qabool, S., & Zaman, S. I. (2019). The effects of personality, culture, and store stimuli on impulsive buying behavior: evidence from emerging market of Pakistan. *Asia Pacific Journal of Marketing and Logistics.*

Mouratidis, K., & Papagiannakis, A. (2021). COVID-19, internet, and mobility: The rise of telework, telehealth, e-learning, and e-shopping. *Sustainable Cities and Society*, *74*, 103182.

Navon, D. (1977). Forest before trees - Precedence of global features in visual-perception. *Cognitive Psychology*, 9, 353-383.

Norman, W. T. (1963). Toward an adequate taxonomy of personality attributes: Replicated factor structure in peer nomination personality ratings. *The journal of abnormal and social psychology*, *66*(6), 574.

Ogden, J., Coop, N., Cousins, C., Crump, R., Field, L., Hughes, S., & Woodger, N. (2013). Distraction, the desire to eat and food intake. Towards an expanded model of mindless eating. *Appetite, 62,* 119-126.

Ormel, J., Rosmalen, J., & Farmer, A. (2004). Neuroticism: a non-informative marker of vulnerability to psychopathology. *Social Psychiatry and Psychiatric Epidemiology,* 39(11), 906-912.

Perrin, A., & Atske, S. (2021, April 2). *7% of Americans don't use the internet. Who are they?* Pew Research Center. https://www.pewresearch.org/fact-tank/2021/04/02/7-of-americans-dont-use-the-internet-who-are-they/

Piron, F. (1991). Defining impulse purchasing. ACR North American Advances.

Pollák, F., Vavrek, R., Váchal, J., Markovič, P., & Konečný, M. (2021). Analysis of Digital Customer Communities in terms of their interactions during the first wave of the COVID-19 pandemic. *Management & Marketing*, *16*(2).

Prolific. (2014). [Software]. Prolific. https://www.prolific.co

Qualtrics (21.6). (2005). [Software]. Qualtrics. https://www.qualtrics.com

Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. *Journal of consumer research*, *19*(3), 303-316.

Roberts, B. W., Jackson, J. J., Fayard, J. V., Edmonds, G., & Meints, J. (2009). Conscientiousness. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 369–381). The Guilford Press.

Roberts, B. W., Lejuez, C., Krueger, R. F., Richards, J. M., & Hill, P. L. (2014). What is conscientiousness and how can it be assessed?. *Developmental psychology*, 50(5), 1315.

Russell, E., Woods, S. A., & Banks, A. P. (2017). Examining conscientiousness as a key resource in resisting email interruptions: Implications for volatile resources and goal achievement. *Journal of occupational and organizational psychology*, 90(3), 407-435.

Schmidt, S., Benke, C., & Pané-Farré, C. A. (2021). Purchasing under threat: Changes in shopping patterns during the COVID-19 pandemic. *PloS one*, 16(6)

Sciandra, M. R., Inman, J. J., & Stephen, A. T. (2019). Smart phones, bad calls? The influence of consumer mobile phone use, distraction, and phone dependence on adherence to shopping plans. *Journal of the Academy of Marketing Science*, 47(4), 574-594.

Seddigh, A., Berntson, E., Platts, L. G., & Westerlund, H. (2016). Does personality have a different impact on self-rated distraction, job satisfaction, and job performance in different office types?. *PloS one*, *11(5)*, e0155295.

Shahjehan, A., Zeb, F., & Saifullah, K. (2012). The effect of personality on impulsive and compulsive buying behaviors. *African Journal of Business Management*, 6(6), 2187-2194.

Shamshiripour, A., Rahimi, E., Shabanpour, R., & Mohammadian, A. K. (2020). How is COVID-19 reshaping activity-travel behavior? Evidence from a comprehensive survey in Chicago. *Transportation Research Interdisciplinary Perspectives*, *7*, 100216.

Sidrauski, M. (1967). Rational choice and patterns of growth in a monetary economy. *The American Economic Review*, *57*(2), 534-544.

Silvera, D. H., Lavack, A. M., & Kropp, F. (2008). Impulse buying: the role of affect, social influence, and subjective wellbeing. *Journal of Consumer Marketing*.

Smith, G. M. (1967). Usefulness of peer ratings of personality in educational research. *Educational and Psychological measurement*, *27*(4), 967-984.

Speier, C., Valacich, J. S., & Vessey, I. (1999). The influence of task interruption on individual decision making: An information overload perspective. *Decision sciences, 30(2), 337-360.*

Stern, H. (1962). The Significance of Impulse Buying Today, *Journal of Marketing,* 26(2):59-62.

Thomas, D. (1997) 'Retail and leisure developments at London Gatwick', *Commercial Airport, British Airport Authority*, London, August, 38–41.

Thompson, E. R., & Prendergast, G. P. (2015). The influence of trait affect and the five-factor personality model on impulse buying. *Personality and Individual Differences, 76*, 216-221.

Thurstone, L. L. (1934). The vectors of mind. *Psychological review*, *41*(1), 1.

Tinne, W. S. (2010). Impulse purchasing: A literature overview. *ASA University Review,* 4(2), 65-73.

Toniolo-Barrios, M., & Pitt, L. (2021). Mindfulness and the challenges of working from home in times of crisis. *Business Horizons,* 64(2), 189-197.

Tulving, E., & Schacter, D. L. (1990). Priming and human memory systems. *Science*, *247*(4940), 301-306.

Umucu, E., & Lee, B. (2020). Examining the impact of COVID-19 on stress and coping strategies in individuals with disabilities and chronic conditions. *Rehabilitation psychology*, *65*(3), 193.

van der Wal, R. C., & van Dillen, L. F. (2013). Leaving a flat taste in your mouth: task load reduces taste perception. *Psychological science*, *24*(7), 1277-1284.

Van Dillen, L. F., & Andrade, J. (2016). Derailing the streetcar named desire. Cognitive distractions reduce individual differences in cravings and unhealthy snacking in response to palatable food. *Appetite*, 96, 102-110.

van Dillen, L. F., & van Steenbergen, H. (2018). Tuning down the hedonic brain: Cognitive load reduces neural responses to high-calorie food pictures in the nucleus accumbens. *Cognitive, Affective, & Behavioral Neuroscience*, *18*(3), 447-459.

VandenBos, G. R. (2007). *APA dictionary of psychology*. American Psychological Association.

Ward, A., & Mann, T. (2000). Don't mind if I do: disinhibited eating under cognitive load. *Journal of personality and social psychology*, *78*(4), 753.

Whiteside, S. P., & Lynam, D. R. (2001). *T*he five factor model and impulsivity: Using a structural model of personality to understand impulsivity. *Personality and individual differences*, *30*(4), 669-689.

Widiger, T. A. (2009). Neuroticism. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 129–146). The Guilford Press.

Wilt, J., & Revelle, W. (2009). Extraversion. In M. R. Leary & R. H. Hoyle (Eds.), *Handbook of individual differences in social behavior* (pp. 27–45). The Guilford Press.

Wood, M. (2005). Discretionary Unplanned Buying in Consumer Society, *Journal of Consumer Behavior*, 4(4): 268-281.

Youn, S., & Faber, R. J. (2000). Impulse buying: its relation to personality traits and cues. *ACR North American Advances*.

Zillig, L. M. P., Hemenover, S. H., & Dienstbier, R. A. (2002). What do we assess when we assess a Big 5 trait? A content analysis of the affective, behavioral, and cognitive processes represented in Big 5 personality inventories. *Personality and Social Psychology Bulletin, 28*(6), 847-858.

Tables and Figures

Figure 1

Histogram Depicting the Amount of Products Purchased in the Low Distraction Condition

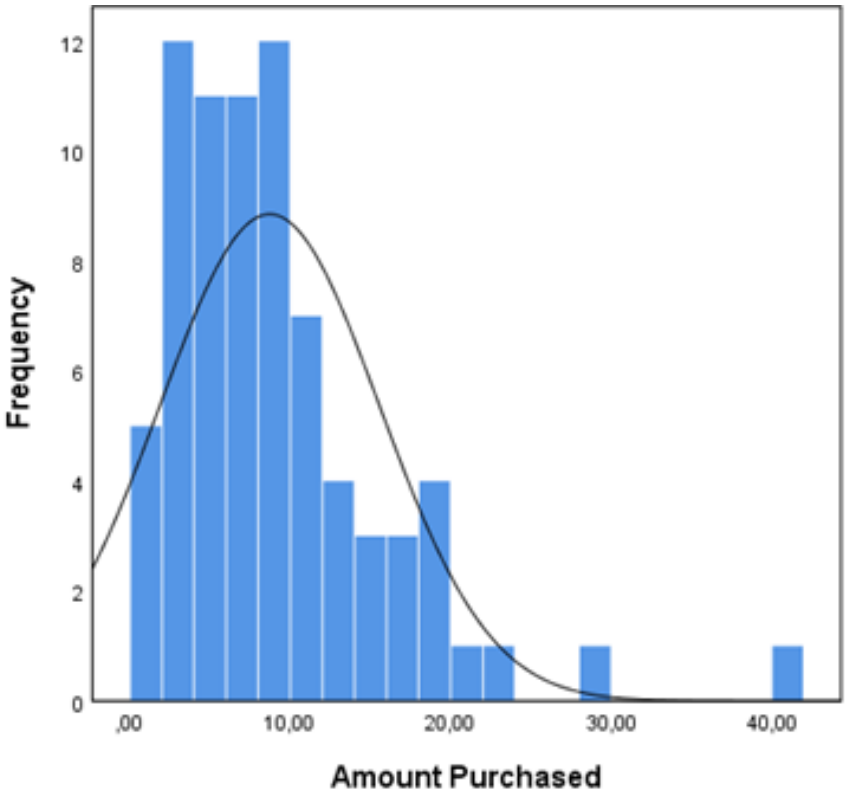


Figure 2

Histogram Depicting the Amount of Products Purchased in the High Distraction condition

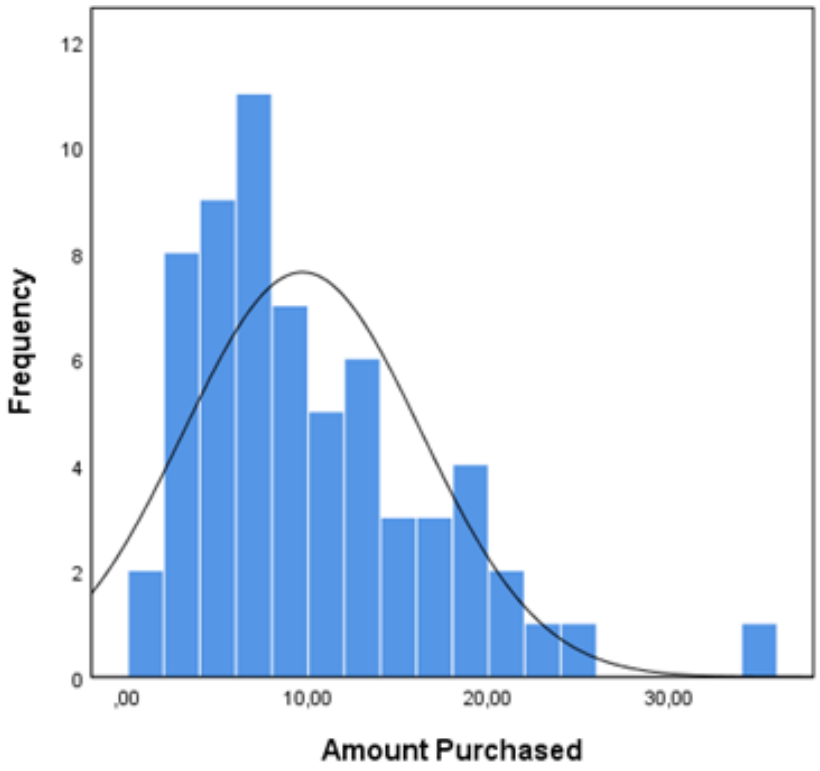


Figure 3

Box Plot Depicting the Amount of Items Purchased in Each Distraction Condition (High Distraction vs. Low Distraction)

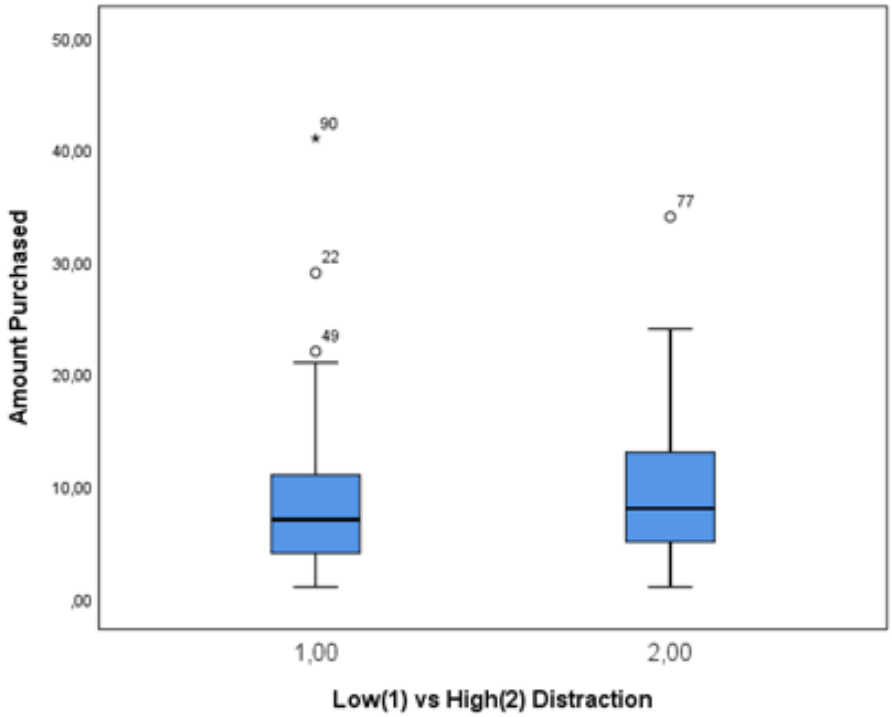


Figure 4

Distribution of Scores for Neuroticism Across Low and High Distraction

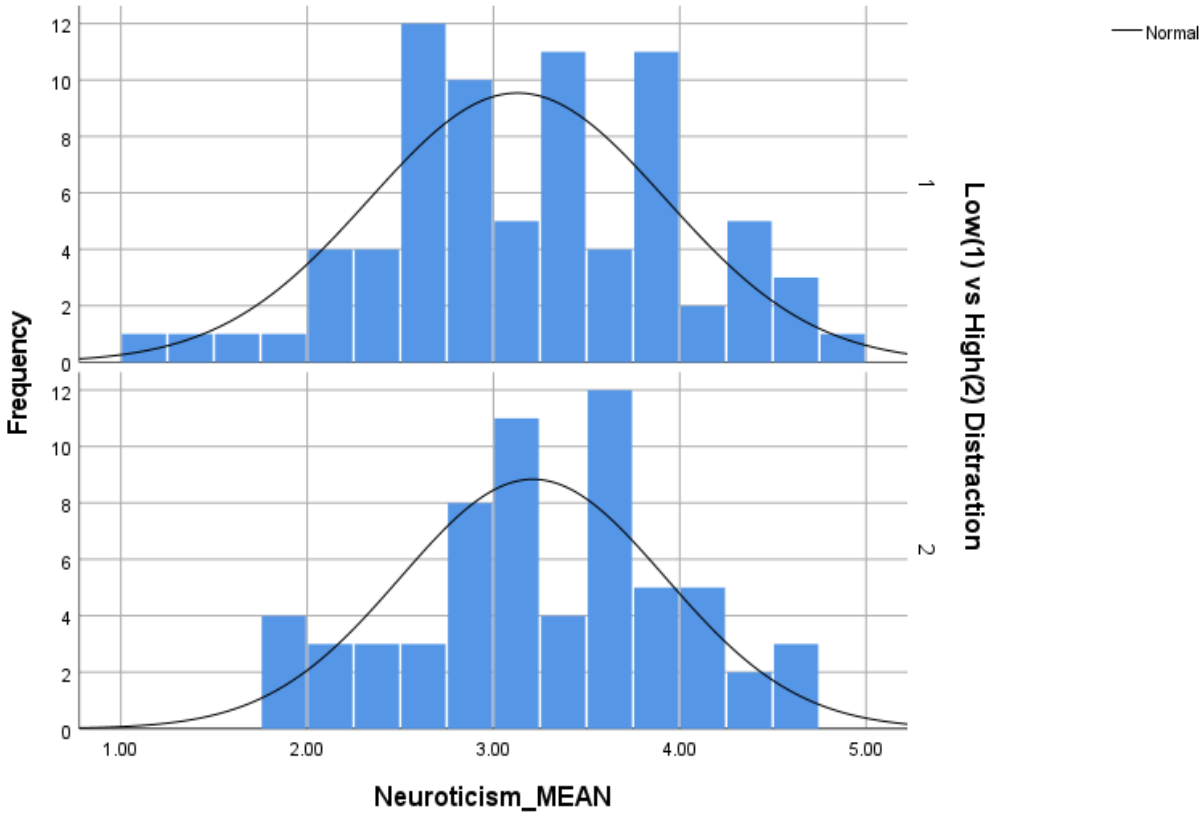


Figure 5

Distribution of Scores for Conscientiousness across high and low distraction

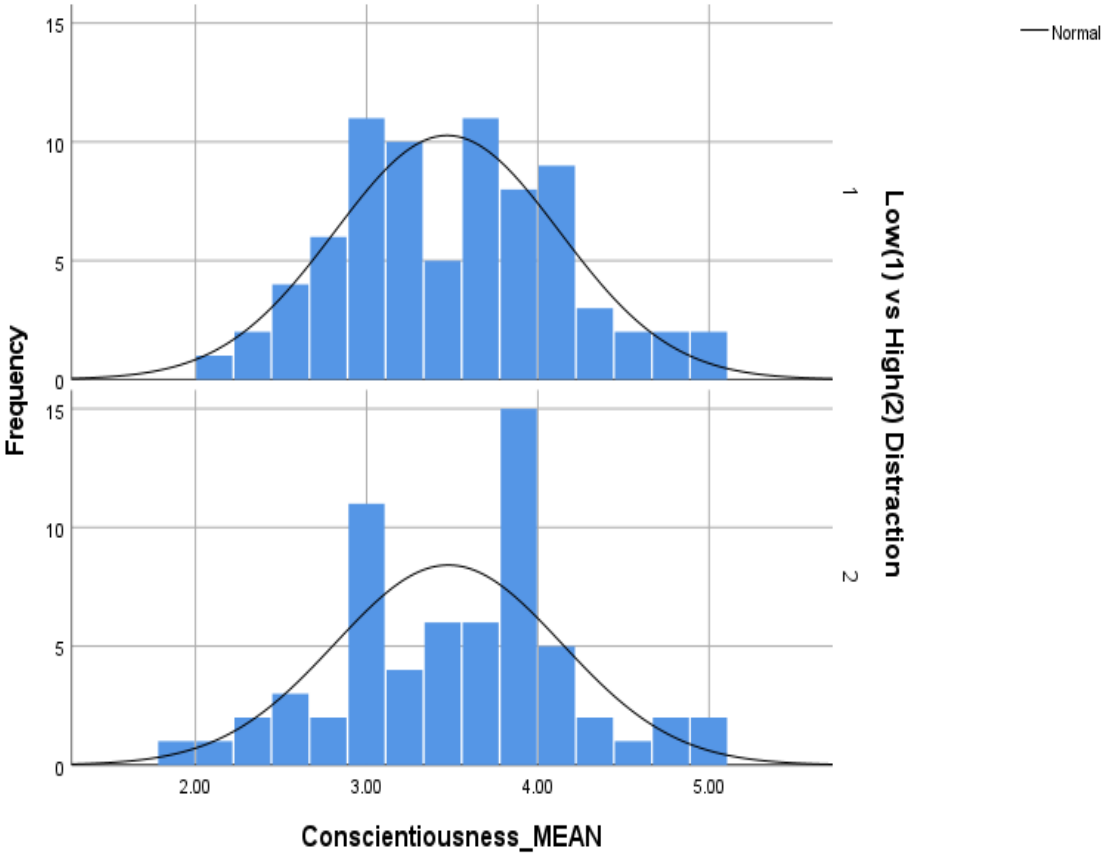
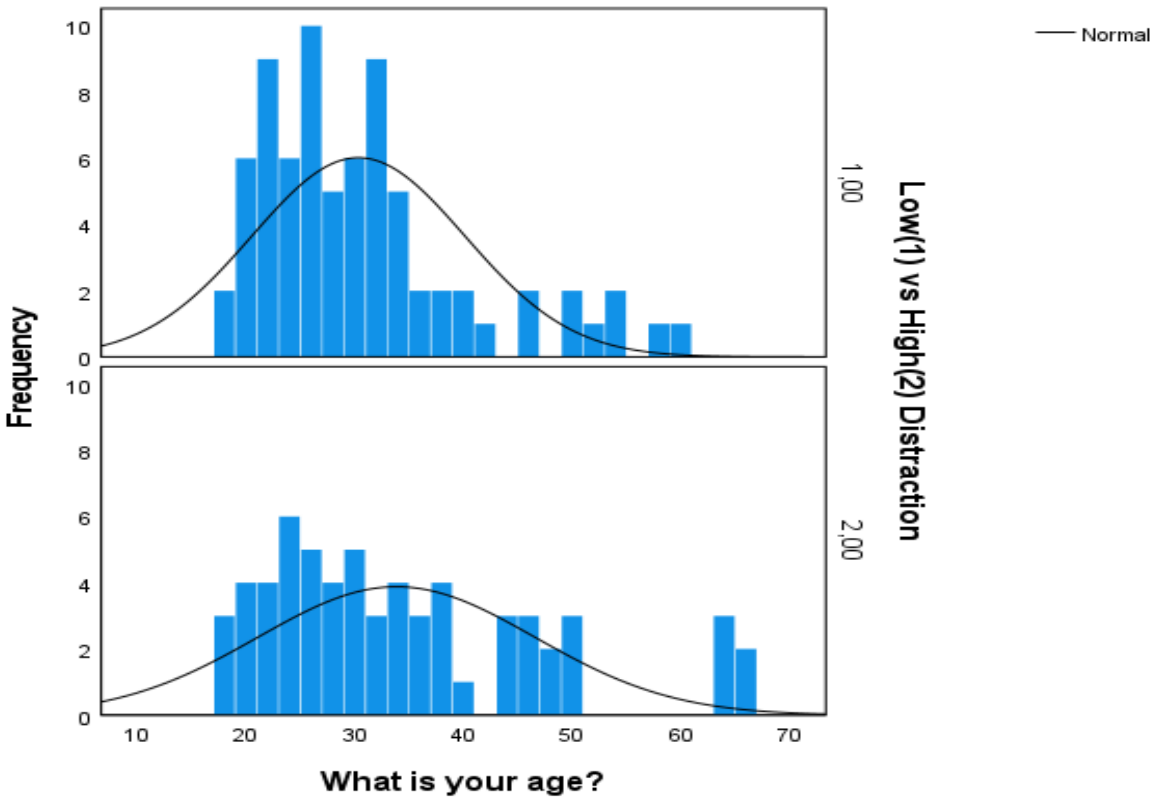


Figure 6

Age Across Distraction Conditions



Appendix

Appendix 1

Distraction Task

Instructions

In this questionnaire you will take part in a memory task. After this slide you will be presented with digits, you will be required to memorise these digits and will have to report these digits later in the task.
The digits will be shown for 2 seconds.

1 Digit:

8

8 Digits:

57649371

Appendix 2

Manipulation for Distraction Task

Recall Question

At the start of this study you where asked to remember a digit.

Please enter the digit that you where asked to remember.

Selection Question:

Please indicate which of the following digits you where previously asked to remember:

6

8

5

3

Please indicate which of the following digits you where previously asked to remember:

57649371

57258671

57914971

57439471

Appendix 3
Navon Task

For the global local focus task participants were presented with multiple stimuli, consisting of larger letters formed out of much smaller letters (Navon, 1977). Once being presented with the stimuli participants had to respond to either the larger letter or the smaller letter they saw, and had to press corresponding keyboard keys (E, F, N, K). The size of the letters they were responding to was condition dependent; with half the participants responding to the smaller letters, priming participants to a local focus, while the other half were instructed to respond to the larger letters, priming them to have a global focus. The participants were first presented with a practice round, which indicated in real time if their response was correct or incorrect. Following this, participants were presented with the test round, which consisted of 50 more letters, for which participants had to respond within 10 seconds (Appendix F).

For the manipulation check of the Navon task, participants were presented with two shorter Navon tasks, two rounds of 25 letters to which they had to first respond to the larger letter, and in the second round to the smaller letter (Appendix H). This manipulation check was used to see if the participants would respond faster, and with more accuracy to the letter size (either large, or small) that they had previously been primed with. For example, if they had been primed with the larger letters, their reaction time and accuracy should be better for the larger letters in the manipulation check.

The instructions for the Navon task and the manipulation check, as well as the stimuli used in them are presented below:

Instructions Small and Large Letter Condition:

Universiteit Leiden
The Netherlands

You will now take part in a focus test. In this test, you will repeatedly be presented with small letters (E, F, N, and K) which form a large letter (E, F, N, and K) (see the picture below).

```
FFFFFFFFF
F
F
FFFFFFFFF
F
F
FFFFFFFFF
```

The aim is to answer by pressing the correct key on your **keyboard**. Only the letters 'E', 'F', 'N' and 'K' are used for this task. Please place your fingers on the 'E', 'F', 'N' and 'K' keys on your **keyboard**.

Your task is to identify the **small letters** making up the larger letter. You have 10 seconds to respond, before you go automatically to the next letter, please respond as fast as possible.

If you take the picture above as example, an E made out of smaller F's you need to respond to the small letter (F) and press the associated key ("F") on your keyboard as fast as possible. The other keys on the keyboard used in this study are "E" (for E), "N" (for N) and "K" (for K).

→

Universiteit Leiden
The Netherlands

You will now take part in a focus test. In this test, you will repeatedly be presented with small letters (E, F, N, and K) which form a large letter (E, F, N, and K) (see the picture below).

```
E     E
E   E
E  E
EE
E  E
E   E
E     E
```

The aim is to answer by pressing the correct key on your **keyboard**. Only the letters 'E', 'F', 'N' and 'K' are used for this task. Please place your fingers on the 'E', 'F', 'N' and 'K' keys on your **keyboard**.

Your task is to identify the **large letters**. You have 10 seconds to respond, before you go automatically to the next letter, please respond as fast as possible.

For instance the example above, an K made out of smaller E's, you need to respond to the large letter (K) and press the associated key ("K") on your keyboard as fast as possible. The other keys on the keyboard used in this study are "E" (for E), "F" (for F) and "N" (for N).

→

Letters Used in The NAVON Task:

```
NNNNNNN
N
N
NNNNNNN
N
N
NNNNNNN
```

```
KKKKKK
K
K
KKKKKK
K
K
KKKKKK
```

```
FFFFFFFFF
F
F
FFFFFFFFF
F
F
FFFFFFFFF
```

```
EEEEEE
E
E
EEEEEE
E
E
E
```

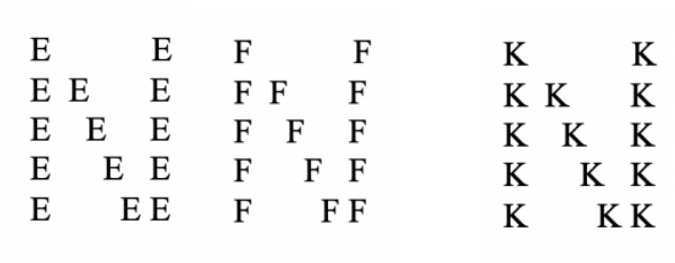
```
KKKKK
K
K
KKKKK
K
K
K
```

```
NNNNN
N
N
NNNNN
N
N
N
```

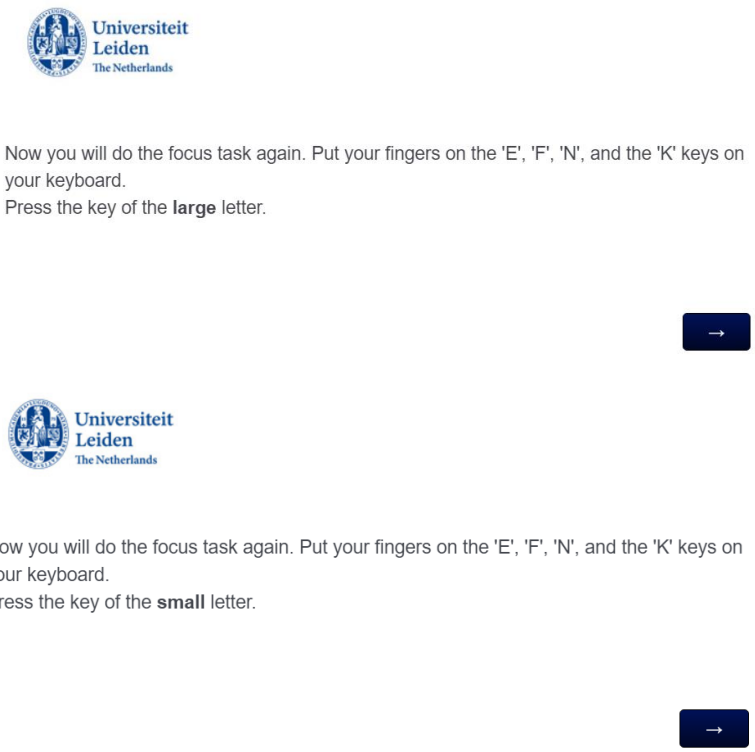
```
E     E
E   E
E  E
EE
E  E
E   E
E     E
```

```
F     F
F   F
F  F
FF
F  F
F   F
F     F
```

```
N     N
N   N
N  N
NN
N  N
N   N
N     N
```



Manipulation Check for the NAVON Task



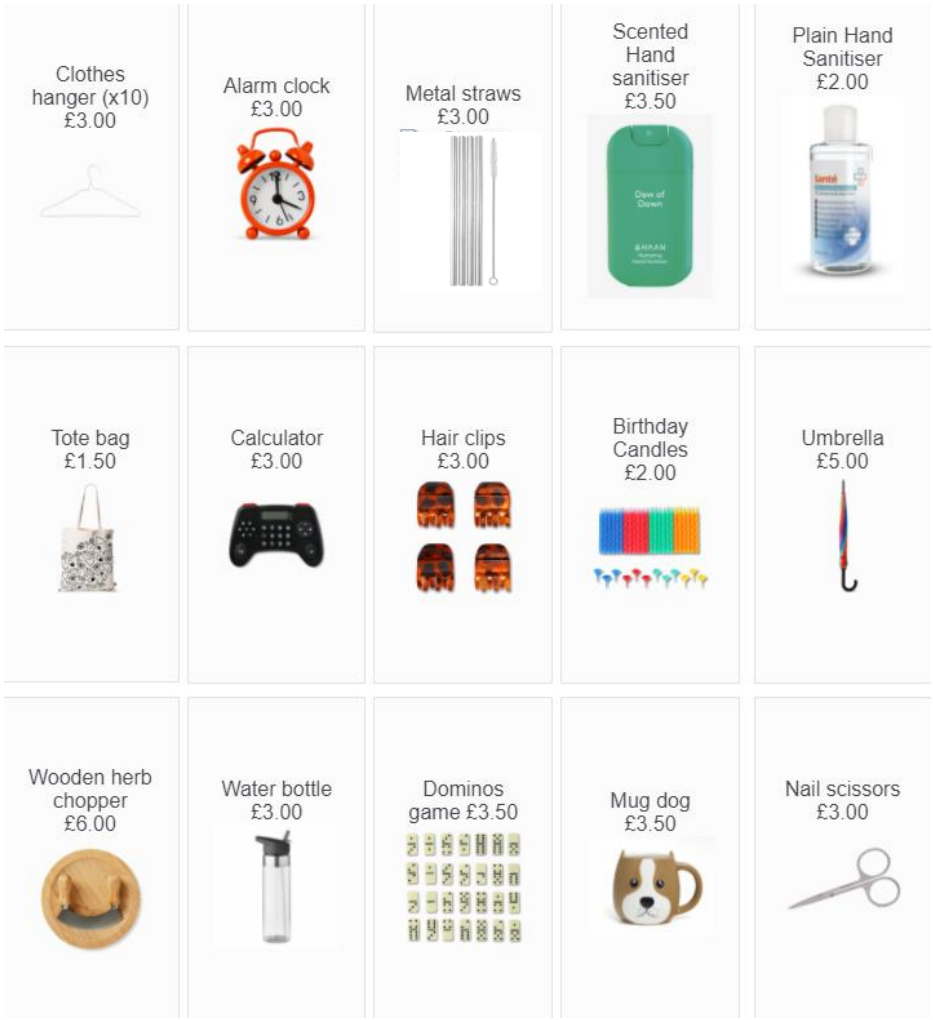
Appendix 4
Online Shopping Task

Universiteit Leiden
The Netherlands

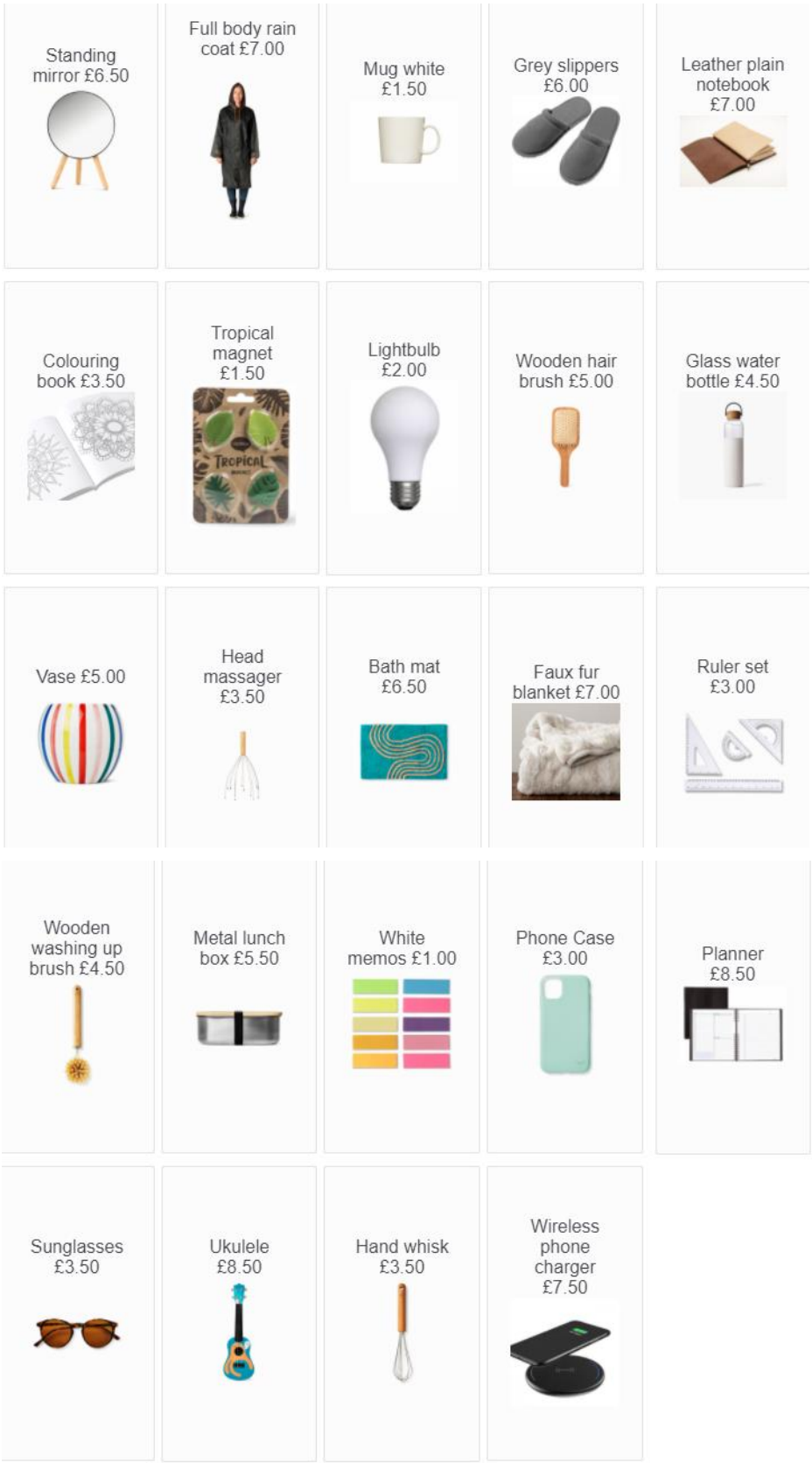
Imagine you are shopping online, which of the following products would you like to purchase?
Please select the products you would buy.

Backpack £5.00 	Slippers £7.00 	Speaker £4.50 	Smartphone running armband £5.00 	Acrylic paint £3.00 
USB fan £3.00 	Wooden tape dispenser £3.50 	Thin-tipped pens £2.00 	Socks £2.00 	Wall clock £5.00 
Touch Screen Gloves £3.00 	Grater £3.00 	Bathbomb £1.00 	Office calendar £3.00 	Leather gloves £9.00 

HOW IMPULSIVE ARE YOUR SHOPPING HABITS?



HOW IMPULSIVE ARE YOUR SHOPPING HABITS?



Appendix 5

Customer Satisfaction and Need for Gratification Questions

In order to test the need for gratification individuals were asked the following questions:

Need For Gratification Question:

Rate each of the following sentences on a scale from 1-9, where 1 is not at all and 9 is very much.

	Not at all 1	2	3	4	5	6	7	8	Very much 9
I want to have a pleasant moment by watching a video clip	○	○	○	○	○	○	○	○	○
I feel the urge to watch a video clip	○	○	○	○	○	○	○	○	○
I don't have the desire to watch a video clip	○	○	○	○	○	○	○	○	○
I can't wait to see a video clip	○	○	○	○	○	○	○	○	○

→

Following this, participants were instructed to watch a short, amusing snippet from the Tv show 'Friends'(TBS, 2020) which has a duration of 2:09. Following this participant were prompted to answer the same need for gratification questions as before, as well as how satisfied they were with the video. Then participants were given the opportunity to watch another video (another snippet of the TV show 'Friends' lasting 1:31), or just move onto the next part of the study.

Video 1 - Friends: Rachel tries to ask a guy out

Instructions:

Universiteit Leiden
The Netherlands

Now you will be shown a short video clip. Please pay attention, as you will be asked questions about this video later.

The video will be presented for a certain amount of time but **does not start automatically.** So, in order to not to miss any content and to be able to answer the questions correctly, please press play **as soon as possible, and turn the volume up.**

→

Video:

Universiteit Leiden
The Netherlands

Please press play as soon as possible!

https://youtu.be/uBstq-_zaYk

Video 2 - Friends: Breezy

Instructions:

Universiteit Leiden
The Netherlands

Once again, the video **does not start automatically.**
Please **press play as soon as possible, and turn the volume up** in order to make sure you do not miss any of the video as the video will only be presented for a certain amount of time.

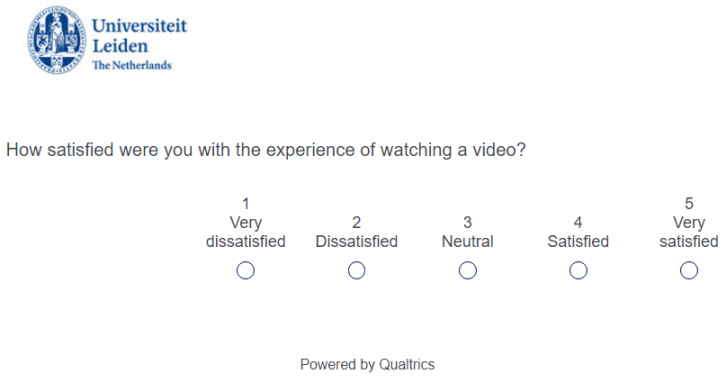
Video:

Universiteit Leiden
The Netherlands

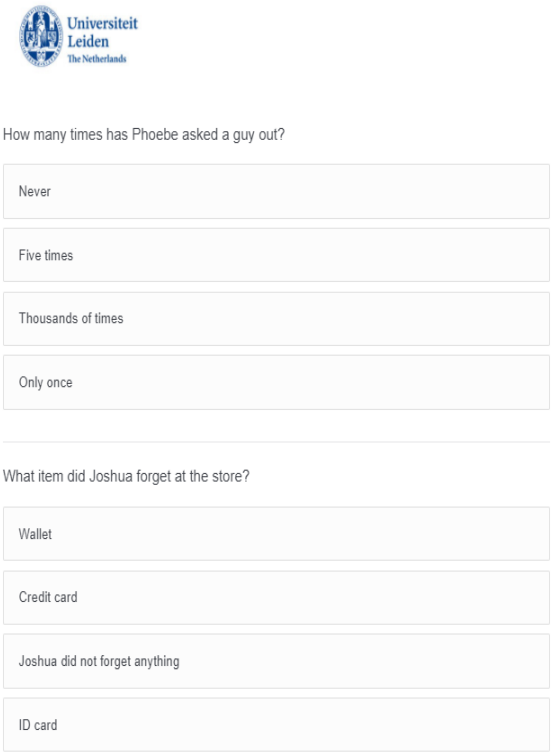
Please press play as soon as possible!

https://youtu.be/nEwfSZfz7pw

Question About Satisfaction Following the Video:



The manipulation check for this part of the study consisted of two questions regarding the (first) video they watched, in order to test of they had been paying attention to the video. These are shown below:



Appendix 6
Big-5 Personality Questionnaire

This test measures key personality traits.

Here are a number of characteristics that may or may not apply to you. Please indicate the extent to which you agree or disagree with each statement.

I am someone who...

	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
Is Talkative	○	○	○	○	○
Tends to find fault with others	○	○	○	○	○
Does a thorough job	○	○	○	○	○
Is depressed, blue	○	○	○	○	○
Is original, comes up with new ideas	○	○	○	○	○
Is reserved	○	○	○	○	○
Is helpful and unselfish with others	○	○	○	○	○
Can be somewhat careless	○	○	○	○	○

HOW IMPULSIVE ARE YOUR SHOPPING HABITS?

	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
Is relaxed, handles stress well	○	○	○	○	○
Is curious about many different things	○	○	○	○	○
Is full of energy	○	○	○	○	○
Starts quarrels with others	○	○	○	○	○
Is a reliable worker	○	○	○	○	○
Can be tense	○	○	○	○	○
Is ingenious, a deep thinker	○	○	○	○	○
Generates a lot of enthusiasm	○	○	○	○	○

	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
Has a forgiving nature	○	○	○	○	○
Tends to be disorganised	○	○	○	○	○
Worries a lot	○	○	○	○	○
Has an active imagination	○	○	○	○	○
Tends to be quiet	○	○	○	○	○
Is generally trusting	○	○	○	○	○
Tends to be lazy	○	○	○	○	○
Is emotionally stable, not easily upset	○	○	○	○	○

HOW IMPULSIVE ARE YOUR SHOPPING HABITS?

	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
Is inventive	○	○	○	○	○
Has an assertive personality	○	○	○	○	○
Can be cold and aloof	○	○	○	○	○
Perseveres until the task is finsihed	○	○	○	○	○
Can be moody	○	○	○	○	○
Values artistic, aesthetic expereinces	○	○	○	○	○
Is sometimes shy, inhibited	○	○	○	○	○
Is considerate and kind to almost everyone	○	○	○	○	○

	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
Does things efficiently	○	○	○	○	○
Remains calm in tense situations	○	○	○	○	○
Prefers work that is routine	○	○	○	○	○
Is outgoing, sociable	○	○	○	○	○
Is sometimes rude to others	○	○	○	○	○
Makes plans and follows through with them	○	○	○	○	○
Gets nervous easily	○	○	○	○	○
Likes to reflect, play with ideas	○	○	○	○	○

HOW IMPULSIVE ARE YOUR SHOPPING HABITS?

	Disagree Strongly	Disagree a Little	Neither Agree nor Disagree	Agree a Little	Agree Strongly
Has few artistic interests	○	○	○	○	○
Likes to cooperate with others	○	○	○	○	○
Is easily distracted	○	○	○	○	○
Is sophisticated in art, music or literature	○	○	○	○	○

Appendix 7
Information Sheet

Universiteit Leiden
The Netherlands

Welcome to our study on consumer behaviour, an experiment examining how people make consumer decisions in an online setting. Before taking part in this study, please read the experiment description below and fill in the consent form on the next page if you understand the statements and freely consent to participate in the study. Participation is only possible if you have provided informed consent. You can withdraw your consent for this study at any given time.

This study is conducted by Bruna Büttenbender, Emma Allgeier, Emma Franke and Dr. Anouk van der Weiden, who study and work at Leiden University. The study has been approved by the Psychology Ethics Committee.

Participation in the experiment typically takes 15 minutes. Your responses will be linked to your Prolific code (for purposes of payment), and we will use them only for the purpose of the current study. We will also ask you about your age and gender, so that we can describe some basic characteristics of our sample. We will save these demographics on a secured University server for 10 years (in line with the Netherlands Code of Conduct for Research Integrity). You are not obliged to answer the demographic questions. We guarantee that all responses are treated confidentially, and in no case will responses from individual participants be identified.

If you choose to participate, you will be asked to fill in an online questionnaire. We cannot tell you the exact research question of the study now, since it may influence the results. After participation, we will debrief you about the full nature and aim of this study.

As compensation for participation you are offered *£1.90*. In case of non-completion, there will be no compensation.

Participation is voluntary, you may withdraw from the study at any time, and refusal to take part in the study involves no penalty.

If participants have any further questions about this study or their rights, or if they wish to lodge a complaint or concern, they may contact the principal researcher, Dr. Anouk van der Weiden, a.van.der.weiden@fsw.leidenuniv.nl.

In case you have specific questions regarding your privacy, you can contact our privacy officer at Leiden University via privacy@fsw.leidenuniv.nl.

Thank you in advance for your participation!
Kind regards,

Anouk van der Weiden, principal investigator.
Department of Social, Economic, and Organisational Psychology, Leiden University.
a.van.der.weiden@fsw.leidenuniv.nl

Appendix 8
Consent Form

I **do not** consent and choose **not** to participate in this study

I choose to participate in this study and declare that I:

Understand the information about the study entitled Online consumer behaviour as described in the information above, and have had the opportunity to ask questions about the study (via email);

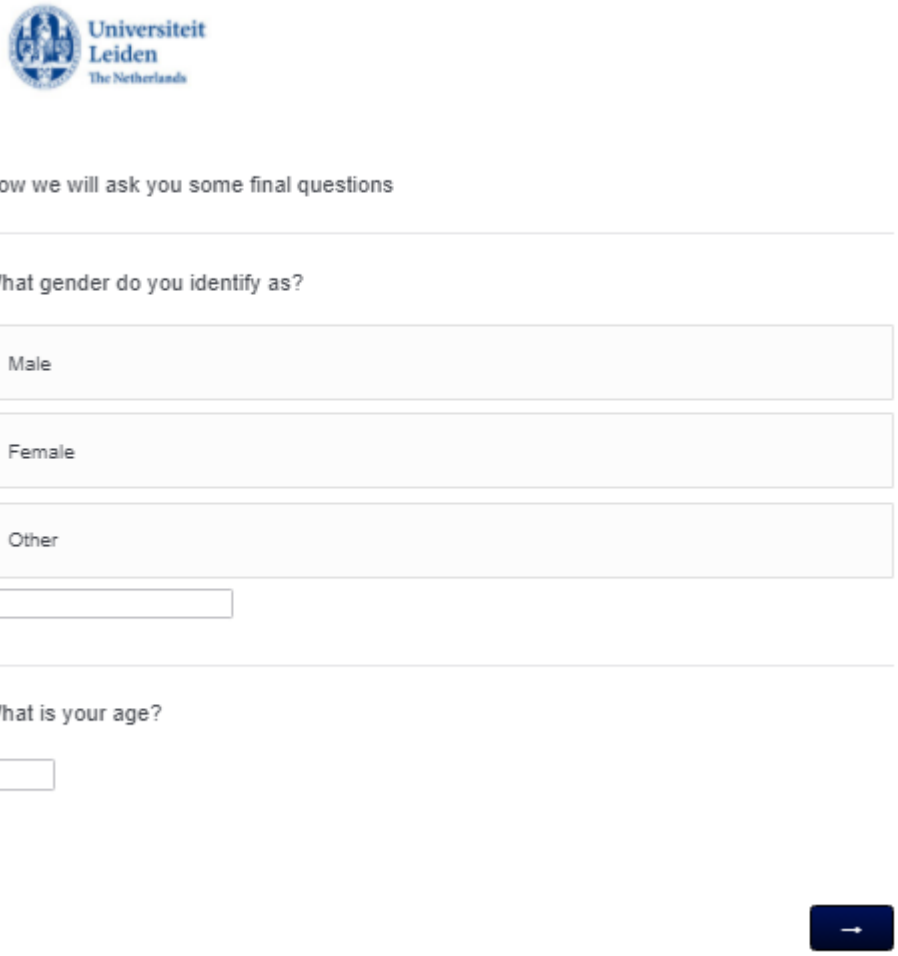
Understand that the data will be collected and processed in a coded way;

Understand that I can withdraw from participation at all times, without needing to provide reasons, and how I will be compensated in case I do not complete the study;

Consent to participate in this study.

→

Appendix 9
Demographic Questions



Appendix 10
Debrief sheet

Universiteit Leiden
The Netherlands

Dear participant,

As we have indicated in the information letter before, we will now debrief you about the true nature and aim of the study.

In this study, we are primarily interested in the effect that distraction may have on people's purchases, and how satisfied people are with their online purchases. For this purpose, we distracted some participants by having them memorize 8 digits (vs. 1 digit). We expect that people who are more distracted have more difficulty controlling their impulses and will therefore purchase more.

We further expect that people who are more conscientious are less affected by such distraction (and therefore purchase less), and that people who are more neurotic are already prone to impulse purchases and are therefore less affected by distraction than people who score low on neuroticism.

In addition, we expect that people who have broad (vs. narrow) attentional focus are also more prone to impulse purchases, especially when distracted. We therefore induced a broad or narrow attentional focus by letting you identify either the large letters (broad focus), or the small letters that made up the large letters (narrow focus).

Finally, we expect that distraction makes people less satisfied with products and services, in this case video content (i.e., the fragment of Friends). As a consequence, the desire for consumption remains, stimulating further consumption (e.g., like binge watching).

If you have any questions regarding this study, please contact Dr. Anouk van der Weiden, a.van.der.weiden@fsw.leidenuniv.nl.

In case you want to inspect your own data, you will have to provide your Prolific ID. We are not able to retrieve your personal data without this ID.

We hope you enjoyed our study. Your contribution to our study is greatly appreciated.

Thank you for your co-operation!

Dr. Anouk van der Weiden
Principal Investigator "Online Shopping"
Department of Social, Economic and Organizational Psychology

Please continue to finish your participation.