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THE EFFECT OF TIME PERCEPTIONS ON EATING HABITS DURING A PANDEMIC

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ABSTRACT

This work project, "The effect of Time Perceptions on eating habits during a pandemic" builds up from previous literature on different Scheduling Styles, Fresh Start Effect, Mindless Eating activity and Emotional State, to extend knowledge on those topics and see how Time Perceptions affect Dietary Habits during a pandemic. Hypotheses about the impact of Clock Time and Event Time Scheduling Style as well as Fresh Start Effect on Dietary Habits were analyzed using a specific context – COVID-19 imposed lockdown – but the outcomes can be generalized for other constraining situations.

KEYWORDS

ACKNOWLEDGEMENTS

INTRODUCTION

By December 2019, SARS-Cov2 – a new type of coronavirus – appeared in Wuhan, the capital of Central China's Hubei province. This virus resulted in an infectious disease that creates an acute respiratory syndrome in human being and became known as "COVID-19". It had a huge impact on global health, politics, economics, and lifestyle due to the imposed social distancing and isolation. Indeed, on 18 March 2020, the President of Portugal decreed a state of emergency in the country to decrease the proliferation of registered cases of COVID-19 contagion. On 30 April 2020, more than one month later, the Council of Ministers approved the strategy for lifting the containment measures. This deconfinement plan was divided into three phases that started on May 4, May 18 and June 1, respectively. By August 20, there was nearly 22,882,731 infected people and 797,428 deaths worldwide, according to Worldometer, a website that provides real-time statistics (Worldometer 2020).

In this paper I will be analyzing how this shock in people's lifestyle was correlated with Time Perception and, consequently, correlated with changes in food consumption patterns. In fact, people can follow two different types of Scheduling style: Clock - if they organize and structure tasks based on the time the clock presents - or Event - if they base it on the completion of sequential events (Avnet and Sellier 2011) and I believe that regardless being governed by one or the other, the pandemic lockdown might have forced people to behave differently and probably altering their eating habits. Moreover, I believe that a possible loss of sense of time, especially when locked at home for a considerable period, can also contribute to changes.

Eating behavior is associated with the risk of several nutrition-related chronic diseases, like strokes, hypertension, or type 2 diabetes. Indeed, in the twenty first-century, obesity was considered one of the worldwide greatest issues that public health needs to deal with (Villalobos 2016). Therefore, this question is important, from a practical point of view, because studying

people's food consumption behavior through several interdisciplinary research issues can help health authorities, policymakers and even manufacturers and wholesalers increasing their understanding of nutritional choices to address critical needs, especially at such sensitive times as world pandemics.

Additionally, this research has important theoretical implications. The purpose of this paper is to extend previous literature that already found that following different Scheduling Styles can affect people's emotions, that those emotions affect time perception, and that the sense of "new starts" can motive people to pursue aspirational behaviors, including healthy eating. Namely, this is novel since it takes a specific context, COVID-19 lockdown, to analyze the impact that social distancing - created by being stuck at home - has had on the perception of time and, consequently, on the amounts of food ingested. This variable was chosen since my intuition is that by being locked at home for a long period of time without social interaction, people began to get anxious and bored, which led them to feel that time was passing more slowly. Also, with the lack of more expressive landmarks (Mondays, weekends, beginning of the months), people stopped having the motivation resulted from "fresh new starts" to follow adequate food patterns.

LITERATURE REVIEW AND HYPOTHESIS

COVID-19 lockdown and food consumption behavior

There is some evidence showing that food consumption changed during the above-mentioned pandemic. For instance, a Spanish study analyzed a period of 6-week of lockdown in the country and concluded that the stress caused by the uncertainty and limitations of the confinement led consumers to something called "Emotional Eating" that is a phenomenon that happens when food consumption behavior changes according to people's emotional state (Mora, Romeo-Arroyo and Vázquez-Araújo 2020). For instance, more than 33% of the Spanish

respondents reported a decrease in fish consumption and more than 50% an increase in sugar ingestion. The results shown, however, different attitudes concerning food: there were people affected by low emotional states, opting for unhealthy food, but there were also people focused on trying to have healthier habits. From the last-mentioned group only 20% reported willingness to keep on sporting and cooking after the quarantine, and 15% to keep the different "healthy" eating habits that acquired.

Other recent research conducted in the context of COVID-19 pandemic lockdown – this time, in Italy - showed that 48.6% of the sample gained weight but at the same time increased adherence to the Mediterranean diet. This diet is generally associated with healthy habits such as low rates of obesity, heart disease, cancer, and diet-related chronic problems. Moreover, 15% of the respondents of the Italian questionnaire reported that they started to produce their own vegetables and fruits or tried to buy them to small local producers (Di Renzo et al. 2020).

The two previously mentioned studies reported changes on people's diet and nutrition habits but did not explore in detail which variables could have been responsible for that and how.

Time Perception

People living in western countries tend to follow a Clock Time Style, even if they do not want it, since society has been designed in a way they do not fully control: people cannot go to the hairdresser at 2 a.m., leave kids at school at 9 p.m. or deposit money in a bank at 11 p.m. Indeed, and generally speaking, under influence of Clock Time, a person may wake up at 7 a.m., having breakfast at 8 a.m., start to work at 9 a.m., eat during lunch break between 12 a.m. and 1 p.m. and go home around 6 p.m. (Avnet and Sellier 2014). When working outside home, we have specific times by which we need to complete certain tasks within a day.

Scheduling time and Self-Regulation: There are two types of Scheduling Style that are reflected on people's lifestyle: Clock Time and Event Time. The first mentioned is applicable

when tasks are structured and organized based on the time the clock presents, while Event Time is about the completion of sequential events (Avnet and Sellier 2011). The choice among one style versus the other impacts the control people have on themselves and their overall well-being (Avnet and Sellier 2014). In the various researches that Avnet and Sellier conducted, the respondents' chronic Scheduling Style was quantitatively analyzed and manipulated to impose a shift from one temporal style to the other. The results shown that people that follow Event Time Style tend to assume more that events in their life are a direct outcome of their own choices and actions and that individuals that follow Clock Time Style present more difficulties in enjoying positive emotions. These people care about efficiency in planned tasks and focus on "getting the things done" (Avnet and Sellier 2011). Indeed, historically, the use of the clock was mainly to increase coordination of tasks and consequently lead to economic/technological progress. In contrast, people that follow Event Time Scheduling Style are more concerned about effectiveness and on "doing things well" (Avnet and Sellier 2011).

Regardless the personal tendency or preference for one Scheduling Style versus the other, the pandemic lockdown forced people to behave under different conditions. People who previously followed a Clock Time Scheduling Style may have lost incentives to do so since there were no more official and expressive landmarks such as the entry time at work, the gym class schedule, or the usual time to grab the car to pick up children from school. Since people following a Clock Time schedule style experience more negative emotions and focus on "getting things done" in contrast with Event Time Scheduling Style people, that enjoy more the moment, focus on "doing things well" and only start one task after completion of the previous (Avnet and Sellier 2011), I believe that people that follow a Clock Time Scheduling Style are more prone to engage in Mindless Eating while trying to "get things done", hence, eating higher quantities of food:

H1: People following a Clock Time Scheduling Style, intake higher quantities of food than the ones following an Event Time Scheduling Style.

Fresh Start Effect: Another relevant phenomenon related to time perception is the so-called Fresh Start Effect (Hengchen Dai, Katherine L. Milkman and Jason Riis, 2014). This consists in committing more to aspirational goals at the beginning of new calendar cycles such as a new week, a new month, or a new year (e.g., new year's resolutions). This tends to happen also around salient days in the calendar, like a national holiday or one's own birthday. This higher probability of engagement in goal seeking behaviors is transversal to several areas namely professional career, personal relationships, nutrition, and physical exercise. Indeed, the authors of this study obtained data from internet searches between 2004 and 2012 and found that the word "diet" was more searched at the start of a new temporal event and that this frequency decreased as the time interval goes by, showing a negative coefficient between the time since the start of the calendar cycle and the search volume (Hengchen Dai, Katherine L. Milkman and Jason Riis, 2014). These findings are in accordance with a psychological process theory that says that these temporal events allow people to detach from their previous self-perception, characterized by mistakes and imperfections.

During the pandemic lockdown it is reasonable to assume that people stopped having a good perception of time. They had so much scheduling liberty that they started to lose the sense of time: they were at home, no matter if it was weekdays or weekends. Without distinct events and temporal landmarks, there were fewer days that sufficiently stand out to induce a Fresh Start Effect—it is possible that the effect of "new starts" has ceased to exist, at least when we look at effects that occur due to the start of a calendar cycle (e.g., "I will eat better on Monday"). Knowing that the word "diet" is more searched at the beginning of the month/week, during lockdown, with the loss of the Fresh Start Effect probably people did not have the motivation to start to monitor themselves in terms of food consumption:

H2: Without the Fresh Start Effect people intake higher amounts of food.

The two previously stated hypotheses, **H1** and **H2**, will be kept as general, but I will use COVID-19 lockdown as a specific context to study them.

Boredom and Food Intake

Long periods of confinement – as COVID-19 lockdown – associated to loss of sense of time, and lack of Fresh Start Effect might possibly increase boredom levels among people, affecting food consumption patterns.

Indeed, a relevant paper published in 2015 analyzed the relationship between boredom and food intake by testing different approaches using diary study (experimental) and self-reported (behavioral) methodologies (Donnelly et al. 2015). The first one, led the authors to conclude that there is a positive and significant relationship between boredom and the consumption of higher levels of fat, protein, calories, and carbohydrates and that this relationship remains after controlling differences of stress, Body Mass Index or enjoyment. The second study demonstrated that performing tasks associated to high levels of boredom increases people's desire for snacking, being this effect more expressive in respondents with a high degree of objective self-awareness. It showed that respondents experiencing high levels of boredom increased the intake of either unhealthy food or healthy food that they consider to be more exciting – sensational foods with a strong characteristic taste or aspect (Donnelly et al. 2015). Indeed, bored people see in eating a way to avoid existential problems, through the regulation of their self-awareness (which is reduced). This is in accordance with literature that says that attention is shrank to the present environment (Heatherton et al., 1991) (O'Connor et al., 2008).

Mindless Eating

The loss of sense of time, the break of routines and almost unlimited access to food 24/7 may have led to a phenomenon called Mindless Eating during lockdown.

Considered an automatic or unconscious behavior of food intake in which people can lose the control of what and how much they eat, Mindless Eating can significantly affect health. It is linked to numerous factors like poor nutritional choices, speedy and unsatisfying consumption, or sentimental eating (Epel and Kristeller 2014). Indeed, "Emotional Eating" and "Stress-Eating" overlap each other to express how food intake can be a product of negative emotions. Most people eat more in response to stress, even those with normal weight and with no eating disorders (Kristeller and Rodin 1989). Avoidance of negative emotions and their effects is also illustrated in literature as being a driver of binge-eating (Baumeister and Heatherton 1991). Higher levels of emotional eating result of a set of passive coping strategies - that deal with emotions only in the short run without actually solving the problem – or not effective attempts to regulate emotions (Epel and Kristeller 2014).

The effect of distraction in the total amount of food that a person consume was expressed in an article from 2013 which concluded that watching television, being in a social context or driving are situations that lead to Mindless Eating (Coop et al. 2013). The same study also concluded that the mechanism that leads to this is related to an association between food consumed and changes in the desire to eat, showing that hunger can be interpreted as a symptom to be perceived within an extended model of conscious eating.

METHODOLOGY

In an attempt to answer to the two previously stated hypothesis I created an online self-conducted questionnaire to obtain information on how people felt during the Coronavirus pandemic across different dimensions such as Dietary Habits, Fresh Start Effect, Scheduling

Style, Mindless Eating, Emotional State and some soft biometric informations (e.g., height and weight). This paper can be considered, by one side, a Retrospective Study - since it aims to analyze the previously mentioned dimensions during the pandemic lockdown period from March 18 to April 30 - but a Prospective Study by other, since it watches for outcomes of the current days.

Respondents

Two hundred and nine respondents - 56 men, 148 women, and 5 "other" - with ages varying from 18 to 65 years old, took part in the above-stated online questionnaire. Most of them found the questions written in English "extremely easy" (52%) or "moderately easy" (27.8%) to understand.

Four respondents were excluded either because they only answered to a portion of the questions or because they provided unrealistic answers by selecting the same number on the answer scale for all questions and reporting biologically impossible weights and heights.

For the remaining two hundred and five respondents (71.71% women, 27.32% men, 0.98% other; mean age = 25.72, SD = 7.81) data was analyzed.

Procedure

With voluntary participation, the respondents answered a total of 94 questions that were structured in a very similar way for the lockdown period and for nowadays in an attempt to compare answers across the two different stages. First, respondents answered to questions about their Dietary Habits, then about sense of time (Fresh Start Effect and motivation to start a diet), and Scheduling Style (questions that tried to assess if they were more prone to follow Clock or Event Time styles). They also answered to behavioral questions linked to Mindless Eating activity and questions about their Emotional State (both during and after the imposed

lockdown). Finally, more general/personal points were asked about their gender, age, weight, height, and intention to be at home as much as possible.

Measurements and scales

Different scales were used in the questionnaire. For instance, in Dietary Habits information block, participants self-reported how much food they ate during and after the pandemic (3 items, e.g., "Overall, I believe that during lockdown I was eating more than before lockdown"; 1 = Strongly disagree, 7 = Strongly agree), levels of hunger (1 item, "During lockdown, my levels of hunger changed as compared to before. Please rate the extent to which you felt hungry during lockdown"; 1 = Much lower, 7 = Much higher) and feeling of satiety (1 item, "Nowadays, my feeling of satiety when I eat is different from before. Please rate the extent to which you feel satiated nowadays:"; 1 = Extremely insatiated, 7 = Extremely satiated). This block also had two open questions about the number of meals and snacks consumed per day.

In Fresh Start Effect block, questions assessed the perception of time (4 items, e.g., "During lockdown, weekdays and weekends felt the same"; 1= Strongly disagree, 7= Strongly agree) and the motivation to start a diet (1 item, "During lockdown I felt motivated to start a new diet or lose weight"; 1 = Strongly disagree, 7= Strongly agree). In Scheduling Style block, there were *initially* three questions to assess Event Time Scheduling Style (e.g,, "Nowadays, I only start the next task/activity of the day after I am done with the former one."; 1 = Strongly disagree, 7= Strongly agree; based on Avnet and Sellier 2014) and three to assess Clock Time Scheduling Style (e.g., "During lockdown, I looked at the clock to pace myself when I was doing a task/activity, even if that task/activity had no deadline."; 1 = Strongly disagree, 7= Strongly agree; based on Avnet and Sellier 2014).

The following block had the description of attitudes and behaviors that can be linked to Mindless Eating activity (7 items, e.g., "I usually eat meals while working in front of a laptop,

scrolling through social media, watching television…"; 1 = Strongly disagree, 7= Strongly agree).

The Emotional State block included eight items about positive emotions ("Please rate the extent to which you felt the following emotions during lockdown. During lockdown I felt…"; e.g., "Enthusiastic", "Control", "Strong"; 1 = Strongly disagree, 7= Strongly agree) and eight about negative ones (e.g., "Upset", "Afraid", "Anxious"; 1 = Strongly disagree, 7= Strongly agree), all based on PANAS, created in 1988 by psychologists David Watson, Lee Anna Clark, and Auke Tellegen.

Finally, the block of Personal Information consisted mostly of open questions on age, weight before and after the pandemic lockdown, height and for how long people were confined. Questions about their gender ("Female", "Male" or "Other"), attempt to be at home as much as possible ("YES" or "NO"), and understanding of the overall questionnaire (1 = Extremely easy, 7 = Extremely difficult) were multiple choice.

All the questions were made for the period during lockdown and after it. To simplify the analysis, I averaged some questions to create new variables. This was only possible after seeing which questions I needed to delete after seeing the results of Varimax Rotation and testing its reliability (see Cronbach alphas on Reliability of Measures subtopic below).

Reliability of measures

Cronbach alpha was the measure of internal consistency chosen to assess reliability. Its value ranges between 0 and 1 and try to see until what extent the items under analysis measure the same concept. This alpha also estimates how much measurement error exist while trying to ensure data validity. The more questions are correlated between each other, the higher is the Cronbach alpha. The scientific community reports an alpha from 0.70 to 0.95 as acceptable but warns that values higher than this might represent redundant data. It is also worth mentioning

that low Cronbach values can occur due to different reasons such as heterogeneous structuration, low number of questions under analysis or null/week interrelationship between them (Tavakol and Dennick 2011).

Cronbach alpha values of the variables under analysis in this paper can be found in Appendix 1. Since those for Dietary Habits, Fresh Start Effect, and Mindless Eating were very close or higher than 0.70, I found it reliable to average some questions, creating new variables.

For questions regarding Scheduling Style, that were retrieved from "So What If the Clock Strikes? Scheduling Style, Control, and Well-Being" (Avnet and Sellier 2014), I followed the analysis proposed by the authors, but they did not mention any kind of reliability test. I checked how Cronbach alpha would behave and the values proved to be all lower than 0.70: for questions about Event Time Scheduling Style during lockdown it was 0.52 and 0.42 for the period after; for Clock Time Scheduling Style values drop to 0.36 and 0.35 during and after lockdown, respectively (Appendix 1). Even though it was proven that Scheduling Style questions belong to two different factors, as expected (Clock Time and Event Time), the items do not seem to be much reliable. Nevertheless, I carried following author's method of analysis.

Finally, the reliability of Emotional State questions was assured since the Positive and Negative Affect Schedule (PANAS) is already largely used in consumer behavior research to assess both PA and NA. Its reliability has been tested numerous times and the general conclusion is that PANAS is a valid measure that can be considered reliable, especially when used in large-scale data. Nevertheless, the complete independence between PA and NA is not assured (John R. Crawford* and Julie D. Henry Journal of Clinical Psychology 2004).

ANALYSIS AND RESULTS

The data resulting from the remaining 205 questionnaires was statistically analyzed using the IBM SPSS software platform.

I proceeded to Confirmatory Factor Analysis to draw and assess the factor structure of the variables considered. This statistical method allows to test the formulated hypothesis, having into account the existing literature on the topic (Suhr 2006). With many variables under analysis, it is useful to reduce the dimension of the dataset but in a way that it still preserves as much relevant statistical information as possible. Principal Component Analysis is one of the oldest and widely used techniques to do that while allowing to properly interpret information (Cadima and Jolliffe 2016). Theoretically, Principal Components Analysis and Factor Analysis are two distinct concepts. However, in the IBM SPSS software platform, Principal Component Analysis is already included in the Factor Analysis procedure.

It is important to mention that the Kaiser-Meyer-Olkin and the Bartlett's test of sphericity were both analyzed to assess the sample adequacy, as pre-requirements to perform Factor Analysis (Appendix 2). The first mentioned indicates the part of variance that can be a result of underlying factors. High Kaiser-Meyer-Olkin values proposes that performing Factor Analysis can prove useful in the data set. However, when values are lower than 0.5 it is generally considered useless (IBM Knowledge Center). By the other side, the Bartlett's test of sphericity assesses if there is redundancy between the variables under study and therefore, if it can be aggregated in some factors. Its null hypothesis says that the variables are orthogonal (Abdullah, Hadi and Ilham 2016), therefore significance level values lower than 0.05 suggest that performing Factor Analysis can be beneficial (IBM Knowledge Center).

After performing these two pre-requirements, the Varimax rotation was the method of Factor Analysis chosen to go on. This statistical method adjusts/rotates the coordinates of data to try to maximize the shared variance that exists between the items under study. This way it is possible to see how data is correlated with each principal component. Moreover, items loading are simplified through the identification of the factors on which the data is loaded (Allen 2017).

With Principal Component Analysis as the extraction method and Varimax with Kaiser Normalization as the rotation method, it was possible to analyze the resulting Rotated Component Matrix (Appendix 3 to 10). There were four problematic questions that did not fall into the respective components. Two of them were in Scheduling Style block ("During lockdown, I prioritized the order of starting a task/activity based on when it was due" and "Nowadays, I prioritize the order of starting a task/activity based on when it is due") and proved to belong to component 1 (Event Time) and not to component 2 (Clock Time) as they should. This may have happened due to a misinterpretation of English. The other two questions were in Mindless Eating block, for the period after lockdown ("I usually eat my food quickly and end up being one of the first persons to finish" and "I feel often difficult to remember the taste, smell, or texture of the meals I ate") that should belong to a single component but actually belonged to a second. To keep consistency, the same two questions in the period during lockdown were also considered problematic. Therefore, I proceeded to the elimination of those questions and I repeated the Varimax rotation afterwards to verify if the identification of the factors on which the data is loaded was finally correct – and it was.

Dietary habits information: When analyzing the newly created variables - DH_duringlockdown and DH_afterlockdown - which reflect the amount of food intake through the number of daily meals, portion sizes and overall quantities in the two periods of time, we arrive to some expected conclusions. The difference of means was assessed through a Paired-Sample T-Test, which showed that people ate more during lockdown (M = 4.36, SD = 0.08) as compared to the period after (M = 3.65, SD = 0.06; $t(204) = 7.34$, $p < 0.00$).

Looking to other aspects asked to the respondents, we can observe that the estimated daily number of meals, including snacks, during lockdown was higher (M = 5.34, SD = 0.12) than after (M = 4.69, SD = 0.09; $t(204) = 5.51$, $p < 0.00$) and the same happened with the number of snacks between meals (M = 4.57, SD = 0.09 vs. M = 3.72, SD = 0.08; $t(204) = 7.31$;

p < 0.00). The estimated total number of snacks per day during lockdown was, on average, 2.94 (SD = 0.11) and 2.31 (SD = 0.10) after that period (t(204) = 4.12, p < 0.00).

The levels of hunger during lockdown were quantified – on average - to 4.48 (SD = 0.08). After lockdown, that value drops to 3.88 (SD = 0.08; t(204) = 5.84, p < 0.00). Regarding the feeling of satiated people experienced, the difference between periods was really small, registering 4.38 during lockdown (SD = 0.10) and 4.83 after (SD = 0.09; t(204) = -4.13, p < 0.00). As seen, low levels of hunger do not necessarily mean high satiety. Indeed, a person might not be hunger anymore but still want to eat, not feeling satiated at all.

Fresh Start Effect: When performing a Paired Sample T-Test to assess how time perception changed, I concluded that Fresh Start Effect was much lower during lockdown (M = 4.59, SD = 0.12) than nowadays (M = 2.63, SD = 0.09; t(204) = 16.05, p < 0.00). Note that a higher average of the variable FSE_duringlockdown means a high level of loss of time perception due to the way questions were structured. This finding is in line with previous literature and **H2** that predicts a loss of sense of time and lack of Fresh Start Effect during confinement.

When asked about motivation to start a diet, people reported more willingness to change their dietary habits nowadays (M = 4.21, SD = 0.11) than during lockdown (M = 3.76, SD = 0.13; t(204) = -3.01, p < 0.00). But are people's intention to start a new diet related with the Fresh Start Effect? The resulting linear regression with Intention_duringlockdown as the dependent variable and FSE_duringlockdown as the independent one (R^2 = 0.02, F(1, 203) = 3.08, p = 0.08) showed that the model is statistically significant at 10% (B = - 0.13, t(DF) = -1.75, p = 0.08). If high values of FSE_duringlockdown mean loss of sense of time, then this negative relation between intention to start a new diet and the previously mentioned variable makes sense and is in accordance with **H2** (Appendix 11). However, when assessing for the

period after, the generated linear regression formula (R^2 = 0.01, F(1, 203) = 0.66, p = 0.42) revealed a non-significant model (B = -0.07, t(204) = -8.1, p = 0.42), showing that Fresh Start Effect do not mediate motivation to start a new diet after lockdown (Appendix 12).

Scheduling Style: Since questions about Scheduling Style were retrieved from the paper "So What If the Clock Strikes? Scheduling Style, Control, and Well-Being" (Avnet and Sellier 2014), I found it reasonable to also follow the analysis they did. After performing the Varimax rotation, they averaged Clock Time items together and Event Time ones also together to create new scores (similar to what I did for the remaining variables under analysis in this paper). The authors tried to capture the dominance of one style versus the other by subtracting the previously computed Event Time score from the Clock Time score. Following their rational, I called this new variables TimeScoreduring and TimeScoreafter and kept in mind that higher values indicate that the sample rely more on Clock Time, while lower values indicates reliance on Event Time style. To see the differences between the two periods, the Paired Sample T-Test showed that Clock Time Scheduling Style was less followed during lockdown (M = 3.78, SD = 0.09) than nowadays (M = 4.16, SD = 0.09; t(204) = - 4.13, p < 0.00). For Event Time, the same happened: higher adherence to this Scheduling Style during lockdown (M = 4.44, SD = 0.08) as compared to the period after (M = 4.75, SD = 0.06; t(204) = -3,59, p < 0.00). The preference for Event Time Scheduling Style was higher than for Clock Time in both periods.

Mindless Eating: The Mindless Eating activity was slightly higher during lockdown (M = 3.99, SD = 0.10) than nowadays (M = 3.55, SD = 0.08), however that difference was not very large (t(DF) = 6.18, p < 0.00). But can this be predicted by any time variable? As stated as a reason for formulating **H1**, the relation between Mindless Eating and Clock Time Scheduling Style was tested (R2 = 0.00, F(1,203) = 0.43, p = 0.51). The built model showed that during lockdown, Clock Time Scheduling Style cannot predict Mindless Eating (B = 0.05, t(204) = 0.66, p = 0.51) and the same happened for the period after (B = 0,08, t(204) = 1.16, p = 0.25),

also not significant ($R^2 = 0.01$, $F(1,203) = 1.34$, $p = 0.25$) (Appendix 13 and 14). Similar analyses were made having Mindless Eating as dependent variable but other time variables as independent - Event Time Scheduling Style and Time Score (Clock minus Event) – but none seemed to predict or to be significant, both during and after lockdown.

Emotional State: The items from Positive And Negative Affect Schedule allowed me to conclude that the average of all positive emotional state questions during lockdown was lower ($M = 3.44$, $SD = 0.08$) than in the period after ($M = 4.22$, $SD = 0.09$; $t(204) = -9.60$, $p < 0.00$). Contrasting with these values, the average of all negative emotional state questions was higher during lockdown ($M = 4.06$, $SD = 0.08$) than after ($M = 3.35$, $SD = 0.08$; $t(204) = 10.09$, $p < 0.00$) . These numbers are the reflected outcome of the stress and anxiety inherent to the period of lockdown, a period of uncertainty, fear, and boredom.

Personal/General Data: The respondents were, on average, 86.78 days confined at home, which translates in 2 months and 27 days. From those two hundred and five persons that answered to the online questionnaire, 158 answered "YES" when asked if they still try to be at home as much as they can nowadays.

The Body Mass Index (BMI) is a measure of nutritional status used in adults, according to the World Health Organization. It is computed by taking a person's weight in kilograms divided by the square of the height in meters (kg/m2). The average BMI of the respondents before the pandemic lockdown was 22.29 and 22.26 after, values that fall into the "normal weight" nutritional status defined by the World Health Organization (Appendix 15). The difference was so small between the two periods that one can even assume that it was just result of an error in reporting and disregard it. It should be noted that BMI is not the only indicator of healthy eating and despite these "normal weight" results, we should also take into account the

portion sizes, the number of snacks, and the overall amount and quality of food ingested, among others.

Hypothesis Testing

H1: People following a Clock Time Scheduling Style, intake higher quantities of food than the ones following an Event Time Scheduling Style.

I started by building a model that uses Time Score during lockdown (the new variable that consists in subtracting Event Time to Clock Time) to try to explain Dietary Habits in the same period. The resulting linear regression formula ($R^2 = 0.00$, $F(1, 203) = 0.02$, $p = 0.88$) showed that the effect was almost null ($B = 0.01$, $t(204) = 0.15$, $p = 0.88$) (Appendix 16). This relation in the period after lockdown ($R^2 = 0.00$, $F(1, 203) = 0.47$, $p = 0.50$) revealed to be weak again and not statistically significant ($B = 0.03$, $t(204) = 0.68$, $p = 0.50$) (Appendix 17).

I also performed the same analysis but, this time, using the Scheduling Styles individually and not combined in a score. Regarding the period during lockdown, the model showed that both Clock Time ($R^2 = 0.00$, $F(1,203) = 0.25$, $p = 0.62$) ($B = 0.03$, $t(204) = 0.45$, $p = 0.62$) (Appendix 18) and Event Time ($R^2 = 0.00$. $F(1,203) = 0.13$, $p = 0.72$) ($B = 0.03$, $t(204) = 0.36$, $p = 0.72$) (Appendix 19) do not explain Dietary Habits during lockdown. The effect of the type of Scheduling Style followed during lockdown on Dietary Habits was positive but weak, and not significant at all. For the period after lockdown, the resulting linear regression formulas that relate Clock Time ($R^2 = 0.00$, $F(1,203) = 0.07$, $p = 0.79$) with Dietary Habits ($B = -0.01$, $t(204) = -0.27$, $p = 0.79$) and Event Time ($R^2 = 0.01$, $F(1,203) = 2.25$, $p = 0.14$) with the same dependent variable ($B = -0.11$, $t(204) = -1.50$, $p = 0.14$), were, again, not significant (Appendix 20 and 21). Although it is not that powerful, this linear regression between Dietary Habits and Event Time Scheduling Style after lockdown seems to represent the strongest

relation between time variables and food consumption, showing that the less people follow an Event Time Scheduling Style, after lockdown, the less food amount they ingest.

To have further insights I created new scores to assess the interaction between the independent variables. These new scores are basically multiplications that worked as third predictors in the models and would allow me to understand if the Scheduling Style effect is different depending on BMI. The coefficients of these new variables were almost null and not significant, except for BMIxEVENTafter (R^2 = 0.03, F(3,188) = 1.79, p = 0.15) that, even not significant, was the strongest one (B = -0.04, t(191) = -1.59, p = 0.11) (Appendix 22). From these results, we can assume that the Scheduling Style is not affected by BMI (Body Mass Index is not a moderator).

Further, I saw what happened to Dietary Habits taking into account the Mindless Eating activity, and the results were the expected: both during lockdown (R^2 = 0.28, F(1,203) = 79.01, p < 0.00) and after that period (R^2 = 0.04, F(1,203) = 7.26, p = 0.01) there is a strong and significant relation showing that the more people engaged in Mindless Eating, the more daily meals, portion sizes and overall food amount they ingested. This relation was more expressive during lockdown, which was, again, expected (B = 0.42, t(204) = 8.89, p = 0.00 vs. B = 0.15, t(204) = 2.70, p = 0.01) (Appendix 23 and 24).

Finally, using ME_duringlockdown and CLOCKduring both as independent variables to predict DH_duringlockdown (R^2 = 0.28, F(2,202) = 39.33, p < 0.00), one can conclude that, as seen when using those independent variables separately, Mindless Eating is a predictor of Dietary Habits variable but the same does not happen with Clock Time Scheduling Style (B = 0.42, t(204) = 8.85, p < 0.00 for ME_duringlockdown; B = 0.01 , t(204) = 0.18, p = 0.86 for CLOCKduring) (Appendix 25). For the period after lockdown (R^2 = 0.04, F(2,202) = 3.74, p =

0.03) the same conclusion can be drawn (B = 0.15, t(204) = 2.72, p = 0.01 for ME_afterlockdown; B = -0.03, t(204) = -0.49, p = 0.63 for CLOCKafter) (Appendix 26).

H2: Without the Fresh Start Effect people intake higher amounts of food.

First, I built a model that takes Dietary Habits (the new variable created after averaging questions) during lockdown as the dependent variable and Fresh Start Effect as the independent one ($R^2 = 0.04$, F(1, 203) = 8.14, p < 0.00). This analysis revealed that a loss of Fresh Start Effect during lockdown was positively related to a greater general intake of food (B = 0.13, t(204) = 2.85, p < 0.00) (Appendix 27).

Interestingly, after lockdown, there is no relationship between Fresh Start Effect and eating (B = 0.04, t(204) = 0.85, p = 0.40) (Appendix 28). The weakness of this model (R^2 = 0.00, F(1,203) = 0.78, p = 0.40) might be due the fact that people felt a big difference in habits and routines when they were forced to stay locked up at home but, after the period of mandatory confinement, they did not feel many changes in their lives. Moreover, I believe that the true meaning and feeling associated with a Fresh New Start might have changed since the pandemic hit the world. For many people, the real sense of Fresh Start Effect will only occur when the world gets rid of this pandemic and their lives go back to what they were before. Therefore, nowadays people might feel more Fresh Start Effect than during lockdown, but it has changed considerably in meaning, not being related to improvements in Dietary Habits.

I also analyzed what would happen to DH_duringlockdown if I control for BMI as well. During lockdown, the resulting linear regression formula ($R^2 = 0.03$, F(2, 189) = 3.14, p = 0.05) led to similar conclusions as the ones taken when FSE_duringlockdown was the only independent variable (B = 0.11, t(191) = 2.33, p = 0.02) (Appendix 29). However, when I control for BMI after lockdown, the effect of Fresh Start Effect is basically zero (B = -0.01, t(DF) = -0.09, p = 0.93).

To have further insights, as done in **H1**, I assessed the interaction between the independent variables, creating new scores - FSExBMIduring and FSExBMIafter. This third predictor would allow to see if the effect of Fresh Start Effect is different depending on BMI. The resulting coefficient would not tell much since the scale of the two variables is different. Nevertheless, we can know the direction of the effect and its significance. During lockdown, the resulting coefficient of FSExBMIduring is basically zero (B = -0.00, t(191) = -0.38, p = 0.71) (Appendix 30). The same happened for the period after (Appendix 31). Both FSExBMIduring and FSExBMIafter are not significant and I can conclude that time perception is not affected by BMI, meaning that Body Mass Index is not a moderator.

Models with linear regressions combining variables in different periods (during and after lockdown) were also built but no statistically significant conclusions were drawn across time.

DISCUSSION

During lockdown, respondents' Body Mass Index remained almost unchanged. It is worth to mentioned that BMI is not the only indicator of nutritional status and hence some other Dietary Habits were assessed, like the estimated number of daily meals, snacks ingested, the level of hunger and the estimation of overall amount of food intake - all higher during lockdown than in the period after. Levels of satiety and motivation to start a new diet, by other side, were higher after the confinement.

The feeling of Fresh Start Effect was much lower during lockdown than nowadays. The engagement in Mindless Eating activity was only slightly higher in the first period but this variable was, at the same time, the one that showed a higher correlation between the two periods, indicating that engaging in Mindless Eating activity during lockdown had a strong and positive relationship with engaging on it nowadays. This can be explained by the fact that 77%

of the respondents still try to be at home as much as they can nowadays (even without any specific legal obligation) to try to avoid contamination.

The Emotional State reported was the expected, with people feeling more negative and less positive emotions during the time they were obligated to be locked at home.

Regarding the Scheduling Style respondents had, it was possible to see that both during and after lockdown respondents followed more an Event Time Scheduling Style than a Clock Time Scheduling Style. It was also possible to see that the Scheduling Style one followed was more expressive in the period after lockdown (higher average value both for Event Time and Clock Time Scheduling Style after lockdown, when compared to before).

The first stated hypothesis in this paper (which claimed that the adherence to Clock Time Scheduling Style would lead to a greater amount of food intake) proved to be not very conclusive since the tested effects were too small or null and the majority with no statistical significance. It was proven that during lockdown the relationship between Clock Time Scheduling Style and Dietary Habits was indeed more robust than between Event Time Scheduling Style and the same Dietary Habits. However, as referred, this relationship was considerable weak, and not statistically significant. The strongest and closer to statistically significance relationship was between Dietary Habits and Event Time Scheduling Style after lockdown, with a negative link, which is in concordance with **H1**.

Dietary Habits and Mindless Eating showed a strong and significant relationship during both periods, but the same cannot be said about Mindless Eating and Scheduling Styles.

In the second stated hypothesis – without the Fresh Start Effect people intake higher amounts of food - I obtained more promising results. There was a positive and statistically significant relationship between Fresh Start Effect and Dietary Habits during lockdown, allowing to conclude that when people were obligated to be at home, the more they lost the sense of time, the greater amount of food they ingested. Interesting, after lockdown, this relation

between FSE and Dietary Habits does not exist. Indeed, the feeling of Fresh Start Effect was considerable higher and significant after lockdown as well as people's motivation to start a new diet or to lose weight. However, that motivation proved to be unrelated to the feeling of Fresh Start. A possible explanation for this phenomenon is that the true meaning that was associated with a Fresh New Start might have changed since the pandemic appeared. I believe that for many people the real feeling of Fresh Start Effect will only occur when they feel that the pandemic is no longer present in their lives. Therefore, nowadays people may be more motivated to start a diet and feel more fresh start effect than during lockdown but this last one has changed considerably in meaning, not being related to improvements in Dietary Habits.

When entering BMI in the regression between Dietary Habits and Fresh Start Effect, the last-mentioned variable is completely absorbed. However, this do not say much since, as stated before, BMI is not the only indicator of nutritional status and has no direct relationship with the Dietary Habits analyzed in this work.

After testing **H1** and **H2**, I concluded that the models built for the second Hypothesis are way stronger than the ones structured for the first one. Scheduling Style does not seem to be a bigger contributor to this paper. Indeed, it is interesting to see that Fresh Start Effect turned out to be a stronger predictor of consumer behavior than the type of Scheduling Style people followed (Clock or Event).

With lockdown, most people seem to lose track of time and the true feeling of Fresh Start Effect, regardless if they follow an Event Time or Clock Time Scheduling Style. This is noticeable because both Clock Time and Event Time values are higher after lockdown, when compared with the confinement. If people stop having time perception, it does not matter which Scheduling Style they tend to follow.

Limitations

Besides the limited sample size of 205 valid answers, the first relevant limitation of this research is the type of data collection used. Indeed, the retrospective technique used to acquire data regarding the lockdown period of March 18 – April 30 of 2020 is subject to errors of recall. Inside the retrospective technique applied, the decision of conducting a self-reported questionnaire might also lead to misreporting data. The validity of answers can raise some doubts, especially regarding emotional state questions. By being self-report conducted, PANAS responses might raise difficulties in assessing people's mood in an accurate way since the respondents can understate/overstate how they experienced their moods.

The report of the weight people had before and after the lockdown may also not be the most accurate, since people can feel uncomfortable reflecting about this topic, even in an anonymous format.

The measurement of the amount of food intake used in this study might also constitute a limitation. Indeed, only the number of times per day people ate, the number of snacks they had, the portion sizes and gain/loss of weight were assessed. Moreover, a participant that ate 7 times per day can, in total, intake less quantity of food than another participant that only ate 3 times. Other factors like caloric density and composition of nutrients are also important to determine the "amount of food" (Wansink 2010) and those were not assessed in this study. It is relevant to disclaim that the measurement of dietary intake and the evaluation of nutritional status are not the same dimension. Dietary intake, along with other factors such as physiological stage of life or genetics play an important role on the participant's nutritional status (Brown 1994).

Future Research

The results of this study can only be generalized through more rich and complete research. Ideally, in future papers the sample should be larger and analyzed only through a prospective

study, that is more precise when it comes to analyze dietary habits since the consumption is reported during the actual research period, hence less subject to bias.

Further research should also explore the effect that other variables have in Dietary Habits. For instance, the confirmatory analysis I arrived to in this paper, in an attempt to reject or not the initial two hypotheses, gave me reasons to believe that when people lose the sense of time, the type of Scheduling Style they follow is irrelevant. I believe it is pertinent to deepen the knowledge in this area in a reliable way, since this new hypothesis can bring advantages to the scientific community.

CONCLUSION

The resulting data from the conducted online questionnaire allowed me to answer the two previously stated hypotheses. Regarding **H1**, we cannot explicitly conclude that people that follow a Clock Time Scheduling Style intake higher amounts of food than the ones following an Event Time Scheduling Style. Indeed, despite the relationship between Clock Time and Dietary Habits during lockdown being more robust than between Event Time and the same Dietary Habits, this relationship was weak and not statistically significant. In the other side, **H2** revealed more promising results, showing that during confinement people lost sense of time, ceased to have the positive impacts of Fresh Start Effect and consequently increased the amount of food ingested. This knowledge contributes to enrich the understanding of the scientific community about consumer behavior during constraining situations, such as a pandemic.

Future work may investigate if it is true that when people lose time perception, the type of Scheduling Style they follow does not matter to alterations in Dietary Habits.

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APPENDIX

	Cronbach Alpha	New Variable Created
DH: 3 questions about amount of food ingested during lockdown	0.761	DH_duringlockdown
DH: 3 questions about amount of food ingested after lockdown	0.651	DH_afterlockdown
FSE: 4 questions about time perception during lockdown	0.896	FSE_duringlockdown
FSE: 4 questions about time perception after lockdown	0.813	FSE_afterlockdown
ME: 7-2 questions about mindless eating during lockdown	0.810	ME_duringlockdown
ME: 7-2 questions about mindless eating after lockdown	0.685	ME_afterlockdown
SS: 3 questions about event time during lockdown	0.522	EVENTduring
SS: 3 questions about event time after lockdown	0.422	EVENTafter
SS: 3-1 questions about clock time during lockdown	0.355	CLOCKduring
SS: 3-1 questions about clock time after lockdown	0.350	CLOCKafter
ES: 8 positive emotional state questions during lockdown	na	ESP_duringlockdown
ES: 8 positive emotional state questions after lockdown	na	ESP_afterlockdown
ES: 8 negative emotional state questions during lockdown	na	ENP_duringlockdown
ES: 8 negative emotional state questions during lockdown	na	ENP_afterlockdown
ES: 16 emotional state questions during lockdown	na	ES_duringlockdown
ES: 16 emotional state questions during lockdown	na	ES_afterlockdown

Appendix 1: Cronbach Alphas

	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity (Sig.)
DH: 3 questions about amount of food ingested during lockdown	0.688	0.000
DH: 3 questions about amount of food ingested after lockdown	0.653	0.000
FSE: 4 questions about time perception during lockdown	0.828	0.000
FSE: 4 questions about time perception after lockdown	0.768	0.000
ME: 7 questions about mindless eating during lockdown	0.818	0.000
ME: 7 questions about mindless eating after lockdown	0.723	0.000
SS: 6 questions about scheduling style during lockdown	0.616	0.000
SS: 6 questions about scheduling style after lockdown	0.555	0.000

Appendix 2: Kaiser-Meyer-Olkin and Bartlett's test of sphericity

Matriz de componente[a]

	Componente 1
During lockdown – as compared to before - my number of daily meals (including snacks) was:	,857
During lockdown, the portions of food I had, compared to before, were:	,800
Overall, I believe that during lockdown I was eating more than before lockdown.	,885

Método de Extração: análise de Componente Principal.

a. 1 componentes extraídos.

Appendix 3: Varimax Rotation: Dietary Habits during lockdown – only one component was extracted.

Matriz de componente[a]

	Componente 1
Nowadays – as compared to before - my number of daily meals (including snacks) is:	,748
Nowadays, the portions of food I have, compared to before, are:	,768
Overall, I believe I am eating more nowadays than before lockdown.	,811

Método de Extração: análise de Componente Principal.

a. 1 componentes extraídos.

Appendix 4: Varimax Rotation: Dietary Habits after lockdown – only one component was extracted.

Matriz de componente[a]

	Componente 1
I felt that I lost my sense of time during lockdown.	,892
During lockdown, weekdays and weekends felt the same.	,846
During lockdown, it was hard to tell what day of the week it was.	,921
During lockdown I had a very good perception of when a week started and ended.	,835

Método de Extração: análise de Componente Principal.

Appendix 5: Varimax Rotation: Fresh Start Effect during lockdown – only one component was extracted.

Matriz de componente[a]

	Componente 1
Nowadays, I feel that I have lost my sense of time.	,808
Nowadays, weekdays and weekends feel the same.	,737
Nowadays, it is hard to tell what day of the week it is.	,877
Nowadays, I have a very good perception of when a week started and ended.	,790

Método de Extração: análise de Componente Principal.

Appendix 6: Varimax Rotation: Fresh Start Effect after lockdown – only one component was extracted.

Matriz de componente[a]

	Componente	
	1	2
I usually eat meals while working in front of a laptop, scrolling through social media, watching television…	,452	-,667
I usually eat my food quickly and end up being one of the first persons to finish a meal.	,376	,441
I am not good at assessing the feeling of satiety and physical fullness.	,659	,196
I eat more than I need because I am not aware that I am already full and end up feeling uncomfortable since I eat too much.	,763	,200
I feel often difficult to remember the taste, smell, or texture of the meals I ate.	,475	,524
I am constantly snacking throughout the day.	,654	-,426
I use to mindlessly wander around the kitchen during the day, checking what I have in the fridge and in the drawers without any specific thing in mind.	,673	-,173

Método de Extração: análise de Componente Principal.

a. 2 componentes extraídos.

Matriz de componente rotativa[a]

	Componente	
	1	2
I usually eat meals while working in front of a laptop, scrolling through social media, watching television…	,790	-,160
I usually eat my food quickly and end up being one of the first persons to finish a meal.	-,040	,578
I am not good at assessing the feeling of satiety and physical fullness.	,333	,601
I eat more than I need because I am not aware that I am already full and end up feeling uncomfortable since I eat too much.	,405	,678
I feel often difficult to remember the taste, smell, or texture of the meals I ate.	-,028	,707
I am constantly snacking throughout the day.	,765	,154
I use to mindlessly wander around the kitchen during the day, checking what I have in the fridge and in the drawers without any specific thing in mind.	,602	,347

Método de Extração: análise de Componente Principal.

Método de Rotação: Varimax com Normalização de Kaiser.

a. Rotação convergida em 3 iterações.

Appendix 7: Varimax Rotation: Mindless Eating after lockdown – two components were extracted instead of one; Two questions deleted.

Matriz de componente[a]

	Componente 1
During lockdown, I used to eat meals while working in front of a laptop, scrolling through social media, watching television…	,628
During lockdown, I used to eat my food quickly and end up being one of the first persons to finish.	,408
During lockdown, I was not good at assessing the feeling of satiety and physical fullness.	,777
During lockdown I ate more than I needed because I was not aware that I was already full and ended up feeling uncomfortable since I ate too much.	,801
During lockdown I was constantly snacking throughout the day.	,752
During lockdown I used to mindlessly wander around the kitchen during the day, checking what I have in the fridge and in the drawers without any specific thing in mind.	,725
During lockdown, I felt often difficult to remember the taste, smell, or texture of the meals I ate.	,555

Método de Extração: análise de Componente Principal.

a. 1 componentes extraídos.

Appendix 8: Varimax Rotation: Mindless Eating during lockdown – only one component was extracted; the same two questions were deleted for consistency.

Matriz de componente[a]

	Componente 1	Componente 2
Nowadays, I tend to organize my day/week based on the order of tasks that should be completed in.	,729	-,065
Nowadays, I care more about how well my tasks are done than the time it takes to complete them.	,467	,088
Nowadays, I only start the next task/activity of the day after I am done with the former one.	,569	-,425
Nowadays, I start the next activity/task of the day based on what time it is, even if I need to interrupt the activity/task I was doing.	,080	,822
Nowadays, I look at the clock to pace myself when I am doing a task/activity, even if that task/activity has no deadline.	,349	,611
Nowadays, I prioritize the order of starting a task/activity based on when it is due.	,748	-,042

Método de Extração: análise de Componente Principal.

a. 2 componentes extraídos.

Matriz de componente rotativa[a]

	Componente 1	Componente 2
Nowadays, I tend to organize my day/week based on the order of tasks that should be completed in.	,728	,080
Nowadays, I care more about how well my tasks are done than the time it takes to complete them.	,440	,178
Nowadays, I only start the next task/activity of the day after I am done with the former one.	,641	-,305
Nowadays, I start the next activity/task of the day based on what time it is, even if I need to interrupt the activity/task I was doing.	-,082	,822
Nowadays, I look at the clock to pace myself when I am doing a task/activity, even if that task/activity has no deadline.	,222	,668
Nowadays, I prioritize the order of starting a task/activity based on when it is due.	,742	,106

Método de Extração: análise de Componente Principal.
Método de Rotação: Varimax com Normalização de Kaiser.

a. Rotação convergida em 3 iterações.

Appendix 9: Varimax Rotation: Scheduling Style after lockdown – two components. One question of Clock Time was deleted.

Matriz de componente[a]

	Componente 1	Componente 2
During lockdown, I tended to organize my day/week based on the order of tasks that should be completed in.	,792	-,040
During lockdown I cared more about how well my tasks are done than the time it takes to complete them.	,537	-,297
During lockdown, I only started the next task/activity of the day after I was done with the former one.	,516	-,554
During lockdown, I started the next activity/task of the day based on what time it was, even if I needed to interrupt the activity/task I was doing.	,334	,682
During lockdown, I looked at the clock to pace myself when I was doing a task/activity, even if that task/activity had no deadline.	,407	,570
During lockdown, I prioritized the order of starting a task/activity based on when it was due.	,755	,024

Método de Extração: análise de Componente Principal.

a. 2 componentes extraídos.

Matriz de componente rotativa[a]

	Componente 1	Componente 2
During lockdown, I tended to organize my day/week based on the order of tasks that should be completed in.	,721	,331
During lockdown I cared more about how well my tasks are done than the time it takes to complete them.	,614	-,014
During lockdown, I only started the next task/activity of the day after I was done with the former one.	,714	-,252
During lockdown, I started the next activity/task of the day based on what time it was, even if I needed to interrupt the activity/task I was doing.	-,020	,759
During lockdown, I looked at the clock to pace myself when I was doing a task/activity, even if that task/activity had no deadline.	,097	,693
During lockdown, I prioritized the order of starting a task/activity based on when it was due.	,658	,371

Método de Extração: análise de Componente Principal.
Método de Rotação: Varimax com Normalização de Kaiser.

a. Rotação convergida em 3 iterações.

Appendix 10: Varimax Rotation: Scheduling Style during lockdown – two components. One question of Clock Time was deleted.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	4,359	,373		11,694	,000
	FSE_duringlockdown	-,134	,076	-,122	-1,754	,081

a. Variável Dependente: During lockdown I felt motivated to start a new diet or lose weight.

Appendix 11: Linear Regression between intention to start a new diet (dependent variable) and fresh start effect (independent variable) during lockdown

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	4,395	,258		17,036	,000
	FSE_afterlockdown	-,072	,089	-,057	-,813	,417

a. Variável Dependente: Nowadays, I feel motivated to start a new diet or lose weight.

Appendix 12: Linear Regression between intention to start a new diet (dependent variable) and fresh start effect (independent variable) after lockdown

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,795	,321		11,839	,000
	CLOCKduring	,053	,080	,046	,658	,511

a. Variável Dependente: ME_duringlockdown

Appendix 13: Linear Regression between Mindless Eating during lockdown and Clock Time during lockdown.

Coeficientes^a

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,231	,284		11,363	,000
	CLOCKafter	,076	,066	,081	1,159	,248

a. Variável Dependente: ME_afterlockdown

Appendix 14: Linear Regression between Mindless Eating after lockdown and Clock Time after lockdown.

BMI	Nutritional status
Below 18.5	Underweight
18.5–24.9	Normal weight
25.0–29.9	Pre-obesity
30.0–34.9	Obesity class I
35.0–39.9	Obesity class II
Above 40	Obesity class III

Appendix 15: Nutritional Status, from World Health Organization https://www.euro.who.int/en/health-topics/disease-prevention/nutrition/a-healthy-lifestyle/body-mass-index-bmi

Coeficientes^a

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	4,361	,086		50,551	,000
	TimeScoreduring	,008	,051	,011	,151	,880

a. Variável Dependente: DH_duringlockdown

Appendix 16: Linear Regression between Dietary Habits during lockdown and Time Score (Clock Time - Event Time) during lockdown.

Coeficientes^a

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,669	,069		53,116	,000
	TimeScoreafter	,029	,043	,048	,682	,496

a. Variável Dependente: DH_afterlockdown

Appendix 17: Linear Regression between Dietary Habits after lockdown and Time Score (Clock Time - Event Time) after lockdown.

Coeficientes^a

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	4,237	,252		16,816	,000
	CLOCKduring	,032	,063	,035	,499	,618

a. Variável Dependente: DH_duringlockdown

Appendix 18: Linear Regression between Dietary Habits during lockdown and Clock Time during lockdown.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	4,241	,330		12,842	,000
	EVENTduring	,026	,072	,025	,358	,721

a. Variável Dependente: DH_duringlockdown

Appendix 19: Linear Regression between Dietary Habits during lockdown and Event Time during lockdown.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,709	,225		16,518	,000
	CLOCKafter	-,014	,052	-,019	-,266	,791

a. Variável Dependente: DH_afterlockdown

Appendix 20: Linear Regression between Dietary Habits after lockdown and Clock Time after lockdown.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	4,152	,339		12,238	,000
	EVENTafter	-,105	,070	-,105	-1,500	,135

a. Variável Dependente: DH_afterlockdown

Appendix 21: Linear Regression between Dietary Habits after lockdown and Event Time after lockdown.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,820	,532		7,175	,000
	EVENTafter	-,105	,072	-,105	-1,453	,148
	BMIafter	,016	,018	,062	,861	,390
2	(Constante)	,055	2,425		,023	,982
	EVENTafter	,689	,504	,690	1,367	,173
	BMIafter	,187	,109	,736	1,713	,088
	BMIxEVENTafter	-,036	,023	-1,060	-1,591	,113

a. Variável Dependente: DH_afterlockdown

Appendix 22: Linear Regression between Dietary Habits after lockdown and BMI x Event Time after lockdown.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	2,695	,199		13,565	,000
	ME_duringlockdown	,416	,047	,529	8,889	,000

a. Variável Dependente: DH_duringlockdown

Appendix 23: Linear Regression between Dietary Habits during lockdown and Mindless Eating during lockdown.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,133	,203		15,457	,000
	ME_afterlockdown	,146	,054	,186	2,695	,008

a. Variável Dependente: DH_afterlockdown

Appendix 24: Linear Regression between Dietary Habits after lockdown and Mindless Eating after lockdown.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	2,660	,279		9,543	,000
	ME_duringlockdown	,415	,047	,529	8,850	,000
	CLOCKduring	,010	,054	,011	,178	,859

a. Variável Dependente: DH_duringlockdown

Appendix 25: Linear Regression between Dietary Habits during lockdown, Mindless Eating during lockdown and Clock Time in the same period.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,229	,283		11,420	,000
	ME_afterlockdown	,148	,055	,189	2,721	,007
	CLOCKafter	-,025	,051	-,034	-,489	,625

a. Variável Dependente: DH_afterlockdown

Appendix 26: Linear Regression between Dietary Habits after lockdown, Mindless Eating after lockdown and Clock Time in the same period.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,758	,224		16,796	,000
	FSE_duringlockdown	,130	,046	,196	2,852	,005

a. Variável Dependente: DH_duringlockdown

Appendix 27: Linear Regression - dietary habits during lockdown as dependent variable and Fresh Start Effect during lockdown as independent variable

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,536	,151		23,406	,000
	FSE_afterlockdown	,044	,052	,059	,847	,398

a. Variável Dependente: DH_afterlockdown

Appendix 28: Linear Regression - dietary habits after lockdown as dependent variable and fresh start effect after lockdown as independent variable

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,259	,562		5,796	,000
	BMIduring	,025	,022	,081	1,124	,262
	FSE_duringlockdown	,110	,047	,168	2,333	,021

a. Variável Dependente: DH_duringlockdown

Appendix 29: Linear Regression between dietary habits (dependent variable) and fresh start effect (independent variable) during lockdown, controlling for BMI in the same period.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,259	,562		5,796	,000
	FSE_duringlockdown	,110	,047	,168	2,333	,021
	BMIduring	,025	,022	,081	1,124	,262
2	(Constante)	2,798	1,347		2,077	,039
	FSE_duringlockdown	,209	,266	,318	,785	,434
	BMIduring	,045	,058	,146	,780	,436
	FSExBMIduring	-,004	,011	-,161	-,377	,707

Appendix 30: Linear Regression between dietary habits during lockdown (dependent variable) and fresh start effect during x Body Mass Index, both also during lockdown.

Coeficientes[a]

Modelo		Coeficientes não padronizados		Coeficientes padronizados	t	Sig.
		B	Erro Erro	Beta		
1	(Constante)	3,721	,463		8,035	,000
	FSE_duringlockdown	-,013	,039	-,025	-,337	,737
	BMIduring	,001	,018	,002	,031	,975
2	(Constante)	3,555	,470		7,569	,000
	FSE_duringlockdown	-,024	,041	-,045	-,584	,560
	BMIduring	-,114	,053	-,456	-2,150	,033
	FSE_afterlockdown	,005	,056	,007	,085	,932
	BMIafter	,124	,054	,486	2,299	,023
3	(Constante)	4,464	1,002		4,455	,000
	FSE_duringlockdown	-,030	,042	-,057	-,723	,470
	BMIduring	-,117	,053	-,467	-2,201	,029
	FSE_afterlockdown	-,338	,339	-,460	-,998	,319
	BMIafter	,087	,065	,341	1,340	,182
	FSExBMIafter	,015	,015	,503	1,027	,306

a. Variável Dependente: DH_afterlockdown

Appendix 31: Linear Regression between dietary habits after lockdown (dependent variable) and fresh start effect during x Body Mass Index, both also after lockdown.

New Variable	Pearson Correlation	Sig. (2-tailed)
DH_duringlockdown DH_afterlockdown	0.119	0.090
FSE_duringlockdown FSE_afterlockdown	0.327	0.000
ME_duringlockdown ME_afterlockdown	0.702	0.000
EVENTduring EVENTafter	0.274	0.000
CLOCKduring CLOCKafter	0.459	0.000
TimeScoreduring TimeScoreafter	0.337	0.000
ESP_duringlockdown ESP_afterlockdown	0.499	0.000
ENP_duringlockdown ENP_afterlockdown	0.594	0.000
ES_duringlockdown ES_afterlockdown	0.726	0.000

Appendix 32: Correlations between variables

New Variable	t-value	Sig
DH_duringlockdown DH_afterlockdown	7.343	0.000
FSE_duringlockdown FSE_afterlockdown	16.050	0.000
ME_duringlockdown ME_afterlockdown	6.179	0.000
EVENTduring EVENTafter	-3.593	0.000
CLOCKduring CLOCKafter	-4.129	0.000
TimeScoreduring TimeScoreafter	-0.553	0.581
ESP_duringlockdown ESP_afterlockdown	-9.601	0.000
ENP_duringlockdown ENP_afterlockdown	10.099	0.000
ES_duringlockdown ES_afterlockdown	-0.951	0.343

Appendix 33: Paired-Sample T-test to compare means

Appendix 34: Online questionnaire.

YOU MUST BE ABOVE 18 YEARS OLD TO PARTIPATE IN THIS STUDY

I am Mariana Barata, a student at Nova School of Business and Economics, and I am conducting this study as part of my final thesis.

The purpose of this research study is to explore how people felt during the Coronavirus pandemics across different dimensions, as well as eating habits during lockdown. Your task consists in answering questions about dietary/eating habits, time perceptions and emotions. It will take you approximately 8 minutes to complete.

Your participation is completely voluntary. There are no penalties for not participating. Your answers are anonymous and will never be judged. I do not foresee any risk arising from participating in this study. If anything, you might experience some discomfort when recalling a negative situation such as the coronavirus pandemic and how you felt during lockdown. You can skip any question you do not wish to answer and are free to quit the study at any time. If

you have any questions about this project or if you have a problem related to the research, you can contact me by e-mail to 29112@novasbe.pt.

Thank you!

I confirm that I am 18 or older and that I want to participate in this study

I do not want to participate, or I am not eligible

<u>Dietary habits information</u>

- During lockdown – as compared to before - my number of daily meals (including snacks) was: *Much lower; Moderately lower; Slightly lower; About the same; Slightly higher; Moderately higher; Much higher*

- Estimated number of meals (including snacks) during lockdown: _____

- During lockdown, the portions of food I had, compared to before, were: *Much smaller; Moderately smaller; Slightly smaller; About the same; Slightly larger; Moderately larger; Much larger.*

- During lockdown, the number of snacks I had between meals, as compared to before, was: *Much lower; Moderately lower; Slightly lower; About the same; Slightly higher; Moderately higher; Much higher*

- Estimated number of snacks per day during lockdown: _____

- During lockdown, my levels of hunger changed as compared to before. Please rate the extent to which you felt hungry during lockdown: *Much lower; Moderately lower; Slightly lower; About the same; Slightly higher; Moderately higher; Much higher*

- During lockdown, my feeling of satiety when I ate was different from before. Please rate the extent to which you felt satiated during lockdown: *Extremely insatiated; Moderately insatiated; Slightly insatiated; Neither satiated nor insatiated; Slightly satiated; Moderately satiated; Extremely satiated*

- Overall, I believe that during lockdown I was eating more than before lockdown. *Strongly disagree; Disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Agree; Strongly agree*

- Nowadays – as compared to before - my number of daily meals (including snacks) is: *Much lower; Moderately lower; Slightly lower; About the same; Slightly higher; Moderately higher; Much higher*

- Estimated number of meals (including snacks) I eat right now: _____

- Nowadays, the portions of food I have, compared to before, are: *Much smaller; Moderately smaller; Slightly smaller; About the same; Slightly larger; Moderately larger; Much larger.*

- Nowadays, the number of snacks I have between meals, as compared to before, is: *Much lower; Moderately lower; Slightly lower; About the same; Slightly higher; Moderately higher; Much higher*

- Estimated number of snacks per day I eat right now: _____

- Nowadays, my levels of hunger changed as compared to before. Please rate the extent to which you felt hungry nowadays: *Much lower; Moderately lower; Slightly lower; About the same; Slightly higher; Moderately higher; Much higher*

- Nowadays, my feeling of satiety when I eat is different from before. Please rate the extent to which you feel satiated nowadays: *Extremely insatiated; Moderately insatiated; Slightly insatiated; Neither satiated nor insatiated; Slightly satiated; Moderately satiated; Extremely satiated*

- Overall, I believe I am eating more nowadays than before lockdown. *Strongly disagree; Disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Agree; Strongly agree*

Fresh Start Effect

- I felt that I lost my sense of time during lockdown.

- During lockdown, weekdays and weekends felt the same

- During lockdown, it was hard to tell what day of the week it was.

- During lockdown I felt motivated to start a new diet or lose weight

- During lockdown I had a very good perception of when a week started and ended.

- Nowadays, I feel that I have lost my sense of time.

- Nowadays, weekdays and weekends feel the same

- Nowadays, it is hard to tell what day of the week it is.

- Nowadays, I feel motivated to start a new diet or lose weight

- Nowadays, I have a very good perception of when a week started and ended.

Clock Time vs. Event Time

- Nowadays, I tend to organize my day/week based on the order of tasks that should be completed in.

- Nowadays, I care more about how well my tasks are done than the time it takes to complete them.

- Nowadays, I only start the next task/activity of the day after I am done with the former one.

- Nowadays, I start the next activity/task of the day based on what time it is, even if I need to interrupt the activity/task I was doing.

- Nowadays, I look at the clock to pace myself when I am doing a task/activity, even if that task/activity has no deadline.

- Nowadays, I prioritize the order of starting a task/activity based on when it is due.

- During lockdown, I tended to organize my day/week based on the order of tasks that should be completed in.

- During lockdown I cared more about how well my tasks are done than the time it takes to complete them.

- During lockdown, I only started the next task/activity of the day after I was done with the former one.

- During lockdown, I started the next activity/task of the day based on what time it was, even if I needed to interrupt the activity/task I was doing.

- During lockdown, I looked at the clock to pace myself when I was doing a task/activity, even if that task/activity had no deadline.

- During lockdown, I prioritized the order of starting a task/activity based on when it was due.

Mindless Eating

All answered with: Strongly disagree; Disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Agree; Strongly agree

- I usually eat meals while working in front of a laptop, scrolling through social media, watching television…

- I usually eat my food quickly and end up being one of the first persons to finish.

- I am not good at assessing the feeling of satiety and physical fullness.

- I eat more than I need because I am not aware that I am already full and end up feeling uncomfortable since I eat too much.

- I am constantly snacking throughout the day

- I use to mindlessly wander around the kitchen during the day, checking what I have in the fridge and in the drawers without any specific thing in mind.

- I feel often difficult to remember the taste, smell, or texture of the meals I ate.

- During lockdown, I used to eat meals while working in front of a laptop, scrolling through social media, watching television…

- During lockdown, I used to eat my food quickly and end up being one of the first persons to finish.

- During lockdown, I was not good at assessing the feeling of satiety and physical fullness.

- During lockdown I ate more than I needed because I was not aware that I was already full and ended up feeling uncomfortable since I ate too much.

- During lockdown I was constantly snacking throughout the day.

- During lockdown I used to mindlessly wander around the kitchen during the day, checking what I have in the fridge and in the drawers without any specific thing in mind.

- During lockdown, I felt often difficult to remember the taste, smell, or texture of the meals I ate.

Emotional State

All answered with: Strongly disagree; Disagree; Somewhat disagree; Neither agree nor disagree; Somewhat agree; Agree; Strongly agree

During lockdown:

1. Attentive

2. Active

3. Excited

4. Enthusiastic

5. Inspired

6. Interested

7. Strong

8. Control

9. Hostile

10. Irritable

11. Distressed

12. Upset

13. Scared

14. Afraid

15. Anxious

16. Bored

Nowadays:

1. Attentive

2. Active

3. Excited

4. Enthusiastic

5. Inspired

6. Interested

7. Strong

8. Control

9. Hostile

10. Irritable

11. Distressed

12. Upset

13. Scared

14. Afraid

15. Anxious

16. Bored

<u>Personal/General data:</u>

- Age _____

- Gender *Male; Female; Other. Please specify: ___; Prefer not to answer*

- For how long you were locked down at home? _____

- Do you still try to be at home whenever you can to avoid contamination? *YES or NO*

- Weight before the pandemic lockdown _____

- Weight after the pandemic lockdown _____

- Height _____

Please rate the extent to which it was difficult for you to understand the English used in this questionnaire: *Extremely easy; Moderately easy; Slightly easy; Neither easy nor difficult; Slightly difficult; Moderately difficult; Extremely difficult*