Erasmus School of Economics

Erasmus University of Rotterdam

Bachelor Thesis Behavioural and Health Economics – FEB 13090

To test how good intentions are affected by time inconsistency during the quarantine of the coronavirus

A longitudinal survey involving 35 participants was conducted in order to receive insight regarding the effect of time inconsistency during the quarantine of the coronavirus. In order to explore the effect that an epidemic would have on time inconsistency, respondents were researched regarding their good intentions and to which extent they followed through on these. Answering the question on what the extent of time inconsistency during an extreme life situation like an epidemic is, and what the relationship between the severity of the effect of the quarantine on time inconsistency is. Time inconsistency in physical activity, study activity, work activity and health behaviour was analysed using surveys and statistical software. Health behaviour was measured by the average amount of sleep, healthy eating habits, the consumption of alcoholic drinks and the amount of cigarettes smoked. This research found time inconsistency during an epidemic for physical activity, amount of hours slept, eating behaviour and amount of alcohol consumed. The time inconsistency for physical activity and eating behaviour showed to be significant. Also, reverse time-inconsistent behaviour was found for study activity and work activity. Furthermore, this research shows interesting positive correlations for being affected by quarantine and the time inconsistency for physical activity and study activity, indicating that being more affected by quarantine is associated with less time inconsistency with regards to physical activity and study activity. Being affected by quarantine and the time inconsistency for eating behaviour and the consumption of alcoholic drinks showed a negative correlation, indicating that being more affected by quarantine is associated with a negative influence on healthy eating and a positive influence on the consumption of alcohol. All correlations were insignificant, except for study activity. Lastly, this research gives possible explanations for these findings, among other things by an increased boredom and a reduced motivation during an epidemic when in quarantine.

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Date final version: 06-07-2020

Word count: 9139

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I Introduction

Good intentions are not always followed up by good behaviour. Often it occurs that somebody has the initiative to do something, but ends up not doing this. There have been several studies related to this phenomenon called time inconsistency. In short, time inconsistency can be understood as, ''the inability to consistently follow a good plan over time'', according to Vermann (2011). In fact, ''an individual's preference for a particular future outcome over another one may change with the passage of time'' (Sayman & Öncüler, 2009). Even though the current outcome is not as preferred as the future outcome in the first instance, there are several explanations that play a role in preferring the 'worse' current outcome over the 'better' future outcome. The most common reasons for time inconsistency, proposed by theoretical literature in economics, are present bias, limited attention and projection bias. Often it occurs that a person with time-inconsistent preferences overvalues the present compared to the future, this is called present bias (Vermann, 2011). Although limited attention and projection bias are also common reasons for time time-inconsistent preferences, here the person does not necessarily value the present over the future. It is unclear how important presents bias, limited attention and projection bias are empirically. Conducting research and experiments tend to give more insight in the practical value of these reasons in the real world.

Take for example Tom having the good intention to spend the next Saturday working six hours on his thesis. This could be seen as a preference of spending six hours working on his thesis over spending six hours relaxing. By the time it is Saturday Tom's preference has switched. Tom wakes up and really does not feel like spending so much time on his thesis, therefore Tom ends up not following through on his good intention. In this case relaxing is the worse current outcome, because it does not take effort to do this and does not come with any productivity gain. Working on the thesis is the better future outcome, because it does take a lot of effort and increases the progression on his thesis. A week earlier Tom preferred working on the thesis on Saturday over relaxing, but because he really does not feel like working on the thesis when the time comes, he ends up switching in his preference. Tom ends up relaxing, hence the phenomenon time inconsistency.

Just like Tom, lots of people show time-inconsistent preferences. According to a survey conducted by Shapiro (2006), only 8% of the people are always successful in achieving their resolutions. Most of the times this has to do with the fact that we set good intentions because these are in our best interest, but we do not feel like taking the effort to realize these intentions. Human beings are not wired to naturally do things that they do not feel like doing (Levinson & Cooper, 2015). Since our rationally

grounded intentions do not drive our actions, a lot of people do not meet their good intentions, leading to people not being able to meet their long-term goals. These goals range from healthcare related goals as losing weight or to quit smoking, to more job related goals as gaining a high status and a lucrative income. In all fields for which people have long-term goals this time-inconsistent behaviour occurs. This shows the importance of studying time inconsistency, because it is a topical subject that affects a large group of people in the world.

In economics there has been a lot of research and papers on time inconsistency shaping the view and knowledge we have about the subject to this day. Hoch & Loewenstein (1991) discussed the relationship between time-inconsistent preferences and consumer self-control. Self-control strategies are described to show ways how to reduce this problem. O'Donoghue & Rabin (1999) examined self-control problems in a theoretical paper using a model where an activity must be done only once. They made use of a time-inconsistent, present-biased preference. This paper is about the quasi-hyperbolic discounting model of present bias, which is the most common model in economics to explain time inconsistency. The model of quasi-hyperbolic discounting can be seen as a simplification of hyperbolic discounting. According to Frederick, Loewenstein, & O'Donoghue (2002), ''hyperbolic discounting refers to the tendency for people to increasingly choose a smaller-sooner reward over a larger-later reward as the delay occurs sooner rather than later in time.'' In O'Donoghue & Rabin's (1999) research the focus lays on two distinctions: whether activities involve immediate costs or immediate rewards, and whether people are sophisticated or naive about future self-control problems. In short, incorporating sophistication and naivety into the model of quasi-hyperbolic discounting. In addition, Laibson (1997) also discussed hyperbolic discounting within this model, which is important in explaining the present bias to time inconsistency. Within this model he used hyperbolic discounting to analyse the decision of a hyperbolic consumer. Besides present bias, other reasons for time inconsistency were discussed in further literature. Taubinsky (2014) proposing limited attention in a model as reason for time inconsistency, showing that when applied to tasks, longer deadlines make people less likely to finish these task. Furthermore, this model shows how reminders can eliminate the potentially perverse effect caused by the longer deadlines of not finishing the tasks. Ericson (2017) also explains why reminders can have a large effect with regards to individuals not acting on deadlines. He does this by showing the interaction between present bias and limited memory, explaining that individuals in reality do not have perfect memory and may forget or procrastinate a task. Making use of a theoretical model, Loewenstein, O'Donoghue, & Rabin (2003) showed a third reason for time inconsistency, called the projection bias. Explained as, ''people exaggerating the degree to which their future taste will resemble their current taste'' (Loewenstein, O'Donoghue, & Rabin, 2003). This paper

discusses applications and implications of the projection bias, in which people consume too much early on in life, later on they tend to consume more and save less, as opposed to what they had planned.

Moving to empirical studies, in further research Wong (2008) investigated the self-awareness, size and effects of time inconsistency. This is done in an empirical paper ''using students' predicted and unpredicted delays in midterm preparation as a measure for time inconsistency and self-awareness'' (Wong, 2008). In this paper he answered the question about how much time inconsistency there is and to which extent it matters. Showing that the students fully aware of their time-inconsistent behaviour still underperformed to the time-consistent students, even after controlling for the actual time spent on preparation. Moreover, there has been a lot of research and experiments to investigate time inconsistency in specific situations and various settings. A few interesting papers of more applied research of time inconsistency are from Acland & Levy (2015), Kaur, Kremer, & Mullainathan (2015), Augenblick, Niederle, & Sprenger (2015), Muller & Habla (2018), Augenblick & Rabin (2019) and Sadoff, Samek, & Sprenger (2019).

There has hardly been any research to testing time inconsistency in extreme life situations like an epidemic. This research shines light on how good intentions are affected by time inconsistency during the quarantine of the coronavirus. Time inconsistency in physical activity, study activity, work activity and health behaviour was analysed using surveys and statistical software. Health behaviour was measured by the average amount of sleep, healthy eating habits, the consumption of alcoholic drinks and the amount of cigarettes smoked. The following research question which will be answered during this paper is:

What is the extent of time inconsistency during an extreme life situation like an epidemic, and what is the relationship between the severity of the effect of the quarantine on time inconsistency?

It is interesting to see the effect of time inconsistency during an epidemic, since the setting is extremely different than from a regular life situation. The hypothesis for this research is that time inconsistency occurs less often and in a more moderate manner during an extreme life situation compared to a regular life situation. This is due to that there are way less distractions to accomplish the good intentions set and therefore time inconsistency should occur way less.

Besides that this is an interesting aspect of time inconsistency to investigate regarding the literature, this research is socially important. This research could help people follow up on their good intentions, which as discussed earlier many people do not do yet. As stated, this could also help people achieve

their long-term goals. Policymakers could help with this by making people more realistic with regards to their plans and good intentions, especially, when they are in quarantine. For example by creating awareness for how lack of social activities and happenings could make it more difficult to follow through on certain good intentions. If the hypothesis of this research holds, this would indicate that when put in a situation with less distraction people are more likely to follow through on their good intentions. Ideally this could help people to be more productive and achieve their goals in both the short and the long run.

This research found people being time inconsistent during an extreme life situation like an epidemic with regards to physical activity, amount of hours slept, eating behaviour and amount of alcohol consumed. Indicating people spending less time than expected on physical exercise, sleeping less hours than expected, eating less healthy than expected and drinking more alcoholic drinks than expected for the given week. In addition, the time inconsistency for physical exercise and eating behaviour have shown to be significant. The activities in which people behaved 'better' than they intended are study activity and work activity, indicating people being reverse time inconsistent with regards to these two productivity measures. None of the results from this point onwards, except for study activity, are significant, possibly due to the small sample size. Moreover, this research shows a positive correlation between being affected by quarantine and physical activity time inconsistency. Because time inconsistency is a negative value, this indicates that being more affected by quarantine is associated with less time inconsistency with regards to physical activity. In addition, this research shows the time inconsistency for study activity to be significantly positively correlated with being affected by quarantine. Indicating that being more affected by quarantine is associated with less time inconsistency with regards to study activity. The correlation between eating behaviour time inconsistency and being affected by quarantine showed to be negative, indicating being more affected by quarantine having a negative influence on healthy eating. Lastly, there was a negative correlation between drinking behaviour time inconsistency and being affected by quarantine, indicating being more affected by quarantine having a positive influence on alcohol consumption. It is hard to say whether the hypothesis holds, due to no reliable data about the situation before the epidemic. Nonetheless, there is still time inconsistency found for multiple productivity measures and being more affected by quarantine shows to be play a noticeable role in some of these as well, due to the correlation.

This research contributes to the existing literature on time inconsistency by adding to the current knowledge about time inconsistency. In particular it will discuss a new context to which time inconsistency is applied. This being the effect of time inconsistency during an extreme life situation like

an epidemic and the severity of this effect due to being affected by quarantine. Moreover, this research suggests the occurrence of time inconsistency during an epidemic within multiple productivity measures. Future researchers could use this knowledge to test whether this time inconsistency also occurs with bigger samples and in different demographics. In addition, future research could investigate how and to which extent time inconsistency can be reduced in more severe life situations. This research can inspire and provide knowledge for researchers to further investigate this context.

II Data & Methodology

A longitudinal survey involving 35 participants was conducted in May 2020 in order to receive insight regarding the effect of time inconsistency during the quarantine of the coronavirus. In order to explore the effect that an epidemic would have on time inconsistency, a quantitative method with 35 participants was carried out in order to gather new data on their good intentions and to which extent they followed through on these. Both female and male participants with an age ranging from 18 to 59 years old and an education level ranging from HAVO to WO partook in this survey to gather an interesting dataset for this research. For comparison of these education levels for non-Dutch readers, please refer to table 1 below. For this research there was not a specific target group, but the dataset mainly consists of participants between the age of 16-25 with an education level of WO.

Table 1. Education Levels for Non-Dutch Readers

Education Level (Dutch)	Education Level (English)	Type of School
HAVO	Senior General Secondary Education	Highschool
VWO	Pre-University Education	Highschool
MBO	Secondary Vocational Education	Combination of Highschool and College
HBO	Higher Professional Education	College
WO	University Education	College

Note that MBO is considered a higher level of education than VWO for this research. In the Netherlands MBO is attended after Highschool and VWO is attended during Highschool. Furthermore, people attending MBO are on average older than people attending VWO, meaning they on average have had more education.

The mean age was 25.8, the sample was 71% male, the average education level of the sample was just above HBO and the average respondent scored 5.8 on affected by quarantine (scored on a scale of 1-10). Furthermore, the average physical activity intentions were to do 4.9 hours in the given week and the average actual physical activity was 4.1 hours. The average study activity intentions were to spent 10.3 hours studying in the given week and the average actual study activity was 11.1 hours. The average work activity intentions were to spent 12.6 hours working in the given week and the average actual work activity was 14.3 hours. Besides these, we use productivity measures for health behaviour. The average hours slept intentions were to sleep 7.8 hours per night in the given week and the average actual hours slept was 7.6 hours per night. The average eating behaviour intentions scored 6.8 (on a scale of 1-10) in the given week and the actual eating behaviour scored 6.4. In addition, the average drinking behaviour intentions were to drink 1.1 litres of alcoholic drinks in the given week and the average actual drinking behaviour was 1.3 litres. Lastly, the average smoking behaviour intentions

were to smoke 1.97 cigarettes in the given week and the average actual smoking behaviour was 2.03 cigarettes. Below the descriptive statistics of this dataset can be found for further insight into the data.

Table 2. Descriptive Statistics Interesting Variables

Variable	Observations	Mean	Standard.Deviation	Median	Minimum	Maximum
Age	35	25.829	11.418	21	18	59
Gender	35	.714	.458	1	0	1
Education	35	4.257	1.146	5	1	5
Affected By Quarantine	35	5.771	1.864	6	3	9
Physical Activity Intentions	35	4.857	3.725	3.5	.5	13.5
Actual Physical Activity	35	4.071	2.859	3.5	.75	13.5
Study Activity Intentions	35	10.314	9.058	8	0	30
Actual Study Activity	35	11.129	9.803	7.5	0	30
Work Activity Intentions	35	12.586	11.973	7.5	0	35.5
Actual Work Activity	35	14.314	13.799	7.5	0	45.5
Hours Slept Intentions	35	7.829	1.043	8	5	10
Actual Hours Slept	35	7.6	.881	8	6	10
Eating Behaviour Intentions	35	6.8	1.302	7	3	10
Actual Eating Behaviour	35	6.4	1.418	6	3	10
Drinking Behaviour Intentions	35	1.136	1.367	0.75	0	5
Actual Drinking Behaviour	35	1.343	1.592	0.75	0	5
Smoking Behaviour Intentions	35	1.971	8.662	0	0	50
Actual Smoking Behaviour	35	2.029	8.893	0	0	50

Gender is 1 if the respondent is male and 0 if the respondent is female. Education is divided into 5 groups: Education is 1 if the highest level of education is HAVO, 2 if it is VWO, 3 if it is MBO, 4 if it is HBO, and 5 if it is WO. Affected By Quarantine is measured on a scale of 1-10 with 1 being 'I am not at all affected by the quarantine' and 10 being 'I am unable to do anything I used to do before quarantine' (see Appendix A for the surveys and more detailed information about the questions asked). Physical Activity, Study Activity and Work Activity are measured in hours in the given week. Hours Slept is measured as average hours slept per night in the given week. Besides that, Eating Behaviour is measured on a scale of 1-10 with 1 being 'extremely unhealthy' and 10 being 'extremely healthy' in the given week. Furthermore, Drinking Behaviour is measured in litres of alcoholic drinks in the given week. In addition, Smoking is measured in the amount of cigarettes smoked in the given week.

The respondents were all experiencing an epidemic and in an intelligent lockdown during the process of this research. An 'intelligent lockdown' is defined as a quarantine where you can still go outside, but are restricted to a lot of regular things and activities. Work that can be done from home, must be done from home. Also, all restaurants, theatres and amusement parks are closed. Furthermore, almost all shops are closed or have limited access. Surveys were spread to the respondents where every respondent received two surveys at different moments. With regards to the surveys a similar method as Wong (2008) was used where the first survey was regarding the good intentions and the second

survey about whether the respondents followed through on the good intentions set. A period of one week was taken between both surveys in order to reflect on the good intentions set. The good intentions were measured by questioning the respondents about their expectations of the following week after filling out the first survey, for all discussed productivity measures. A week later the respondents were asked about their actual behaviour for this given week. For more detailed information about the questions asked in the surveys, please refer to Appendix A.

Using the surveys, the respondents were investigated regarding their good intentions. This was measured by basic productivity and health behaviour measures (e.g. time spent on exercise, study, work and sleep). Therefore this research gives insight in the effect of time inconsistency during an epidemic on physical activity, study activity, work activity and health behaviour. In the survey control questions were asked as well to give more insight in the respondents' behaviour. With affected by quarantine as an explanatory variable for the time inconsistency, the question to the severity of the effect of the quarantine on time inconsistency will be answered. The affected by quarantine variable measures how much a person is limited in their usual activities from a regular week before the quarantine. Here the focus lays on what a person can and cannot do during the quarantine (e.g. working and studying from home, the gym being closed, parties and festivals cancelled, etc.). When measuring the effect of the quarantine on time inconsistency, there is controlled for age, gender and level of education to give more detailed insights in the results. In addition, qualitative questions were added to properly make a comparison between time inconsistency before and after the outbreak of the coronavirus. Here respondents were asked whether they think they are more likely to follow through on their good intentions before the outbreak of the coronavirus than after the outbreak of the coronavirus. The respondents also got space to share their thoughts about this and give arguments for a certain difference in following up on their good intentions before and after the outbreak.

After having matched the data from the surveys in Excel and adjusting the dataset in Stata, statistical analyses was conducted. Stata was used to run statistical tests and Multiple Linear Regressions (MLR). First of all, time inconsistency was measured by subtracting the intentions from the actual behaviour, for all the different productivity measures. This was very interesting on itself, because it showed the extent of time inconsistency in an extreme life situation like an epidemic. The mean of the variable difference between intentions and actual behaviour indicates whether there is time inconsistency, a negative mean in general indicating respondents are time inconsistent for the analysed productivity measure. For drinking and smoking behaviour a positive mean indicates time inconsistent behaviour, because drinking more alcohol and smoking more cigarettes than expected is considered 'bad behaviour'. To check for the significance of the time inconsistency found, t-tests were conducted. This

was done for all productivity measures individually, by running a paired t-test on the intentions and actual behaviour. This showed whether the intentions significantly differed from the actual behaviour. The productivity measures for which this is the case, show to have a significant time inconsistency.

After that, MLR was ran to regress affected by quarantine on time inconsistency, to see if there is association between these variables. For each productivity measure a regression was done, the control variables age, education and gender were included into these regressions. These regressions show to which extent the time inconsistency of people for the productivity measures was affected by the quarantine. This showed whether there was a correlation between the time inconsistency, occurred through the difference of before and during quarantine, and being affected by quarantine. Below the functions formulas of the regressions for all productivity measures are specified.

$$Y_{Physical\ Activity\ Time\ Inconsistency} = \beta_{Constant} + \beta_{Affected\ By\ Quarantine} * X_{Affected\ By\ Quarantine} + \beta_{Age} * X_{Age} + \beta_{Gender} * X_{Gender} + \beta_{Education} * X_{Education} + \epsilon$$

$$Y_{Study\ Activity\ Time\ Inconsistency} = \beta_{Constant} + \beta_{Affected\ By\ Quarantine} * X_{Affected\ By\ Quarantine} + \beta_{Age} * X_{Age} + \beta_{Gender} * X_{Gender} + \beta_{Education} * X_{Education} + \epsilon$$

$$Y_{Work\ Activity\ Time\ Inconsistency} = \beta_{Constant} + \beta_{Affected\ By\ Quarantine} * X_{Affected\ By\ Quarantine} + \beta_{Age} * X_{Age} + \beta_{Gender} * X_{Gender} + \beta_{Education} * X_{Education} + \epsilon$$

$$Y_{Hours\ Slept\ Time\ Inconsistency} = \beta_{Constant} + \beta_{Affected\ By\ Quarantine} * X_{Affected\ By\ Quarantine} + \beta_{Age} * X_{Age} + \beta_{Gender} * X_{Gender} + \beta_{Education} * X_{Education} + \epsilon$$

$$Y_{Eating\ Behaviour\ Time\ Inconsistency} = \beta_{Constant} + \beta_{Affected\ By\ Quarantine} * X_{Affected\ By\ Quarantine} + \beta_{Age} * X_{Age} + \beta_{Gender} * X_{Gender} + \beta_{Education} * X_{Education} + \epsilon$$

$$Y_{Drinking\ Behaviour\ Time\ Inconsistency} = \beta_{Constant} + \beta_{Affected\ By\ Quarantine} * X_{Affected\ By\ Quarantine} + \beta_{Age} * X_{Age} + \beta_{Gender} * X_{Gender} + \beta_{Education} * X_{Education} + \epsilon$$

$$Y_{Smoking\ Behaviour\ Time\ Inconsistency} = \beta_{Constant} + \beta_{Affected\ By\ Quarantine} * X_{Affected\ By\ Quarantine} + \beta_{Age} * X_{Age} + \beta_{Gender} * X_{Gender} + \beta_{Education} * X_{Education} + \epsilon$$

In the formulas stated above, *Y* represents the dependent variable showing the time inconsistency for the different productivity measures. $\beta_{Constant}$ gives the constant coefficient. $\beta_{Affected\ By\ Quarantine}$ gives the coefficient for affected by quarantine, and $X_{Affected\ By\ Quarantine}$ is the explanatory variable for affected by quarantine. Furthermore, β_{Age}, β_{Gender} and $\beta_{Education}$ give the coefficients for age, gender and education, and X_{Age}, X_{Gender} and $X_{Education}$ are the control variables for those stated. In addition, an error term ϵ is included in the formulas to account for a random error term of potential important effects not included in the model.

Lastly, a comparison of the time inconsistency with and without quarantine was analysed. This was done by analysing the answers the respondents gave about their perception if it would be easier or more difficult to follow through on their good intentions set, asked in the first survey. Also asking them if time inconsistent behaviour occurred, whether they knew what caused this behaviour. From these analyses interesting conclusions were derived regarding the role that time inconsistency plays during extreme life situations like an epidemic. This helped answering the research question and to check whether the hypothesis holds.

III Results

First of all, the time inconsistency for each productivity measure was analysed. This was done by subtracting the expectations from the actual behaviour for each observation. Below the descriptive statistics of these time inconsistency variables can be found, showing the differences between expectations and actual behaviour.

Table 3. Descriptive Statistics Time Inconsistency Productivity Measures

Variable	Observations	Mean	Standard Deviation	Minimum	Maximum
Physical Activity Time Inconsistency	35	-.786	2.253	-7	3
Study Activity Time Inconsistency	35	.529	3.336	-8	12
Work Activity Time Inconsistency	35	1.729	7.11	-10	30
Hours Slept Time Inconsistency	35	-.286	.957	-2	1
Eating Behaviour Time Inconsistency	35	-.4	1.117	-2	3
Drinking Behaviour Time Inconsistency	35	.207	1.062	-1.5	4.25
Smoking Behaviour Time Inconsistency	35	.057	.998	-3	5

Note that for Drinking Behaviour Time Inconsistency and Smoking Behaviour Time Inconsistency a positive mean is considered 'bad', because it indicates a higher consumption of alcohol and more cigarettes smoked. In this table only Study Activity and Work Activity show a reverse time inconsistency.

Table 3 shows the time inconsistency for all productivity measures on average for the given week. Physical activity time inconsistency was 0.8 hours, indicating the average respondent spending 0.8 hours less doing physical exercises than expected for the given week. Study activity shows respondents on average spending 0.5 hours more studying than expected for the given week. Work activity shows respondents on average spending 1.7 hours more working than expected for the given week. With regards to health behaviour productivity measures, hours slept time inconsistency was 0.3 hours. Indicating that the respondents slept on average 0.3 hours per night less than expected for the given week. Eating behaviour time inconsistency was 0.4 (on a scale of 1-10), indicating respondents on average ate 0.4 points less healthy than expected for the given week. Drinking behaviour time inconsistency shows us respondents on average drinking 0.2 litres of alcoholic drinks more than expected for the given week. Lastly smoking behaviour time inconsistency shows the respondents on average smoking 0.06 cigarettes more than expected for the given week.

To check for significant effects with regards to the time inconsistency in these productivity measures, t-tests were conducted. This is done by running a paired t-test on the intentions and actual behaviour, for each productivity measure individually. The outcome of these t-tests show whether the intentions

are significantly different from the actual behaviour (e.g. whether the physical activity intentions significantly differs from actual physical activity behaviour). In table 4 below the results for these t-tests can be found with the t-value, p-value and whether the time inconsistency is significant.

Table 4. T-Tests Time Inconsistency

Variables	T-Value	P-Value	Significant
Physical Activity Intentions & Actual Physical Activity	2.0636	0.0468	On a 5%-Significance Level
Study Activity Intentions & Actual Study Activity	-1.3788	0.1770	Not
Work Activity Intentions & Actual Work Activity	-1.4383	0.1595	Not
Hours Slept Intentions & Actual Hours Slept	1.4856	0.1466	Not
Eating Behaviour Intentions & Actual Eating Behaviour	2.1191	0.0415	On a 5%-Significance Level
Drinking Behaviour Intentions & Actual Drinking Behaviour	-1.1545	0.2564	Not
Smoking Behaviour Intentions & Actual Smoking Behaviour	-0.3386	0.7370	Not

When the t-value is $|t|>1.96$, it is significant on a 5%-significance level. This indicates that the time inconsistency for physical activity and eating behaviour are found significant on a 5%-significance level.

Derived from table 4, physical activity time inconsistency and eating behaviour time inconsistency showed to be significant on a 5%-significance level. The other variables do not show significant differences between the intentions and actual behaviour. This does not necessarily mean there is not time inconsistency for these productivity measures, it only indicates there is no significant difference.

For the next part of the results, the MLRs were conducted to gather insight to the correlation between affected by quarantine and the different productivity measures. In addition, control variables age, gender and education were added for more meaningful results. Please note that almost all regressions show insignificant results. This is either caused due to a small dataset or there not being a relationship. These regressions only show a correlation between time inconsistency and affected by quarantine for the productivity measures. Nonetheless, interesting observations can be derived from these results.

First of all, a regression is ran measuring the correlation of physical activity time inconsistency during an epidemic and to which extent people are affected by quarantine. No significant results were found, this may be either due to there being no relationship or due to the small dataset and therefore lack of statistical power. The coefficient estimates are interpreted anyway, in case the lack of significance is due to the lack of statistical power. The results from this regression are shown in table 5 below.

Table 5. Multiple Linear Regression on Physical Activity Time Inconsistency

Physical Activity Time Inconsistency	Coeffi cient	Standard Error	t-value	p-value	[95% Conf	Interval]	Sig
Affected By Quarantine	0.241	0.220	1.10	0.281	-0.208	0.690	
Age	-0.035	0.038	-0.93	0.359	-0.112	0.042	
Gender	0.792	0.963	0.82	0.417	-1.175	2.758	
Education	-0.117	0.367	-0.32	0.752	-0.867	0.633	
Constant	-1.336	2.292	-0.58	0.564	-6.016	3.345	
Mean dependent var		-0.786	SD dependent var			2.253	
R-squared		0.116	Number of observations			35.000	
F-test		0.982	Prob > F			0.432	
Akaike crit. (AIC)		160.850	Bayesian crit. (BIC)			168.626	

**** p<0.01, ** p<0.05, * p<0.1*

In this table it can be seen that affected by quarantine has a positive correlation of 0.241 on the change in hours spent on physical exercise. Indicating that for every point (on a scale of 1-10) that an individual is more affected by the quarantine of the coronavirus reduces the time inconsistency by 0.241 hours. This results into the quarantine having a positive influence on people's physical activity. This could be explained by that people have more time and less distractions to play sports and workout than without quarantine. Due to less obligations and social activities during the day, people have more energy left to do workouts or attend in a physical activity. Furthermore, an interesting coefficient in this table, is gender giving a positive correlation of 0.792, indicating that being a men on average reduces the time inconsistency by 0.792 hours. This seems like a surprisingly high coefficient, but keep in mind that this is derived from a relatively small dataset. In this dataset the women on average overvalued their expectation regarding physical exercise more than men did. Showing an intention of women to spend on average 5.6 hours on physical activity for the given week, but their actual behaviour shows an average of 3.9 hours spent doing physical exercise. Men showed an intention to spend on average 4.6 hours on physical activity for the given week, but their actual behaviour shows an average of 4.1 hours spent doing physical exercise. This is a smaller difference than shown for women.

Next up, a regression is ran measuring the correlation of study activity time inconsistency during an epidemic and to which extent people are affected by quarantine. Not many significant results were found, this may be either due to there being no relationship or due to the small dataset and therefore lack of statistical power. The coefficient estimates are interpreted anyway, in case the lack of significance is due to the lack of statistical power. Below the results of this regression can be found in table 6.

Table 6. Multiple Linear Regression on Study Activity Time Inconsistency

Study Activity Time Inconsistency	Coeffi cient	Standard Error	t-value	p-value	[95% Conf	Interval]	Sig
Affected By Quarantine	0.712	0.312	2.28	0.030	0.074	1.350	**
Age	-0.028	0.054	-0.53	0.602	-0.138	0.081	
Gender	0.424	1.368	0.31	0.759	-2.370	3.219	
Education	0.113	0.522	0.22	0.829	-0.952	1.179	
Constant	-3.636	3.257	-1.12	0.273	-10.287	3.015	
Mean dependent var		0.529	SD dependent var			3.336	
R-squared		0.186	Number of observations			35.000	
F-test		1.715	Prob > F			0.173	
Akaike crit. (AIC)		185.447	Bayesian crit. (BIC)			193.224	

**** p<0.01, ** p<0.05, * p<0.1*

This table shows a positive correlation of 0.712 for affected by quarantine on the change in hours spent on study activity. Indicating that for every point (on a scale of 1-10) that an individual is more affected by the quarantine of the coronavirus would reduce their time inconsistency by 0.712 hours. This coefficient has a p-value of 0.030 meaning that it is significant on a 5% significance level. This indicates being affected by quarantine is significantly associated with less time inconsistency with regards to people's study activity. That this coefficient is significant even though the dataset is relatively small, is quite interesting. A possible explanation for this is that people do not have to travel to school, meaning they have more time to spend on their study. Also, a lot of people find it easier to study from home, especially when there are less distractions and social activities. Furthermore, the education variable shows a positive coefficient of 0.113, indicating that for every level of education higher, the time inconsistency with regards to people's study activity is reduced by 0.113 hours on average. A possible explanation for this can be that people with a higher level of education on average are more motivated to study.

The third regression which is analysed measures the correlation of work activity time inconsistency during an epidemic and to which extent people are affected by quarantine. No significant results were found, this may be either due to there being no relationship or due to the small dataset and therefore lack of statistical power. The coefficient estimates are interpreted anyway, in case the lack of significance is due to the lack of statistical power. In table 7 below the results of this regression are shown.

Table 7. Multiple Linear Regression on Work Activity Time Inconsistency

Work Activity Time Inconsistency	Coefficient	Standard Error	t-value	p-value	[95% Conf	Interval]	Sig
Affected By Quarantine	-0.004	0.686	-0.01	0.996	-1.405	1.398	
Age	0.181	0.118	1.53	0.135	-0.060	0.422	
Gender	-2.602	3.008	-0.86	0.394	-8.745	3.541	
Education	1.588	1.146	1.39	0.176	-0.753	3.929	
Constant	-7.829	7.158	-1.09	0.283	-22.448	6.790	
Mean dependent var		1.729	SD dependent var			7.110	
R-squared		0.134	Number of observations			35.000	
F-test		1.162	Prob > F			0.347	
Akaike crit. (AIC)		240.574	Bayesian crit. (BIC)			248.351	

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

As seen in the table above affected by quarantine shows a negative correlation of -0.004 on the change in hours spent on working a paid job. The coefficient is very close to 0 indicating quarantine having hardly any effect on how time inconsistent people are regarding their hours spent working. This can be explained by that almost every job continues during quarantine, even though a lot of them in a different manner. Working from home for example does not influence the amount of hours worked if only the location differs from before. Furthermore, in some instances working in a paid job means that people have to work a set number of hours. This makes it much easier to be time consistent with regards to working activity, since there is little opportunity to differ from these set number of hours. Besides this, gender shows an interesting coefficient of -2.602, indicating that the men in this research were 2.602 hours more time inconsistent on average with regards to working activity.

For the next regressions the correlation of time inconsistency during an epidemic and to which extent people are affected by quarantine on health behaviour are measured. No significant results were found, this may be either due to there being no relationship or due to the small dataset and therefore lack of statistical power. The coefficient estimates are interpreted anyway, in case the lack of significance is due to the lack of statistical power. Starting with the correlation on sleeping, corresponding with table 8 found below.

Table 8. Multiple Linear Regression on Hours Slept Time Inconsistency

Hours Slept Time Inconsistency	Coeffi cient	Standard Error	t-value	p-value	[95% Conf	Interval]	Sig
Affected By Quarantine	0.021	0.096	0.22	0.830	-0.175	0.216	
Age	-0.017	0.016	-1.02	0.316	-0.050	0.017	
Gender	-0.115	0.419	-0.28	0.785	-0.971	0.741	
Education	-0.208	0.160	-1.30	0.202	-0.535	0.118	
Constant	0.997	0.998	1.00	0.326	-1.040	3.034	
Mean dependent var		-0.286	SD dependent var			0.957	
R-squared		0.072	Number of observations			35.000	
F-test		0.581	Prob > F			0.679	
Akaike crit. (AIC)		102.628	Bayesian crit. (BIC)			110.404	

**** p<0.01, ** p<0.05, * p<0.1*

From this table a positive correlation of 0.021 from affected by quarantine on the change in average amount of hours spent sleeping per night can be derived. Again, this is a coefficient being close to 0, indicating that being in quarantine does hardly affect the time inconsistency with regards to hours spent sleeping. Due to a lot of people having a regular sleeping schedule, how much they are affected by quarantine does not change or influence their sleeping habits. Moreover, education shows an interesting negative coefficient of -0.208, indicating for every level of education higher people tend to be 0.208 more time inconsistent with regards to hours spent sleeping. This corresponds with higher educated people spending more hours studying than expected, possibly at the expense of their sleeping time. People studying WO (the highest level of education in this model) show an average of 0.88 hours spent more on studying than expected, while the average of the whole the sample is 0.53 hours.

Next up, the correlation of eating behaviour time inconsistency during an epidemic and to which extent people are affected by quarantine is measured. No significant results were found, this may be either due to there being no relationship or due to the small dataset and therefore lack of statistical power. The coefficient estimates are interpreted anyway, in case the lack of significance is due to the lack of statistical power. The results from this regression are found in table 9 below.

Table 9. Multiple Linear Regression on Eating Behaviour Time Inconsistency

Eating Behaviour Time Inconsistency	Coeffi cient	Standard Error	t-value	p-value	[95% Conf	Interval]	Sig
Affected By Quarantine	-0.135	0.109	-1.24	0.225	-0.358	0.087	
Age	0.013	0.019	0.68	0.502	-0.026	0.051	
Gender	0.705	0.477	1.48	0.150	-0.270	1.680	
Education	0.133	0.182	0.73	0.470	-0.238	0.505	
Constant	-1.020	1.136	-0.90	0.376	-3.341	1.300	
Mean dependent var		-0.400	SD dependent var			1.117	
R-squared		0.116	Number of observations			35.000	
F-test		0.981	Prob > F			0.433	
Akaike crit. (AIC)		111.737	Bayesian crit. (BIC)			119.514	

**** p<0.01, ** p<0.05, * p<0.1*

This table shows a small negative coefficient of -0.135 for affected by quarantine on the change in eating habits (on a scale of 1-10 with 1 being 'extremely unhealthy' and 10 being 'extremely healthy'). This indicates that the more people are affected by quarantine, the more they tend to be time inconsistent in their eating habits. People have less distractions and social activities and therefore are more likely to snack or eat fast food at home. This brings pleasure and happiness as a fill up for the lack of fun activities during quarantine, and can easily be done from home. Moynihan, Van Tilburg, Igou, Wisman, Donnelly, & Mulcaire (2015) proved in a study how boredom leads to more and unhealthy eating. Conducting three studies they showed how people consume food to escape awareness of their boredom. An epidemic is therefore not benefiting for eating healthy, because during an epidemic there is a larger extent of boredom among people. On the contrary, being a male does show a positive correlation with gender having a coefficient of 0.705. Indicating males on average being 0.705 points less time inconsistent with regards to their unhealthy eating habits than women.

The sixth regression measures the correlation of drinking behaviour time inconsistency during an epidemic and to which extent people are affected by quarantine. No significant results were found, this may be either due to there being no relationship or due to the small dataset and therefore lack of statistical power. The coefficient estimates are interpreted anyway, in case the lack of significance is due to the lack of statistical power. In table 10 below, the results for this regression can be found.

Table 10. Multiple Linear Regression on Drinking Behaviour Time Inconsistency

Drinking Behaviour Time Inconsistency	Coeffi cient	Standard Error	t-value	p-value	[95% Conf	Interval]	Sig
Affected By Quarantine	-0.145	0.106	-1.37	0.181	-0.361	0.071	
Age	0.002	0.018	0.09	0.926	-0.035	0.039	
Gender	0.242	0.464	0.52	0.606	-0.706	1.190	
Education	0.100	0.177	0.57	0.575	-0.261	0.462	
Constant	0.401	1.105	0.36	0.719	-1.855	2.656	
Mean dependent var		0.207	SD dependent var			1.062	
R-squared		0.075	Number of observations			35.000	
F-test		0.608	Prob > F			0.660	
Akaike crit. (AIC)		109.760	Bayesian crit. (BIC)			117.537	

**** p<0.01, ** p<0.05, * p<0.1*

In this table we see a negative correlation of -0.145 from affected by quarantine on the amount of litres of alcoholic drinks consumed. This indicates that people that are more affected by the quarantine, tend to be less time inconsistent in their drinking behaviour. This can be explained by the fact that a lot of alcohol is consumed with parties, in clubs and bars, and with other special occasions. During quarantine happenings like this occur way less, so people on average have way less reasons to drink alcoholic drinks. Furthermore, the other control variables do not show any remarkable results.

The last regression of this research measures the correlation of smoking behaviour time inconsistency during an epidemic and to which extent people are affected by quarantine. No significant results were found, this may be either due to there being no relationship or due to the small dataset and therefore lack of statistical power. The coefficient estimates are interpreted anyway, in case the lack of significance is due to the lack of statistical power. Below the results of this regression can be found in table 11.

Table 11. Multiple Linear Regression on Smoking Behaviour Time Inconsistency

Smoking Behaviour Time Inconsistency	Coeffi cient	Standard Error	t-value	p-value	[95% Conf	Interval]	Sig
Affected By Quarantine	-0.054	0.097	-0.56	0.579	-0.253	0.144	
Age	-0.012	0.017	-0.74	0.462	-0.047	0.022	
Gender	-0.691	0.426	-1.62	0.115	-1.561	0.179	
Education	0.038	0.162	0.23	0.818	-0.294	0.369	
Constant	1.026	1.014	1.01	0.320	-1.044	3.097	
Mean dependent var		0.057	SD dependent var			0.998	
R-squared		0.119	Number of observations			35.000	
F-test		1.013	Prob > F			0.417	
Akaike crit. (AIC)		103.761	Bayesian crit. (BIC)			111.538	

**** p<0.01, ** p<0.05, * p<0.1*

From this table a very small correlation of -0.054 from affected by quarantine on the change in amount of cigarettes smoked can be derived. A lot of people in this dataset did not smoke in the first place, therefore any information from this regression is not valuable for meaningful analyses. In addition, the coefficient is close to 0 which would indicate being in quarantine does not influence time inconsistency regarding the average amount of cigarettes smoked a week. This seems logical, because most of the time people have an addiction or strong habit to smoking a certain amount of cigarettes a week and this is assumingly not influenced by the kind of setting people live in, but no accurate conclusions can be derived from this regression.

At the end of the second survey, the respondents were asked why they think they did or did not do as much of the activities as predicted a week earlier. Basically giving insight in people's understanding of their time inconsistent behaviour. The answers were very diverse, showing both people finding it easier to follow up on their good intentions during a quarantine and people who find it more difficult to follow through on them. On the one hand, people experienced less distractions and had more time to come through on their good intentions set. On the other hand, a lot of respondents found out that being in quarantine made them more lazy due to missing a lot of routine and lacking motivation to do certain activities. Furthermore, some respondents stated that they find it difficult to tell where their time inconsistent behaviour is coming from, due to every week being different and having a diverse schedule. At the end of the first survey the respondents were also asked whether they thought it would be easier or more difficult to follow through on their good intentions set, during a quarantine compared to no quarantine. The behaviour from the respondents expressed in the second survey mostly corresponds with their view of whether it is easier to follow through on your good intentions during a quarantine than without a quarantine from the first survey. The answers to whether it is easier or more difficult to follow up on their good intentions during a quarantine were very diverse, ranging from much easier to much more difficult. The question was given on a scale of 1-7, with 1 being 'more difficult', 7 being 'easier' and 4 being 'nor easier or more difficult'. The average answer gave a score of 3.9, being close to 4 (nor easier or more difficult) which shows there was no clear opinion for the whole sample. Therefore this shows us that it is hard to draw general conclusions regarding this subject about a large group of people.

IV Conclusions

After having conducted this research and presented the results, it is interesting to establish what kind of conclusions can be derived from this paper. Let us take a look again at the research question asked at the beginning of this paper:

What is the extent of time inconsistency during an extreme life situation like an epidemic, and what is the relationship between the severity of the effect of the quarantine on time inconsistency?

First of all, physical activity showed a noticeable significant time inconsistency of 0.8 hours for the given week. Besides this, study and work activity showed a reverse time inconsistency, the respondents spent more time than they expected for these activities in the given week. Furthermore, the respondents were time inconsistent with regards to their sleeping, spending on average 0.3 hours per night less sleeping than expected for the given week. Eating behaviour showed a significant time inconsistency of 0.4 points (on a scale of 1-10), indicating respondents eating less healthy than expected for the given week. Drinking behaviour (respondents drinking on average 0.2 litres of alcoholic drinks more than expected) and smoking behaviour (respondents smoking on average 0.06 cigarettes more than expected) also showed time inconsistency for the given week. The result of smoking behaviour is close to 0, indicating no time inconsistency. For the other productivity measures which did show time inconsistency, below an explanation can be found, after that the answer to the first part of the research question is given.

Physical activity showed time inconsistency during an extreme life situation like an epidemic. This means that the respondents overestimated how much time they would spend doing physical exercise. Some respondents stated that they find it more difficult to follow through on this expectation due to lack of motivation and experienced being more lazy when found sitting at home a lot more often due to the epidemic. Furthermore, the respondents spent less hours sleeping than they expected, eating less healthy than they expected, and drinking more alcoholic drinks than they expected during this epidemic for the given week. Some respondents explained they were less tired since there were way less social and physical activities during an epidemic, and therefore less sleepy. Also being bored at home increased the unhealthy eating in general. Furthermore, the respondents underestimated how much alcohol they would drink, which is not logically followed from being in an epidemic.

Answering the research question, time inconsistency still occurs during an extreme life situation like an epidemic with regards to physical activity and health behaviour productivity measures (sleeping, eating healthy, drinking alcohol and smoking cigarettes). There cannot be formed an answer to whether the time inconsistency is less than before the epidemic, since there is no reliable data available for this. Looking back at the hypothesis stating time inconsistency would occur less and in a more moderate manner therefore cannot be checked if it holds. Nonetheless, there is still noticeable time inconsistency, which is interesting to analyse. Especially for physical activity and eating behaviour time inconsistency, shown to be significant during an extreme life situation like an epidemic. However, the second part of the research question, about the relationship of the severity of the effect of the quarantine during the epidemic and time inconsistency, can be analysed. This shows how much being in quarantine influences people's time inconsistent behaviour.

With regards to the relationship between affected by quarantine and the time inconsistency, interesting correlations were found. All these results, except for study activity, were insignificant. Physical activity time inconsistency showed to be positively correlated with affected by quarantine. Indicating that the more someone is affected by quarantine, the less time inconsistent they are with regards to physical activity. Study activity time inconsistency and affected by quarantine showed to be strongly correlated. People that are more affected by the quarantine, on average tend to be way less time inconsistent in their study activity. Respondents found it easier to come through on their good intentions for studying when in a quarantine. The time inconsistency for working, time spent sleeping and smoking behaviour did hardly show any correlation with affected by quarantine and therefore do not establish a relationship. Furthermore, the relationship between affected by quarantine and eating behaviour time inconsistency showed a negative correlation. This indicates that the more people are affected by quarantine, the more time inconsistent they are with regards to their eating behaviour. This is assumingly caused by people being bored more often and therefore eating more. Being in quarantine makes it more difficult to follow up on a plan to eat healthy. Also the relationship between affected by quarantine and drinking behaviour time inconsistency showed a negative correlation. This indicates that the more people are affected by quarantine, the less time inconsistent they are with regards to their drinking behaviour (since drinking more alcohol is considered 'bad' behaviour). This can be explained due to less parties and activities which are inviting to drink alcoholic drinks. Even though being more affected by quarantine reduced the amount of alcohol consumed, the respondents in this dataset on average were still time inconsistent with regards to the total amount of alcohol consumed, hinting there are other unclear important factors causing this time inconsistency.

This paper has two useful implications. First of all, the findings of this research emphasise the importance of time inconsistency during an epidemic for policymakers and researchers. This makes them more aware of the occurrence of time inconsistent behaviour in extreme life situations. Researchers can further investigate this subject and her implications. Furthermore, policymakers could help make people more realistic with regards to their plans and good intentions, especially when they are in quarantine. This can be done for example by campaigns and advertisement, creating awareness about how lack of social activities and happenings can make it more difficult to follow through on good intentions (e.g. eating behaviour, which tends to be less healthy when affected by a more severe quarantine). In addition, the findings of this research could be seen as a nudge for policymakers to tackle boredom and other determinates of time inconsistent behaviour in order to reduce time inconsistency during an epidemic (e.g. for eating behaviour).

There are a few limitations to be found which weaken the findings of this paper. First of all, a relatively small dataset was used. The lack of significant results is likely caused by this small dataset or there not being a relationship between the variables. When executed on a larger scale this will provide much more accurate and meaningful results. Also, a problem occurred measuring the time inconsistency regarding the consumption of alcoholic drinks and cigarettes. A certain part of the respondents did not drink or smoke, giving less meaningful insights in the effect regarding these productivity measures due to there being less useful observations. Another limitation is that there is no comparable measure for pre-quarantine time inconsistency. Furthermore, the explanatory variable, affected by quarantine, is measured subjectively by people's own perception of how badly they are affected by the quarantine. Therefore there is a certain amount of measurement error. Every person's perception by how much affected they are by the quarantine can differ due to which extent they are optimistic, while they could in fact be identically affected in terms of what they can and cannot do. In addition, two biases are identified as major limitations of this research. This research has to cope with a certain recall bias, meaning that there is a good possibility people do not remember (recall) correctly how much of each productivity measure they actually did. Lastly, there is the social desirability bias, people not being honest about their intentions or actual behaviour. This can be due to wanting to impress the researcher and therefore not being honest.

This research adds to the current literature on time inconsistency by covering time inconsistency during an epidemic. In addition, this research can be seen as a set up for further research. More accurate results can be found when this research is performed with a much larger dataset or with different demographics. A research can be conducted in another country where a different kind of quarantine occurred, to measure any differences regarding the different types of quarantines.

Furthermore, it might be interesting to investigate how and to which extent time inconsistency can be reduced during extreme life situations like an epidemic.

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Appendix A. Surveys

Good intentions during quarantine [Before]

Start of Block: Introduction

Intro
Hello and thank you for participating in this experiment. At the moment all of us in the Netherlands suffer from the epidemic of the coronavirus. Because of this a lot of restrictions and rules have been set by the government which affect our way of living. The current life situation we experience can be seen as a form of quarantine and that is what we will call it during this experiment.

The purpose of this research is to give insights in people's good intentions during a quarantine. Please answer the questions as truthfully as possible and try not be disturbed while filling in this survey. By filling in this survey you agree that your answers get anonymously used in a research for a student's bachelor thesis. A week after completing this survey, you will receive another survey to reflect on your expectations set. Let's get started!

End of Block: Introduction

Start of Block: Basic information

Q1
What is your name?

Note: this is solely to match your first survey with your second survey. You are allowed to use a nickname, as long as you use the same nickname for the second survey. Please remember the name you used to answer this question.

_____

Q2 What is your gender?

- Male
- Female
- Other

Q3 How old are you?

_____

Q4 What is the highest level of education you have finished or are still attending?

- VMBO
- MAVO
- HAVO
- VWO
- MBO
- HBO
- WO

End of Block: Basic information

Start of Block: Questions

Q5
On a scale of 1-10 how much are you being affected by the quarantine due to the coronavirus? With

1 being 'I am not at all affected by the quarantine' and 10 being 'I am unable to do anything I used to do before quarantine'. Think of not being able to go to work, school, sports, friends, etc.

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ 9
- ○ 10

Q6 How much hours do you think you will spend doing physical exercise this week (the next 7 days after filling out this survey)? Think of playing sports, working out, etc.

- ○ Less than 0.5 hour
- ○ 0.5-1 hour
- ○ 1-2 hours
- ○ 2-5 hours
- ○ 5-8 hours
- ○ 9-12 hours
- ○ 12-15 hours
- ○ 16-19 hours
- ○ 20 hours or more

Q7 How much hours do you think you will spend studying this week (the next 7 days after filling out this survey)? Think of learning for tests, making homework, etc.

- ○ Less than 5 hours
- ○ 6-10 hours
- ○ 11-15 hours
- ○ 16-20 hours
- ○ 21-25 hours
- ○ 26-30 hours
- ○ More than 30 hours
- ○ I don't study anymore / already finished school

Q8 How much hours do you think you will spend working this week (the next 7 days after filling out this survey)? Think of doing work for your paid job, etc.

- ○ Less than 5 hours
- ○ 5-10 hours
- ○ 11-20 hours
- ○ 21-30 hours
- ○ 31-40 hours
- ○ 41-50 hours
- ○ More than 50 hours
- ○ I don't have a paid job / don't plan on going to work during next week

Q9 How many hours do you think you will sleep on average a night this week (the next 7 days after filling out this survey)?

- ○ Less than 5 hours
- ○ 5 hours
- ○ 6 hours
- ○ 7 hours
- ○ 8 hours
- ○ 9 hours
- ○ 10 hours
- ○ 11 hours
- ○ 12 hours
- ○ More than 12 hours

Q10 On a scale of 1-10 how healthy do you think you will eat this week (the next 7 days after filling out this survey)? With 1 being 'extremely unhealthy' and 10 being 'extremely healthy'. Think of eating fast food, bad snacks, sugary drinks, etc.

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ 9
- ○ 10

Q11 How much alcohol do you think you will take this week (the next 7 days after filling out this survey)? Think of a glass of liquor mixed with soda, a beer, etc. For example a bottle of 0.33L beer would count for 0.33 litre. Please choose the answer that is closest to your expectation.

- ○ None
- ○ 0.5 litre
- ○ 0.5-1 litre
- ○ 1-2 litre
- ○ 2-3 litre
- ○ 3-4 litre
- ○ 4-5 litre
- ○ More than 5 litre

Q12 How many cigarettes do you think you will smoke this week (the next 7 days after filling out this survey)? Please choose the answer that is closest to your expectation.

- ○ None
- ○ 1-5 cigarettes
- ○ 6-10 cigarettes
- ○ 11-15 cigarettes
- ○ 16-20 cigarettes
- ○ 21-30 cigarettes
- ○ 31-40 cigarettes
- ○ 40-60 cigarettes
- ○ 61-80 cigarettes
- ○ 81-100 cigarettes
- ○ 100-150 cigarettes
- ○ More than 150 cigarettes

Q13 Do you think you will find it easier or more difficult to follow through on your good intentions (stick to your plans) during quarantine than before quarantine? With 1 being 'more difficult', 7 being

'easier' and 4 being 'nor easier or more difficult'. For example you could find it easier due to less distractions and obligated activities; like going to the bar with friends, travelling to school, etc.

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7

Q14 If you can think of any, please state reasons why you think it will be easier or more difficult to follow through on your good intentions.

_____

_____

_____

_____

_____

Q15 On a scale of 1-10 how much do you think you will follow through on your expectations? With 1 being 'not at all' and 10 being 'I will follow through on my expectations perfectly'. Here the expectations are the answers you gave to the questions in this survey.

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ 9
- ○ 10

Q16 On a scale of 1-10 how much do you think you would have followed through on your expectations before the 'quarantine of the coronavirus'? With 1 being 'not at all' and 10 being 'I would follow through on my expectations perfectly'. Here the expectations are good intentions you

had before the quarantine of the coronavirus and how you would have followed through on them in that case.

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ 9
- ○ 10

End of Block: Questions

Start of Block: Ending

End Thank you for filling out the first survey of this experiment. Approximately a week (7 days) from filling out this survey you will receive the second survey to reflect on your expectations. Stay safe and till then! Please submit the survey by clicking the last button.

End of Block: Ending

Good intentions during quarantine [After]

Start of Block: Introduction

Intro
Welcome back to the second part of this experiment where we investigate good intentions during the quarantine of the coronavirus. In this survey we will reflect on the expectations set by you in the first survey. Please answer the questions as truthfully as possible and try not be disturbed while filling in this survey. By filling in this survey you agree that your answers get anonymously used in a research for a student's bachelor thesis. Let's get started!

End of Block: Introduction

Start of Block: Basic information

Q1
What is your name?

Note: please use the same name / nickname as used in the first survey. This is very important, because of matching the surveys with each other.

_____

End of Block: Basic information

Start of Block: Questions

Q2 How much hours have you spent doing physical exercise last week (previous 7 days before filling in this survey)? Think of playing sports, working out, etc.

- ○ Less than 0.5 hour
- ○ 0.5-1 hour
- ○ 1-2 hours
- ○ 2-5 hours
- ○ 5-8 hours
- ○ 9-12 hours
- ○ 12-15 hours
- ○ 16-19 hours
- ○ 20 hours or more

Q3 How much hours have you spent studying last week (previous 7 days before filling in this survey)? Think of learning for tests, making homework, etc.

- ○ Less than 5 hours
- ○ 6-10 hours
- ○ 11-15 hours
- ○ 16-20 hours
- ○ 21-25 hours
- ○ 26-30 hours
- ○ More than 30 hours
- ○ I don't study anymore / already finished school

Q4 How much hours have you spent working last week (previous 7 days before filling in this survey)? Think of doing work for your paid job, etc.

- ○ Less than 5 hours
- ○ 5-10 hours
- ○ 11-20 hours
- ○ 21-30 hours
- ○ 31-40 hours
- ○ 41-50 hours
- ○ More than 50 hours
- ○ I don't have a paid job / don't plan on going to work during next week

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Q5
How many hours did you sleep on average a day last week (previous 7 days before filling in this survey)?

- ○ Less than 5 hours
- ○ 5 hours
- ○ 6 hours
- ○ 7 hours
- ○ 8 hours
- ○ 9 hours
- ○ 10 hours
- ○ 11 hours
- ○ 12 hours
- ○ More than 12 hours

Q6 On a scale of 1-10 how healthy did you eat last week (previous 7 days before filling in this survey)? With 1 being 'extremely unhealthy' and 10 being 'extremely healthy'. Think of eating fast food, bad snacks, sugary drinks, etc.

- ○ 1
- ○ 2
- ○ 3
- ○ 4
- ○ 5
- ○ 6
- ○ 7
- ○ 8
- ○ 9
- ○ 10

Q7 How much alcohol did take last week (previous 7 days before filling out this survey)? Think of a glass of liquor mixed with soda, a beer, etc. For example a bottle of 0.33L beer would count for 0.33

litre. Please choose the answer that is closest to how much litre of alcoholic drinks you consumed last week.

- ○ None
- ○ 0.5 litre
- ○ 0.5-1 litre
- ○ 1-2 litre
- ○ 2-3 litre
- ○ 3-4 litre
- ○ 4-5 litre
- ○ More than 5 litre

Q8 How many cigarettes did you smoke last week (previous 7 days before filling out this survey)? Please choose the answer that is closest to how many cigarettes you smoked last week.

- ○ None
- ○ 1-5 cigarettes
- ○ 6-10 cigarettes
- ○ 11-15 cigarettes
- ○ 16-20 cigarettes
- ○ 21-30 cigarettes
- ○ 31-40 cigarettes
- ○ 40-60 cigarettes
- ○ 61-80 cigarettes
- ○ 81-100 cigarettes
- ○ 100-150 cigarettes
- ○ More than 150 cigarettes

Q9 If you didn't do as much (more or less) as these expected behaviours in the last 7 days as expected, please state some reasons why you think this is the case.

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End of Block: Questions

Start of Block: Ending

End Thank you for participating in this experiment. This research will be finished mid-July, if you are curious about the results feel free to shoot me a message around that time. Stay safe and have a nice day! Please submit the survey by clicking the last button.

End of Block: Ending
