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REMOTE WORK AND WELLBEING: THE ROLE OF GRIT DURING COVID-19 OUTBREAK

Dissertation presented to the Portuguese Catholic University to obtain a degree of Master in Psychology in Business and Economics

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Ana Beatriz Nogueira Rebordão

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Abstract

The outbreak of Covid-19 pandemic has changed the nature of work, and millions of people worldwide are currently working from their homes. Apart from the worries regarding their own physical health, and since the finishing line is not in sight, people are also fighting with the uncertainty regarding the near future. In this dissertation we aimed to address the wellbeing of remote workers and how a certain personality trait – grit – could influence how workers are coping with this new reality. Since it addresses a new topic, this paper is an exploratory study and passed first through a general approach of the data gathered in the questions of self-report measurement about remote working and the Covid-19 outbreak, and secondly it was analyzed the data collected over the following questionnaires: *Perceived Stress Scale (PSS)* (Cohen Kamarck & Mermelstein, 1983), *Kessler Psychological Distress Scale (K10)* (Kessler et al., 2002) and *Grit Scale* (Duckworth & Quinn, 2009). The findings suggest that grit has a statistically significant correlation with a better work life balance and productivity; additionally, participants' ability of perseverance for long-term goals (grit) is a significant predictor of one's wellbeing. Furthermore, participants who reported having a good work life balance and productivity showed higher levels of wellbeing. Supplementary findings demonstrate that remote workers are being more productive, even though they are working more hours and reported having difficulties in maintaining a good work life balance, especially female participants. This dissertation can be used as a starting point, future studies can extend and transform it into a longitudinal study and measure the differences between the wellbeing of remote workers in a different moment of the pandemic outbreak. Finally, this dissertation has societal impact since it contributes to increase the knowledge about the pandemic and inspire and alert the institutions responsible for the policy making.

Keywords: Remote work, Covid.19, Wellbeing, Grit, Productivity

Resumo

O surto pandémico da COVID-19 mudou objetivamente as condições de prestação de trabalho e muitos foram obrigados a prestá-lo em condições não presenciais. Para além das preocupações relativas à saúde própria e dos próximos, os trabalhadores estão ainda confrontados com incertezas relativas ao seu futuro profissional. Nesta dissertação, procura-se analisar o "bem-estar" dos trabalhadores em condições de trabalho remoto e, em particular, a forma com um traço de personalidade *grit* influencia a forma como se encara esta nova realidade. Trata-se um estudo exploratório, pelo que primeiramente foi feito um levantamento dos dados recolhidos nas questões de autoavaliação relacionadas com o teletrabalho e com o surto de Covid-19, e na sequência, foram ainda analisados os dados recolhidos nos seguintes questionários: *Perceived Stress Scale* (PSS) (Cohen Kamarck & Mermelstein, 1983), *Kessler Psychological Distress Scale* (K10) (Kessler et al., 2002) e *Grit Scale* (Duckworth & Quinn, 2009). Os resultados indiciam que a correlação entre o *grit* e o equilíbrio entre a vida profissional e familiar e a produtividade é estatisticamente significativa; a capacidade de perseverança para atingir objetivos a longo prazo (*grit*) também se demonstrou preditiva do bem-estar dos participantes. Adicionalmente, os participantes que destacaram mais o equilíbrio entre vida pessoal e profissional referiram níveis superiores de "bem-estar". A análise mais fina dos dados permitiu aferir níveis de produtividade superiores, mesmo quando se verificam durações de trabalho mais longas e inevitáveis perturbações do ambiente doméstico/familiar, sobretudo no caso de respondentes do sexo feminino. Pretende-se que esta dissertação constitua o ponto de partida para futuros estudos longitudinais que procurem avaliar o mesmo tipo de indicadores ao longo do tempo que durar esta pandemia. Em suma, esta dissertação pretende ter impacto social na medida em que contribui para o aumento do conhecimento da área e pretende ainda inspirar e alertar as instituições responsáveis pelas políticas de trabalho.

Palavras-chave: Trabalho remoto, Covid.19, Bem-estar, *Grit*, Produtividade

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List of Abbreviations

PR: Productivity

HRM: Hours of remote working

WL: Workload

PSS: Perceived Stress Scale

WLB: Work-life balance

GR: Grit Scale

K10: Kessler Psychological Distress Scale (K_10)

PRW: Previous Remote Work

DH: Difference of Hours

Chapter 1: Introduction

1.1. Background and Problem statement

Covid-19 has forced millions of people to physically isolate themselves, and those whose works allow it, are working remotely from their homes in order to reduce the spread of the virus. According to Instituto Nacional de Estatística (INE, 2020), on the second trimester of 2020, more than a million people, that corresponds 23,1% of the employed population in Portugal, is working remotely and 998,5 thousands claimed it was due to the pandemic. In the EU, the numbers are even higher and is estimated that almost 40% of the employed population is currently working remotely, and that only 15% had worked remotely before the outbreak (Eurofound, 2020).

The immediate response to the pandemic was to shut down the economy and close numerous "non-essential" sectors like hospitality and leisure businesses, as a result of it, many people lost their jobs after the imposed lockdown. People all around the world are dealing with the uncertainty of the labor market, and according to the *International Labor Organization* (2020) in the second quarter of 2020, there was 14% drop on the working hours worldwide, which represents the loss of 400 million of full-time jobs.

The pandemic came with a change of mentality and stigmas related to remote working among companies and workers; and accelerated the massification of remote working that in the long run was inevitable (Bartik, Cullen, Glaeser, Luca & Stanton, 2020). It is important to state that although remote working can be beneficial for both companies and employees, there is a huge difference between choosing that lifestyle and being forced into it as a result of a global pandemic (Muralidhar, 2020). Although remote working was, and still is, the best solution to stop the spread of the Covid-19 and still maintain jobs and avoid layoffs, it is imperative to be aware of the difficulties and challenges that employees are facing (Satici, Saricali, Satici & Griffiths, 2020).

Remote working corresponds to organizational models that are non-conventional and portray a higher flexibility and autonomy in the choice of the workplace environment, time and tools, also organizations that provide the best working conditions for employees to accomplish their tasks (Gastaldi, 2014, De Menezes & Kelliher, 2011).

In the field of the organizational psychology, one of the main subjects that has been studied in the past few years is the effectiveness of remote working and the benefits that it brings to the companies and to the wellbeing of the employees (Charalampous, Grant,

Tramontano & Michailidis, 2019). Numerous experiences and surveys were conducted and the main results were that, although it has its downsides, like social isolation and professional stagnation for some (Charalampous et al., 2019; De Menezes & Kelliher, 2011), most people benefit the most from having more control over their schedule and their work environment (Felstead & Henseke, 2017). Since it was still an area to explore, a lot of companies especially small/medium companies were reluctant to start to implement some remote working strategies (Nunes, 2005; Gomes, 2020), contrarily, multinational companies that understand the wellbeing of the employees influences their productivity directly, had already implemented strategies to increase employee satisfaction, for instance allowing employees to work remotely if needed (Santos & Williamson, 2015).

The year 2020 will be remember as the year of Covid-19 pandemic and how it impacted peoples' physical health and the global economy. However, there are not as many studies regarding its impacts in mental health. Studies showed that people revealed significantly higher scores of depression, anxiety and lower psychological wellbeing when compared to the time before the pandemic (Vindegaard & Benros, 2020). Regarding studies conducted in patients with Covid-19, it was found a dramatic presence of Pos Traumatic Stress Syndrome (PTSS) (Bo et al., 2020) and prevalence of depressive symptoms (Zhang et al., 2020).

The current global crisis that we are living in, forced everyone to change and adapt their behaviors and habits, from the simple greet that used to be done with kisses and hugs, to the mandatory use of masks in public places, and being willing to adopt all the government laws and restrictions that are constantly changing by the week. As stated before, the virus, besides the obvious physical damage that causes, has also a dramatic impact on people's mental health and one of the causes is the uncertainty in general (Rutter, Wolpert & Greenhalgh, 2020). The uncertainty of not knowing the future and being in a totally new experience, makes it harder for the brain to make prompt decisions. In times of uncertainty, people need to be willing to make decisions according to a balance of probabilities instead of factual data (Rutter et al., 2020). Additionally, Satici, Saricali, Satici, and Griffiths (2020) conclude that a higher intolerance of uncertainty affects directly and significantly, the wellbeing. Staying in quarantine can have long term mental health impacts, caused by the stressors like the duration of the quarantine, financial loss and lack of information (Rettie & Daniels, 2020; Brooks et al, 2020).

Grit is an aspect of character and can be described as passion and perseverance in achieving long-term goals (Duckworth & Gross, 2014). Gritty people pursue and focus on their behaviors in achieving those goals, also this requires discipline and a high level of self-regulation (Human-Vogel & Van Petegem, 2008). In situations of adversity and uncertainty people with different profiles react differently (Kleinberg, van der Vegt & Mozes, 2020). Studies shown that gritty people tend to be more optimistic, in the way they interpret the adverse events as challenges and not as setbacks, and this leads to resilience (Duckworth, Quinn & Seligman, 2009); and to accepting their current situation and condition (Duckworth et al., 2009).

The personality trait grit was found to be the one trait that was present among succeeding in different careers (Duckworth, Peterson, Matthews & Kelly, 2007) and it was also found a relationship between grit and work engagement, which is considered as an outcome indicator for work performance (Suzuki, Tamesue, Asahi & Ishikawa, 2015). Furthermore, it was found that grit has an impact on peoples' productivity level, for instance in one study the mediator effect of grit was found statistically significant on students' productivity level (Hodge, Wright & Bennett, 2018).

Remote working and flexible working hours have been proved to improve job satisfaction and productivity (Santos & Williamson, 2015). However, the literature about the effectiveness of remote working under the conditions of mandatory quarantine is still scarce. The stress and anxiety created by the spread of a virus establish a less than ideal work environment for people that are working remotely, especially for the ones who are doing that for the first time (Muralidhar, 2020). This dissertation aims to explore how Covid-19 changed everyone's lives and how people are coping with the anxiety related to this change, and how this anxiety influences their productivity. This dissertation will also explore how having perseverance for achieving long-term goals (grit) influences people's wellbeing and productivity in times of a global pandemic.

1.2. Aim and Scope

This dissertation aims to study how employees are dealing with remote working imposed by a pandemic crisis, such as, the current COVID-19. To this extent, this dissertation will explore how this specific work condition is affecting employee's wellbeing and the impact on their productivity. Additionally, we will explore the effect of

coping style and goal fulfilment (e.g., Chlosta et al., 2012), on employee's well-being. With this goal in mind, in the survey presented we created self-assessment measures to evaluate remote working and how the pandemic is being dealt with, additionally the wellbeing is being evaluated through the perceived stress (Perceived Stress Scale) (Cohen Kamarck & Mermelstein, 1983), and the distress (Kessler Psychological Distress Scale) (Kessler et al., 2002). The survey still counts with a questionnaire to measure the perseverance to achieve challenging long-term goals, especially when facing adversity - Grit Scale (Duckworth & Quinn, 2009).

This dissertation will first pass through a general approach of the data regarding the questions of self-report measurement about remote working and the Covid-19 outbreak. The analyses conducted in this part will be purely descriptive and aim to summarize features from the collection of information.

In the second part of the analysis, the data obtained through the questionnaires of distress, stress, perseverance to achieve challenging long-term goals (grit), along with the remote working variables, that describe work life balance, productivity and workload, will be used to prove or disprove some hypotheses. Using evidence from theoretical background, the following hypotheses were developed:

Problem 1: Is self-reported experience of remote work during Covid-19 associated with direct measures of wellbeing?

Hypothesis 1: The stress (PSS) experienced during Covid-19 is positively correlated with self-reported experience of remote work.

Hypothesis 1a: The stress (PSS) experienced during Covid-19 is negatively correlated with work-life balance (WLB).

Hypothesis 1b: The stress (PSS) experienced during Covid-19 is negatively correlated with productivity (PR).

Hypothesis 1c: The stress (PSS) experienced during Covid-19 is positively correlated with workload (WL).

Hypothesis 2: The distress (K-10) experienced during covid-19 is positively correlated with self-reported experience of remote work.

Hypothesis 2a: The distress (K-10) experienced during Covid-19 is negatively correlated with work-life balance (WLB).

Hypothesis 2b: The distress (K-10) experienced during Covid-19 is negatively correlated with productivity (PR).

Hypothesis 2c: The distress (K-10) experienced during Covid-19 is positively correlated with workload (WL).

Problem 2: Is self-reported experience of remote work during Covid-19 associated with perseverance to achieve challenging long-term goals – *Grit* (GS).

Hypothesis 3: The *grit* (GS) is positively correlated with self-reported experience of remote work.

Hypothesis 3a: The *grit* (GS) is positively correlated with work-life balance (WLB).

Hypothesis 3b: The *grit* (GS) is positively correlated with productivity (PR).

Problem 3: Do direct measures of wellbeing vary according to individual perseverance and passion for long-term goals - *Grit* (GS)?

Hypothesis 4: Increasing in *grit* (GS) is associated with decreasing in direct measures of wellbeing.

Hypothesis 4a: Increasing in *grit* (GS) is associated with decreasing in stress (PSS).

Hypothesis 4b: Increasing in *grit* (GS) is associated with decreasing in distress (K-

1.3. Research Methods

The online survey conducted, included questionnaires that measured wellbeing, grit, remote work, participants' main worries regarding Covid-19, and demographic measures (full description of the instruments in chapter 3).

The dataset was collected between 24th of April and July 2nd by advertising using social media and mailing list from a fellowship made by Faculdade de Ciências Humanas of Universidade Católica (FCH). In the beginning of the survey the purpose was explained, and they were asked to give consent. In addition, the participants were informed about the ethics behind the research and was guaranteed the anonymousness and the secrecy of the data. To reach the maximum number of participants, the survey was in both English and Portuguese.

1.4. Relevance

This dissertation can be said to have relevance in two different dimensions, firstly it has academic relevance since it explores a recent and an ongoing topic that is yet to be explained, that is the effectiveness of remote working in times of mandatory quarantine. Also, this dissertation will study the construct of *Grit* in a new context that still has never been studied and will increase the literature in the field.

Secondly, this dissertation has relevance in the societal dimension, it aims to increase the knowledge about the pandemic, and to inspire and alert the institutions responsible for the policy making on how the society is dealing with remote working.

This said, this dissertation also aims to appeal to the companies to be aware of how their employees are feeling and are dealing with remote working, and maybe apply some strategies to help their workers to not only to increase their wellbeing but also increase their productivity.

1.5. Dissertation Structure

The present dissertation is divided into six different chapters. The first chapter starts with a presentation of the problematic background and is also explained the aim of the dissertation. The research methods are briefly explained, also the hypotheses and the relevance of this dissertation are described.

In the second part of this dissertation, Chapter 2, it will be presented a Literature Review regarding the topic explored in this dissertation. Firstly, it will explore the topic of remote working and its main characteristics, also how remote working affects the employees' wellbeing, and additionally the concept of *Grit* will also be explored and correlated to the topic. The final part of the Literature Review is regarding the Covid-19 outbreak, and the influence of the pandemic in mental health, also how the pandemic changed the nature of work, will be described.

Chapter 3 concerns the methodology of the study, and it will emphasize the research objectives of the study and the approaches that were taken in the conduction of this study, it explains how the data collection was made, the measures used are described also the analysis that were performed.

In the fourth chapter, the results according to the hypotheses suggested will be presented, and in Chapter 5 the results will be discussed in light of an appropriate literature review. Moreover, this chapter will contemplate the limitations of this study.

Finally, in Chapter 6 it will be made a brief conclusion about the present study and how this dissertation results can be applicable in life.

Chapter 2 - Literature Review

In this chapter the most pertinent topics regarding the core of this dissertation will be presented. The first part of the theoretical section will approach the concept of remote working: its main characteristics, how remote working affects the employees' wellbeing, and how *grit* is related to remote work. The second part of this section explores the Covid-19 outbreak, the influence of the pandemic in mental health, and how the pandemic changed the nature of work.

2.1. Remote work and well-being - research before Covid-19

2.1.1 Remote work

The advance of technologies changed the nature of work and allowed the ability to work from multiple locations and give workers the sense of freedom by being able to choose their own place of work (Felstead & Henseke, 2017). Nonetheless remote working brings out unique challenges: there are no managers or teammates nearby to consult with or to provide immediate responses or support, no one is looking over one's shoulder to keep focused and on tasks, also keeping work and home life balance can be extremely complicated (Bailey, & Kurland, 1999; Prasad, Rao, Vaidya, & Muralidhar, 2020; Wheatley, 2012).

The term smart working corresponds to organizational models that are non-conventional and portray a higher flexibility and autonomy in the choice of the workplace environment, time and tools, also organizations that provide the best working conditions for employees to accomplish their tasks (Gastaldi, 2014). It includes arrangements that allow employees to work outside the workplace, that is often also called remote working (De Menezes & Kelliher, 2011).

Remote working has been proven to be beneficial to both organizations and workers, for instance it provides companies the opportunity to reduce costs and to increase productivity, and for the staff it gives them the opportunity to have a more flexible schedule without the office hours restrictions (De Menezes & Kelliher, 2011) and in some cases it can lead to reduce stress levels (Hartig, Kylin & Johansson, 2007) and greater wellbeing (Lewis & Cooper, 2005); also in several studies, remote workers reported higher levels of satisfaction than other workers (Wheatley, 2012), especially in remote workers

that were parents, the overall job satisfaction were higher if they had schedule flexibility and the intention to turnover was lower (Rothausen, 1994).

Many companies, especially small and medium-size enterprises (SMEs), continue to have a classic view of work organization. For instance it is more valued the amount of hours workers spend in front of a computer instead of how productive and how many goals they reach (John, 2017), unfortunately this mindset is very common especially in countries like Portugal where people are judged if they leave the work on time instead of staying in the office (Nunes, 2005; Gomes, 2020). However, applying policies of remote working not only gives a sense of control over employees' own life, they can choose the best working conditions to accomplish their tasks in the matter of physical space also their schedule, but also helps companies to realize the difference between quantity and quality (Gastaldi, 2014). In this line of thought, John (2017) concluded that flexible working hours contributes to a better work life balance, increases employee happiness and wellbeing, and motivates the workforce.

Remote working, nonetheless has it's downsides, Grant, Wallace and Spurgeon (2013) explored the impact of working remotely on the areas of well-being, job effectiveness and WLB, this three areas have been found to be crucial and interrelated with each other when exploring the impacts of remote working on individuals, supervisors and organizations. For example, job effectiveness can be influenced positively and negatively by the well-being and the work-life conflict, having permanent access to the technology makes it difficult to have a good WLB and can lead to overworking and lack of time to recuperation. Matching the previous research, the authors Hartig, Kylin and Johansson (2007) also conclude that remote workers experience an overlap between home and work lives, eliminating the sensation of relaxation after work at home, hence having a separate room for telework appeared to improve the perception of space and higher levels of WLB. Furthermore, remote working can result in feelings of isolation and loneliness, and when working at home the absence of social interaction can negatively influence the productivity of the employee (Prasad et al., 2020; Grant et al., 2013; Muralidhar, Prasad & Rao, 2020).

There are several factors that influence the effectiveness of remote working, one of them is conditional to gender, in the way that women report less effective restoration after working hours than men (Hartig, Kylin & Johansson, 2007), although for women house-work represents a time-constraint and gives them the feeling of continue presence of

"double-shift", home-based working mothers showed higher levels of satisfaction than mothers' who are not (Wheatley, 2012). In line with these findings, Wheatley (2017) concluded that having schedule control was more relevant for women's wellbeing than for men. Regarding WLB, Muralidhar et al. (2020) concluded that more experienced employees were able separate working life from personal life

2.1.2 Work and well-being: Psychological impacts.

Wellbeing is defined by WHO as a "state of complete physical, mental and social wellbeing" (WHO, 1947), this said, wellbeing can be evaluated through a variety of different constructs that are connected with each other (Stewart-Brown, 1998); for instance, emotional distress can generate physical illness (Cohen & Smith, 1991).

Stress and distress are two different but correlated constructs, stress responses are normal reactions to the environment (Phillips, 2013), it is the way of how one perceives stress that can harm and be prejudicial to one's health (Aschbacher, 2013); stress is relevant to individual's wellbeing and depending on the behavioral efforts to manage the event, the result can be prejudicial or beneficial (Salomon, 2013). When the stress is severe and individuals cannot cope with it, distress appears (Aschbacher, 2013). The construct of distress can be defined by the correlation of the following unpleasant emotions: anxiety, fear, anger, sadness, guilt, shame, and irritability (Stringer, 2013); furthermore, there is an increase of anxiety symptoms when one has low tolerance to emotional distress (Keough, Riccardi, Timpano, Mitchell & Schmidt, 2010).

Evidence suggest that wellbeing is a good indicator of individuals success (Keyes, 2007), the increase of the wellbeing may also increase confidence, focus, concentration, and resilience (Weare, 2014). Mulder and Cashin (2014) conducted a study correlating the health and wellbeing of university students and their levels of psychological distress (through the Kessler Psychological Distress Scale), and found that students with higher level of distress had overall lower levels of wellbeing and health.

As it was mentioned in the previous chapter, remote working effectiveness is influenced by factors such as wellbeing, WLB and anxiety (Grant et al., 2013; Hartig et al., 2007). All of these factors can be managed in order to improve work effectiveness and productivity, for instance the importance and effectiveness of wellness courses in decreasing distress and improve wellbeing was evaluated, and the results showed the

courses had a great impact especially in increasing adaptative coping strategies to deal with adverse situations (Acquadro, Zedda & Varetto, 2018). Additionally, one of the best strategies known for dealing with anxiety is emotional regulation, that is defined by psychologists as the ability to have control over one's emotional state and is essential to reduce negative emotions and intensifying wellbeing, (Gross, 2015; Restubog, Ocampo & Wang, 2020).

Evidence suggests that not only the ability to regulate the emotions is associated with health and psychological benefits, but also can help employees manage work and career challenges (Boyatzis, Goleman and Rhee,2000); in addition, multiple studies conclude that emotional intelligence is a good predictor of job performance (Joseph & Newman, 2010; Restubog, Ocampo & Wang, 2020). The ability to regulate emotions comes in handy when encountering unexpected situations that are out of one's control and are impossible to avoid, what can be done is practicing both cognitive abilities and emotional skills to respond and adjust effectively to changes. Emotional regulation helps workers to have more control over their emotions in situations such as changes in the job market, it gives the ability to self-motivate in planning their career and also gives people the ability to take responsibility for their careers. In sum, emotional regulation influences individuals to process information and improves their decision-making process, which will have direct influence on their career (Restubog, Ocampo & Wang, 2020).

When working remotely , employees still need to feel included and part of the company, Self-Determination Theory supports the idea that when employees feel supported and autonomous they have higher values of wellbeing (Deci, 2009), work satisfaction, they are more engaged with the company, and as a result, they are more effective giving the company more profit (Deci, Ryan & Olafsen, 2017). Motivation has a crucial role in encouraging into doing something, and there are two types of motivation, intrinsic motivation and extrinsic motivation. Intrinsic motivation, as the name suggests, comes within and people will perform a task simply because they enjoy doing it. A person is extrinsically motivated if he or she will perform a task based on external impulses like a reward or punishment. In order to determine whether a task is motivated by intrinsic or extrinsic impulses, it is used the concept of psychological needs provided by the Self-Determination Theory (Deci et al., 2017)

Self-Determination theory states that human beings have three basic needs that are relatedness, competence and autonomy. Relatedness is the feeling of being cared for, connected to others and a sense of belonging, is not only about how others treat you but also how you relate to them. Competence is essential to wellness and is about feeling effective in your environment and having some sense of mastery in things that are important to you and if you have the right skills to complete a task. Finally, autonomy is associated with behavior that is self-endorsed, and means that you feel choice fully, however if someone tells you to complete a certain task you won't enjoy it as much and perform as well, your performance tends to be better when you are acting out of autonomous motives. Overall, Self-Determination theory states that if you do not have any of these three innate needs, you will have no motivation at all to perform a task. (Deci et al., 2017).

When applying this theory in the workplace, normally companies bet on giving their employees autonomy since when employees have the sense of autonomy, they will find a way to satisfy their other needs, for instance, employees when they experience support for autonomy, they usually feel more connected to the company and will be more effective (Deci, Ryan & Olafsen, 2017).

2.2 Grit: wellbeing and work

In a lay perspective, grit is passion and perseverance for long-term goals. The *Grit Scale*, that was used in the survey, can be divided into two main factors, consistency of interests that represents the passion, and consistency of effort, that is the perseverance of sustaining effort until reaching the goal (Duckworth & Gross, 2014). This said, Grit can be predictive of performance when one is challenged by adversities. However, grit can be more relevant for some goals than others, for example one can have grit for a goal that matters the most to him but can be more laid back in other challenges (Eskreis-Winkler, Gross & Duckworth, 2016). The *Grit Scale* created by Angela Duckworth is useful to prompt self-reflection and is commonly used by coaches and teachers to discuss their pupils' passions and perseverance. However, this scale has limitations such as "reference bias" that appears when people hold different standards by which they judge their own behavior (Duckworth & Yeager, 2015)

Grit is a non-cognitive trait and is related to self-control and consciousness, people who demonstrate high values of these two characteristics are likely to have high values of grit, however they are two distinct characteristics: having self-control means the person has the ability of controlling temptations and regulating emotions and their behavior, yet this does not mean they consistently pursue a dominant goal (Duckworth & Gross, 2014).It is an aspect of character and by norm, *gritty* people tend to be more optimistic, in the way they interpret the adverse events as challenges and not as setbacks, and this leads to resilience (Duckworth et al.,2009). In fact, people with higher values of grit normally accept their current situation and condition and think that they could be in an even worse situation than they are (Duckworth et al., 2009).

Additionally, Grit is correlated to the pursuit of happiness and the motivation that is behind this pursuit then, it can be said that gritty individuals seek happiness through engagement (Von Culin, Tsukayama & Duckworth, 2014). Gritty people pursue and focus their behaviors in achieving long-term goals, this discipline requires a high level of self-regulation, in order to benefit the wellbeing those goals will give when reached (Human-Vogel & Van Petegem, 2008). The concept of grit can also be correlated to the Greek philosophies of hedonism and eudaimonism; hedonism focus on achieving immediate pleasure and pain avoidance, and eudaimonism focus on the meaning of self-realization in achieving long-term goals (Ryan & Deci, 2001).

According to the study of Khan and Khan (2017) grit, happiness and life satisfaction are positively correlated, also success can increase the chances of being happy. Singh and Jha (2008) in their studies also found evidence of a significant positive correlation between the concepts of grit, happiness, life satisfaction and positive affect, along with grit being strongly related to psychological wellbeing (Vainio & Daukantaitė, 2015).

Personality traits can predict job performance (Schmidt, Shaffer & Oh, 2008), and there are specific traits (e.g. creativity, charisma, self-confidence, emotional intelligence, etc.) that are more important to succeed in specific careers. However, grit was found to be the one trait that was present among succeeding in all the different careers (Duckworth et al., 2007). In the same line of conclusions, Suzuki, Tamesue, Asahi and Ishikawa (2015) examine the association between Grit and work engagement, which they considered as an outcome indicator for work performance, and concluded grit was a substantial predictor for not only work performance but also academic performance.

Withal, *Grit* is still a quite recent research topic and there are several contradict perspectives regarding predicting job performance and work behavior, in turn Ion, Mindu and Gorbănescu (2017) conducted a study investigating the validity of grit in predicting some work-relevant outcomes over the Five-Factor Model of personality, yet the results declared Grit had limited predictive validity over some work behaviors.

2.3. Covid.19 Outbreak

2.3.1. Introduction

Coronaviruses are a large family of viruses that primarily target the respiratory system and they range from a simple cold to more severe conditions such as Severe Acute Respiratory Syndrome (SARS) outbreak.

In December 2019 in China, a few patients were admitted to hospitals and were diagnosed with pneumonia of unknown etiology, later they were all linked to being in a seafood and wet animal market in Wuhan, Hubei Province, China. Since the beginning reports predicted the potential Coronavirus outbreak given the velocity the spread had. Initially the disease was denominated by the World Health Organization (WHO) in January 2020 as 2019-novel coronavirus (2019-nCov), and both on 11th of February 2020 the International Committee proposed the final name as SARS-CoV-2, and WHO named the disease as Covid-19 (Guo, Cao, Hong. et al., 2020; Rothan & Byrareddy, 2020). The virus SARS-CoV-2 belongs to the family of coronaviruses that are called it by the proteins shaped in a crownlike on their surfaces and that can cause a contagious viral infection that attacks primarily the throat and lungs.

The incubation period of this disease, the time passed since the exposition to the virus until the symptoms appear, is expected to be from 1 to 14 days, being the average of incubation period approximately 5.2 days (Rothan & Byrareddy, 2020) however, it's been proved that people that still haven’t shown symptoms can also be sources of transmission yet the person who is infected is more contagious if she or he has symptoms (Serviço Nacional de Saúde, 2020).

Covid-19 can be transmitted directly, when people are in direct contact with someone who is infected, or it can be an indirect transmission through surfaces or contaminated objects. The direct transmission occurs primarily via nasal or mouth secretions when the infected person sneezes or coughs and reaches directly the nose, mouth or eyes of someone who is near. In indirect cases the transmission occurs when someone infected contaminates de surfaces around them and other touches them and right after touches their own mouth, nose and/or eyes. (Serviço Nacional de Saúde, 2020). According to WHO the virus can survive for up to 72 hours on stainless steel and on plastic, up to 4 hours on copper (like coins and red-brown metal), and less than 24 hours on cardboards (WHO, July 2020).

It is important to refer that Covid-19 is a new virus that is still being studied, therefore there is still a lot of misleading information related to a lot of aspects of the virus itself.

2.3.2. Effects of pandemic in well-being

Covid-19 not only has an extreme impact on human's health and on the global economy, but also introduced unprecedented challenges in working lives and careers, and due to the virus being highly contagious, companies were forced to impose remote work policies that required individuals to work from home (Vindegaard & Benros, 2020).

In addiction of the obvious physical damage that the virus causes, there is also a dramatic impact on people's mental health, and this is first seen on anxiety-related behaviors of the population when for example there's a shortage on masks, alcohol and supplies in the supermarket and pharmacies (Huang & Zhao, 2020). Some other negative psychological consequences related to infectious diseases outbreaks are a greater incidence of psychological distress and depression, worry, anxiety of being infected and reduced quality of life. Moreover, psychological distress results of the various mitigation strategies applied such as social distancing, travel restrictions and home containment (Restubog, Ocampo & Wang, 2020). Although studies relating Covid-19 and mental health are still scarce, it's known that there is an indirect correlation between the increase of anxiety and the overall decrease in psychological well-being (Jung, Kneer, Krüger, 2020; Vindegaard & Benros, 2020).

Another stressor that should be enunciated is the uncertainty of not knowing the future and being in a totally new experience, the brain process of decision making includes having in consideration past experiences, however when dealing with completely new situations, it makes it harder for the brain to make prompt decisions about the future (Rutter, 2020). Rettie and Daniels (2020) findings demonstrate that people with higher toleration of uncertainty are having less difficulties with dealing with all the risks associated with Covid-19. In the same study they have also reached the conclusion that even though vulnerable groups are more anxious about their health, they are not struggling more with the uncertainty than the non-vulnerable.

It is of extreme importance to pay attention of the population mental health, WHO on March 18, 2020, released a an article related to mental health and psychosocial

considerations during this outbreak, where they gave advices and different coping strategies since messages for the general population, to healthcare workers, to team leaders or managers in health facilities, caregivers of children and older adults, and people in isolation.

In Portugal it was created a psychological support line, integrated with the existing one related only to physical health. This platform was created due to Covid-19 that generated serious changes in people's lives, the need of adapting to change and the isolation and social distance put all citizens under a huge psychological pressure that is sometimes hard to manage. These phone calls are answered by Clinical Psychologists, and the main goals of this service are the following: to help people managing emotions in situations of crises, promoting psychological resilience, decreasing the probability of people developing mental health problems in the aftermath of the pandemic, promoting the sense of security, and finally guiding people to other support unions if necessary. (SNS24, 2020).

These services of mental-health help are extremely important, however implementing these strategies only when the crisis strikes leads to failures in the system, since every new system has its flaws and normally leads to waste of resources and the problem of population's mental health was never handled and normalized. Besides, the psychological follow-ups should also happen presential to patients that are in isolation in hospitals, but since all non-essential personnel such as clinical psychiatrists, psychologists, and mental health social workers are discouraged from entering the isolation wards, the front-line health-care workers become the ones providing psychological counselling adding up to all of their other responsibilities (Duan & Zhu, 2020).

People with confirmed diagnoses or are suspect of having Covid-19 may experience fear and anxiety related to the consequences of having the infection, yet people who are in quarantine might experience feelings such as boredom, anger and loneliness (Xiang, et al, 2020). In May 2020 a survey was conducted in Germany, in the United Kingdom and in the United States related to the main worries or concerns about Covid-19, although the percentages may differ from country to country, overall the top five with higher levels are the following: family's health, country's economic stability, personal physical health, parent's or older friends health, and personal economic situation (Kunst, 2020).

Huang and Zhao (2020), two Chinese investigators conducted one of the first studies correlating the pandemic and how the spread of the corona virus would influence the population's mental health. They analyzed a total of 7,236 self-selected volunteers and reached numerous conclusion such as, younger people reported significantly higher levels of anxiety and depression than older people, also there was a direct correlation with the amount of hours spent per day people focusing on the outbreak and higher levels of anxiety and depression, nevertheless, health worker reported lower levels of sleep quality.

In a study conducted in Spain, it was analyzed what were the best coping behaviors associated with decrease anxiety and depressive symptoms during the outbreak, and in agreement with Huang and Zhao (2020) they have also conclude that not being constantly seeing updates about the virus and reading news were a good predictor of lower anxiety levels, in addition following a healthy and balanced diet was also a good predictor. Regarding the levels of depressive symptoms, the best predictors to lower levels were also having a healthy and balanced diet and not spending too much time focusing on the news, but also following a routine, taking the opportunity to pursue hobbies and staying outdoors (Fullana, Hidalgo-Mazzeia,Vietaa & Raduaa, 2020).

Just like Fullana and his team (2020), Jung, Kneer and Krüger (2020) also reached the same data that the age group that demonstrated lower levels of anxiety and depressive symptoms are older men. Jung and his team (2020) went further, and concluded that the women, people with lower economic status, lower education, and poor sleep quality, were more favorable to have a decrease in their mental health. This discrepancy between genders can be explained by the possibility that women are stepping in into their old role models since most women report spending their time doing house chores, men reported watching more television (Jung, Kneer, Krüger, 2020).

2.3.3. Effects of the pandemic at work

Companies started to send their employees home in the first few weeks of the pandemic, in the beginning it was mostly due to the uncertainties around the virus however, some facts seemed obvious enough to support this decision: the virus was highly contagious, most facilities were not ready to ensure sanitarian good practices, most people were afraid, and public transportation to get to work was considered a liability (Bartik et al., 2020).

The immediate response to the pandemic was to shut down the economy and close numerous “non-essential” sectors like hospitality (Baum, Mooney, Robinson, & Solnet, 2020) and leisure business (Fairlie, 2020), and as a result many people lost their jobs after the imposed lockdown. People all around the world are dealing with the uncertainty of the labor market, according to the *International Labor organization* (2020) in the second quarter of 2020 there was a 14 per cent drop on the working hours worldwide, which represents the loss of 400 million of full-time jobs. Previously, the default was going to work at the office, nowadays the default is the working at home; offices will have to be redesigned to only correspond to the necessity of face-to-face interaction (Muralidhar, 2020).

It is crucial to state that although remote working can be beneficial for both companies and employees, there is a huge difference between choosing that lifestyle and being forced into that lifestyle as a result of a global pandemic (Muralidhar, 2020). Although remote working was, and still is, the best solution to stop the spread of the Covid-19 and still maintain jobs and avoid layoffs, it is crucial to be aware of the difficulties and challenges that employees are facing (Satici et al., 2020). Since January, employees all around the world had to adapt to a new way of living, this type of adaptation in these times of uncertainty causes a lot of stress and people have to find a way to maintain psychological wellbeing and nevertheless had to find ways to feel motivated and engaged in their work (Bartik et al., 2020). In order to fulfill these needs, team leaders have a crucial role in creating an optimal work environment for employees (Orsini & Rodrigues, 2020), one of the main factors that influence the remote workers effectiveness are trust and management style of the superiors (Wheatley, 2012). Team leaders and supervisors have to be more needs-supportive, and have to provide flexibility, trust and open communication to each member of their team, it is also mandatory to have consideration that every member has its own personal circumstances and need sometimes different approaches (Orsini & Rodrigues, 2020).

In the near future, one of the main challenges that policymakers will face is going to be the reallocating and matching of employees and employers as soon as the economy starts to recover, nonetheless this is going to be a difficult process since there are jobs that will become permanently unviable (Dias,Joyce, Postel-Vinay, Xu, 2020). Bartik et al.

(2020) also believed that even after the Covid-19 crises, at least 40% of the companies they have analyzed will continue to encourage employees to work remotely.

Chapter 3: Methodology

This chapter is dedicated to the methodology applied in this study. Firstly, is described the purpose of the study as well as the research objectives and approaches taken. It will also explain how the data was collected, the measurements used and finally, how the data was prepared and analyzed.

3.1. Research Objectives and Approaches

The main goal of this dissertation is to explore how employees are dealing with remote working imposed by a pandemic crisis. To this extent, this dissertation will explore how this specific work condition is affecting employee's wellbeing and the impact on their productivity. Additionally, it will be explored how the effect of coping style and goal fulfilment (e.g., Chlosta et al., 2012) can predict the employee's well-being.

With this goal in mind, data was collected regarding remote working experience and concerns together with, the influence of Covid-19 in the participants' lives. In order to measure the wellbeing of the participants two questionnaires were used, one to evaluate perceived stress and other to evaluate distress.

Since this is an exploratory and aiming to have a better understanding of the existing problem, it was made a descriptive analysis regarding the questions that were made in the section of remote working. Furthermore, some exploratory statistical analyses to initially explore the data.

3.2. Data Collection

The survey was posted online and was essentially shared via social media (Facebook, WhatsApp and LinkedIn). In order to increase the diversity of the participants, the survey was both in Portuguese and English. Because of the fact that this dissertation aims to investigate how Covid-19 affects employees, and how employees manage with the remote working situation, two eligible criteria were considered: working remotely during the pandemic time and being older than 18 due to legal reasons. Convenience sampling method was preferred to have as many participants as possible to provide the best explanation possible for the current study.

3.3. Procedure

The data was collected via the survey software Qualtrics, the questionnaire was online from the 24th of April until the 1st of June, and 326 participants attended the survey. Firstly, participants were informed about the purpose of the study, were assured about the ethics and anonymity of the data and that they were able to dropout any time. It was highlighted that by continuing the survey they were agreeing with the consent form.

The measurements used were dived in five different sections: grit, perceived stress, distress, questions of self-report measurement about remote working and the Covid-19 outbreak, and demographic questions. At the end of the survey, participants were thanked, and contact information was provided in case participants would have any following questions regarding the study.

3.4. Measurements

An exploratory study was conducted since it is a current affair that has not been studied or thoroughly investigated in the past. The data was collected via an online questionnaire divided in 5 different sections.

In the first section of the questionnaire was a Grit Scale (Appendix A) that measures the extent to which individuals can maintain focus and interest and persevere in obtaining long-term goals. The questionnaire is composed of 10 questions, for example "*Setbacks don't discourage me. I don't give up easily*" or "*I often set a goal but later choose to pursue a different one*", and the participants answer in a 5-point Likert scale from 1 "very much like me" to 5 "not like me at all". Furthermore, demonstrates internal consistency ($\alpha > .73$) (Duckworth & Quinn, 2009).

The second section of the survey was "Perceived Stress Scale" (PSS-4) (Appendix A), and participants would answer in a 5 point Likert scale where 1 is "never" and 5 is "Very often", a total of 4 questions related to their feelings and thoughts during the last month, for example "In the last month, how often have you felt confident about your ability to handle your personal problems?". Additionally, since it is only a 4 item question the Cronbach's alpha values obtained for the PSS-4 were only marginally acceptable demonstrated adequate internal consistency reliability ($\alpha = .68$) (Lee, 2012)

In third, was the Kessler Psychological Distress Scale (K10) (Appendix A) questionnaire that aims to yield a global measure of distress and the participants had to

answer about their feelings from the past 30 days, such as questions of "*During the last 30 days, about how often did you feel depressed?*" or "*During the last 30 days, about how often did you feel that everything was an effort?*". It has a total of 10 questions, and the answers were given in a 5-point Likert scale from 1 "none of the time" to 5 "all the time". This questionnaire has a good internal consistency (α=.91) (Pereira et al., 2019).

Then, in the fourth section of the survey, the participants were asked 16 questions related to their current way of work and how they were dealing with the Covid-19 outbreak (Appendix A). The self-reported measures regarding the remote work aimed to analyzed employees' productivity, work-life balance, workload and the main difficulties they encounter, some examples of the questions asked were: "*How many hours you work remotely per day?"* or *"Do you have an office or a room in your home dedicated only for working?",* and *"Are you being able to separate work life from family life easily?.* Questions to analyze the influence of Covid-19 in the participants live were for instance: "*What are your main sources of information about Covid-19? (…)"* and "*What are your main fears about this pandemic? (…)".*

Finally, before completing the survey, participants had to answer a few demographic questions regarding age, gender, nationality, education, marital status, people in the household, number of children and area of employment.

3.5. Data Preparation

When the collection of data was finished, the data was exported to *IBM SPSS Statistics Data Editor* (version 26) in order to be analyzed. Surveys are the most preferred data collection methods for empirical investigation mostly because it is cost-effective and offers to reach a higher number of participants (Glock, 1967). However, from time to time it can cause some errors in which participants provide invalid data to survey questions (Curran, 2016), and there are several ways to identify responders who provided invalid data. Therefore, it is necessary to remove invalid data from the dataset to have more stable results (Huang, Liu, & Bowling, 2015). Before starting the data screening process, the missing variables were detected and removed from the data set to prevent it from any future problems (n= 247). In this research for detecting outliers, it was used Mahalanobis Distance, which is preferred by many researchers since it provides a simple, effective way to detect outliers (Curran, 2016). Based on the created p-value based on Mahalanobis

distance, no outliers were detected, collinearity analysis was also conducted to see whether independent variables are highly correlated to each other however, no violation in VIF and tolerance scores was detected and the data set was kept without any changes were made.

Chapter 4: Results

In this chapter the results of the analyses will be presented. Firstly, it is described the demographic characteristics of the sample, then the results of the exploratory analyses regarding Covid-19 and remote working, and finally the results of the main analyses to provide the answers of the hypotheses proposed.

Participants

A total of 247 participants completed the survey, 176 female (71,3%), 70 male (28,3%) and 1 prefer not to say (0.4%). Participants median age was 42,73 (SD=12,93; min=19; max=67). People from 9 different nationalities participated in the study, the majority was Portuguese (95,95%) (See Appendix B). Greater number of the participants hold a bachelor's degree (45,9%), which was followed by a master's degree (32,6%), Doctorate (10,3%), High School graduated (7,0%), Professional degree (2,1%) and finally only 3 people had not completed high school (1,2%) (See Appendix B).

Those who did not complete the survey (n=79) were excluded from the analyses.

Exploratory analyses

First and foremost, with the aim of understanding how people were coping with remote working and the pandemic, we decided to conduct an exploratory analysis to investigate the data by using 8 different self-report measures about remote working and the Covid-19 outbreak. Exploratory data analysis is a fundamental part in any research analysis. One of the main opportunities that exploratory data analysis offers is that it provides the possibility of exploring the data set, Hypothesis generation by providing data visualization and graphical representation (Komorowski, Marshall, Salciccioli, & Curtain, 2016). Unlike confirmatory factor analysis, exploratory data analysis has a high level of flexibility which is essential for understanding, identifying, and exploring the wide range of statistical and substantive data which appear during empirical research (Jebb, Parrigon, & Woo, 2017).

In general, exploratory data analysis can be defined as an inclusive analytic attitude described as "detective work designed to reveal the structure or the patterns in the data" (Haig, 2005, p.375; Tukey, 1980). Due to the fact that there are not many studies regarding

Covid-19, we though that by using exploratory analysis, it will be possible to provide a fresh perspective to the literature.

The results of the exploratory analyses regarding Covid-19 and remote working self-report measures will be described below.

Reasons to start isolation: In the question "*What were the reasons to start your isolation?*" we found the following distribution of answers: Most participants, 57.5%, declared they isolated themselves only when the emergency state was declared in their country, 4.5% of the participants started due to being in contact with someone that was a suspect of covid-19, and finally 4% was because they had travelled to another country. The rest of the participants, 34% provided other reasons to start isolation and the most mentioned were: companies decision, shutdown of schools and being a part of the risk population (Table 1).

Table 1 - *Frequency and percentage distribution - Reasons to start isolation*

	Frequency (N)	Percent (%)
Contact w/ someone suspect of Covid-19	11	4.5
Emergency state declared	142	57.5
Travelled to other country	10	4
Other	84	34
Total	247	100

Main Sources of information: In this part of the questionnaire participants were asked to choose no more than two options regarding the question of "*What are your main sources of information about Covid-19*?", and the most chosen one was television with 78.5%. In second place of favorite sources of information came the newspaper as the choice of 114 participants (46.2%). The third preferable source of information with 28.3% was social media. The fourth most chosen option were the official websites of DGS and WHO and it was one of the choices of 55 participants (22.3%). 43 participants (17.4%) also declared scientific articles as a main source of information. The second least chosen

source of information was friends and family (14.2%), and the least chosen source was the radio with only the percentage of 7.3%. (Table 2).

Table 2 - *Frequency and percentage distribution - Main sources of information*

	Frequency (N)	Percent (%)
Television	194	78.5
Newspaper	114	46.2
Social Media	70	28.3
Scientific articles	43	17.4
DGS/WHO Websites	55	22.3
Radio	18	7.3
Friends and family	35	14.2
Total	-	-

Main fears of the pandemic: In this section, participants were asked to elect the 4 main concerns they have related to the pandemic ("*What are your main fears about this pandemic*?". By a great deal, being worried about the health of the family was the most chosen option and 90.7% of the participants elected it. The second main fear the participants chose was the country's economic stability and this concerns 170 of the participants in this study (68.8%). In third place, is the concern of the health of the participants parents or older friends, and this option was chosen by 139 participants that corresponds to 56.3%. Finally, the fourth main fear is related to personal's physical health and this concerns 35.6% of the participants family (14.2%), and the least chosen source was the radio with only the percentage of 7.3% (Table 3).

Table 3 - *Frequency and percentage distribution - Main fears of the pandemic*

	Frequency (N)	Percent (%)
Family's health	224	90.7
Personal physical health	88	35.6
Personal mental health	43	17.4
Personal economic situation	73	29.6
Country's economic stability	170	68.8
Food shortages	14	5.7
Country's political stability	23	9.3
Job security	62	25.1
Parent's/older friend's health	139	56.3
Total	-	100,0

Impact of Covid-19 on work performance: In the question "*How much do you think Covid-19 influenced your work?*", the majority of the participants (55.5%) stated that they influenced "a lot". The second most chosen answer was "a moderate amount" by 31.6% of the participants which was followed by the options "a little" and "none at all" had only the percentages of 11.3 and 1.2 correspondingly (Table 4).

Table 4 - *Frequency and percentage distribution - Impact of Covid-19 on work performance*

	Frequency (N)	Percent (%)
A lot	137	55.5
A moderate amount	78	31.6
A little	28	11.3
None at al	3	1.2
Total	247	100,0

Main difficulties people encounter while working remotely: Participants were asked the question "*What are the main difficulties you encounter when working remotely?*" and the

main difficulty participants reported the most was the sense of loneliness and lack of human interaction, 37.2%. In second place, 35.2% of the participants also chose the option of being repeatedly interrupted by members of the family or pets. Another option that was highly chosen, 30%, was the difficulty of separating professional life and personal life. Right below, 29.1% reported considering it as a difficulty having technological hiccups. And with 25.5% the option of having difficulties managing the schedule and time was chosen by the participants. The rest of the options had all less than 17% and they were: aversion to the programs used in online meetings, hard time prioritizing work, reduced supervision and direction, difficulties in communicating between coworkers and supervisors, unclear performance metrics, lack of motivation and long-term vision and at last, excessive supervision (Table 5).

Table 5 - *Frequency and percentage distribution - Main difficulties encounter while working remotely*

	Frequency (N)	Percent (%)
Managing own schedule & Time	63	25.5
Technology hiccups	72	29.1
Interruptions	87	35.2
Loneliness & lack of human interaction	92	37.2
Dislike of programs use in online meetings	17	6.9
Hard time prioritizing work	27	10.9
Blurred line between work & family life	74	30.0
Reduced supervision	20	8.1
Miscommunication between co-workers/supervisors	42	17
Unclear performance metrics	14	5.7
Motivation & Long-term vision	41	83.4
Excessive supervision	12	4.9
Other	18	7.3
Total	-	-

Work life balance (WLB): Participants were also asked "*Are you being able to separate work life from family life easily?*" and the most common answer was "sometimes yes, sometimes no" and this was chosen by 43.7% of the participants. Overall, the balance was positive and 29.1% and 16.6% of the participants chose "definitely yes" and "Probably yes" correspondingly, as their answers.

Furthermore, it was conducted an exploratory analysis to see whether men were having less difficulties balancing work life from personal life than women. According to the results, men were being more capable of balancing work life and family life (M=2.29; SD=1.051) than women (M=2.43; SD=1.066) (Table 6).

Table 6 - *Frequency and percentage distribution - Impact of Covid-19 on work life balance* (WLB)

	Frequency (N)	Percent (%)
Definitely yes	72	29.1
Probably yes	41	16.6
Might or might not	108	43.7
Probably not	20	8.1
Definitely not	6	2.4
Total	247	100,0

Productivity (PR): When asked "*In your own perspective, on a scale of 1-5, 1 being less productive and 5 more productive, do you think you are being more or less productive working?*", 32.4% participants declared they were being equally productive at remote work as they were at office work. With a slight lower percentage, 32% of the participants stated they were being a little more productive at home and 15.4% said they were more productive. Also, 15.2 percent declared they were being somewhat less productive at home, and only 4.9 percent said they were doubtless less productive at home (Table 7)

A Pearson correlation was conducted to see if there was an association between being more productive at work and if the participants had worked remotely before the pandemic. Although the results were not significant enough to draw a conclusion between

the relationship working remotely (PRW) and being more productive at work (PR) (r(245) = .013, p>.05) (Table 8).

Table 7 - *Frequency and percentage distribution - Productivity* (PR)

	Frequency (N)	Percent (%)
1	12	4.9
2	38	15.4
3	80	32.4
4	79	32.0
5	38	15.4
Total	247	100,0

Table 8 - *Descriptive Statistics and Correlations for Study Variables of PR and PRW*

	n	SD	M	1
PR	247	.87	3.95	-
PRW	247	1.28	2.01	.013

p>.05

Workload (WL): Participants were asked "*What about your workload? Do you think is bigger or smaller than when you were in the office?*", the results were almost equally distributed between "an increase in workload" and "no change in the workload" with the percentages of 38.9% and 40.9% correspondingly. At least, 20.2% of the participants stated that they had a decrease in their workload (Table 9)

In the self-measure questions, it was also asked "*How many hours does your contract require per week?*" and "*How many hours are you working currently per week?*". To compare these two measures, a new variable was created regarding the difference between the results in the hours participants were working remotely and the hours their contract anticipated (DH). The data was analyzed, and it was concluded that our participants were working averagely 7,87 more hours than their contract anticipated (SD=16.31; min= -40.00; max=88.00) (Table 10)

Table 9 - *Frequency and percentage distribution – Workload (WL)*

	Frequency (N)	Percent (%)
Bigger	96	38.9
Smaller	50	20.2
The same	101	40.9
Total	247	100,0

Table 10 -*Descriptive Statistics Study Variable of DH*

	n	Min	Max	M	SD
DH	247	-40.0	88.0	7.87	16.31
Valid	247				

Main analyses

Correlation between the level of stress and remote working experiences (Problem 1 - Hypothesis 1)

Relationship between level of stress (PSS) and work-life balance (***WLB***) ***(Hypothesis 1a):*** A Pearson correlation was conducted to observe rather or not there is a relationship between the level of stress and WLB. Results indicated that there is a significant positive relationship between the level of stress and WLB, r(245)=.283, p<.001 (table 11), which can be interpreted as, individuals that are balancing better work life and personal life have lower levels of stress.

Table 11 -*Descriptive Statistics and Correlations for Study Variables of WLB and PSS*

	n	SD	M	1
WLB	247	1.06	2.38	-
PSS	247	2.91	6.06	.283**

**p<.01

Relationship between level of stress (PSS) and productivity (PR) (Hypothesis 1b): A Pearson correlation was computed to observe the relationship between the level of stress and productivity. Results demonstrated a significant correlation between the levels of stress and productivity r(245)=-.141, p<.001 (table 12), which can be interpreted that individuals who have lower levels of stress demonstrate higher levels of productivity.

Table 12 - *Descriptive Statistics and Correlations for Study Variables of PR and PSS*

	n	SD	M	1
PR	247	1.07	3.37	-
PSS	247	2.91	6.06	-.141*

*p<.005

Relationship between level of stress (PSS) and workload (WL) (Hypothesis 1c): A Pearson correlation was computed to measure the relationship between the level of stress and workload. Although the obtained relationship between the levels of stress and workload was not significant at the .05 alpha level (p>.05) reported as r(245)=-.05, p>.05 (Table 13).

Table 13 - *Descriptive Statistics and Correlations for Study Variables of WL and PSS*

	n	SD	M	1
WL	247	.89	2.02	-
PSS	247	2.91	6.06	-.05

p>.05

Correlation between the level of distress and remote working experiences (Problem 1 – Hypothesis 2)

Relationship between level of distress (K10) and work-life balance (WLB) ***(Hypothesis 2a):*** A Pearson correlation was conducted to observe whether or not there is a relationship between the level of stress and work life balance. Results show a significant relationship between the levels of distress and WLB r(245)=.306, p<.001 (table 14), which

means that individuals who are balancing better work life and personal life have lower levels of distress.

Table 14 - *Descriptive Statistics and Correlations for Study Variables of WLB and K10*

	n	SD	M	1
WLB	247	1.06	2.38	-
K10	247	6.85	20.74	.306**

**p<.01

Relationship between level of distress (K10) and productivity (PR) (Hypothesis 2b): A Pearson correlation was computed to observe the relationship between the level of distress and productivity. Results demonstrated a significant correlation between the levels of stress and productivity r(245)=-.168, p<.001 (table 15). Which means that participants that showed lower levels of distress demonstrated higher levels of productivity.

Table 15 - *Descriptive Statistics and Correlations for Study Variables of PR and K10*

	n	SD	M	1
PR	247	1.07	3.37	-
K10	247	6.85	20.74	-.168**

**p<.01

Relationship between level of distress (K10) and workload (WL) (Hypothesis 2c): A Pearson correlation was computed to measure the relationship between the level of stress and workload. Although the obtained relationship between the levels of distress and workload was not significant at the .05 alpha level (p>.05) reported as r(245)=-.056, p>.05 (Table 16)

Table 16 - *Descriptive Statistics and Correlations for Study Variables of WL and DSS*

	n	SD	M	1
WL	247	.89	2.02	-
K10	247	6.85	20.74	-.056

p>.05

Correlation between Grit and remote working experiences (Problem 2 – Hypothesis 3)

Relationship between Grit (GR) and work-life balance (***WLB) (Hypothesis 3a):*** A Pearson correlation was computed to measure the relationship between the level of Grit and WLB. Results showed a significant relationship between GR and the WLB r(245)=.144, p<.001 (table 17). The results can be interpreted in the way that individuals with higher levels of GR are managing better the WLB.

Table 17 - *Descriptive Statistics and Correlations for Study Variables of WLB and GR*

	n	SD	M	1
WLB	247	1.06	2.38	-
GR	247	4.54	38.10	-.132*

*p<.005

Relationship between Grit (GR) and productivity (PR) (Hypothesis 3b): A Pearson correlation was conducted to observe whether or not there is a relationship between the level of Grit and productivity. Results indicate a significant relationship between grit and productivity r(245)=.144, p<.001 (Table 18). The results demonstrate that individuals with higher GR are being more productive at remote working.

Table 18 - *Descriptive Statistics and Correlations for Study Variables of PR and GR*

	n	SD	M	1
PR	247	1.07	3.37	-
GR	247	4.54	38.10	.144*

*p<.005

Linear regression between grit and wellbeing (Problem 3 – Hypothesis 4)

Regression between Grit (GR) and stress (PSS) (Hypothesis 4a)

A simple linear regression was conducted to observe if Grit could determine the level of stress of the participants. In the regression analysis GR was taken as an independent variable whereas PSS as a dependent variable.

The results of the regression analysis demonstrated that the model was significant to explain stress level: F(1,244)=23.640, p<.001(Table 19) with an R^2 of .088 which indicates that the model was predicted 9% of the variance. In the final model, Grit was found statistically significant in predicting participants' level of stress (*t*= -4.862, p<.001, B=-.297). The following equation was used to calculate the model:

y= c+b*x

The final predictive model was:

Stress = 13.352 + -.191(Grit)

Participants' level of stress decreases .191 for each 1-point increase in grit. In other words, participants' level of stress decreases as grit increases.

Table 19 - *Simple linear regression between Grit and Stress*

	B	SE	β	*t*	*p*
(Constant)	13.352	1.508		8.852	.000
GR	-.191	.039	-.297	-4.862	.000
Notes. R^2 = .88 (p<.001)					
F- ratio = 23.640					

Regression between Grit (GS) and distress (K10) (Hypothesis 4b)

A simple linear regression was conducted to observe if Grit could determine the level of distress of the participants. In the regression analysis Grit was taken as an independent variable whereas distress as a dependent variable.

The results of the regression analysis demonstrated that the model was significant to explain distress level: F(1,244)=18.424, p<.001(Table 20) with an R^2 of .070 which indicates that the model was predicted 7% of the variance. In the final model, Grit was found statistically significant in predicting participants' level of stress (*t*= -4.292, p<.001, B=-.400). The following equation was used to calculate the model:

y= c+b*x

The final predictive model was:

Distress = 35.99 + -.400(Grit)

Participants' level of distress decreases .400 for each 1-point increase in grit. In other words, participants' level of distress decreases as grit increases.

Table 20 - *Simple linear regression between Grit and Distress*

	B	SE	β	*t*	*p*
(Constant)	35.999	3.580		10.055	.000
GR	-.400	.093	-.265	-4.292	.000
Notes. R^2 = .70 (p<.001)					
F- ratio = 18.424					

Chapter 5: Discussion

The goal of the present dissertation was to study how employees are dealing with remote working imposed by a pandemic crisis, COVID-19, in other words, to see how the present working conditions and their personal characteristics are affecting employees' wellbeing. The findings regarding the relationship between the measures of wellbeing and the self-measures of remote working (Problem 1), were statistically significant between employees' wellbeing, productivity, and WLB. Respecting the relationship between grit and the self-measures of remote working (Problem 2), the results were also statistically significant regarding the WLB and productivity. The findings showed that the ability of perseverance for long-term goals (grit) is a significant predictor of one's wellbeing (Problem 3). The results were statistically significant not only between the level of grit and the level of stress, but also between the level of grit and the level of distress.

Descriptive statistical analyses were conducted in the following self-reported measures: reasons to start the isolation; Main difficulties people encounter while working remotely; Main Sources of information; Main fears of the pandemic; Work life balance; productivity; How much Covid-19 influences work; and Workload.

In the self-reported measures regarding Covid-19 the results were not a surprise, and as expected, the majority of our participants only started isolation upon the declaration of the emergency state in their country or as a result of their companies' decision. The participants declared that the television, the newspaper, and social media were, by this order, as the preferred main sources of information. Finally, their main fears of the pandemic were somehow similar to the results of a study conducted in Germany, in the United Kingdom and in the United States (Kunst, 2020), and overall the top 4 with higher levels were the following: family's health, country's economic stability, parent's or older friends' health, and personal physical health.

The sense of loneliness due to the lack of human interaction is one of the downsizes of remote working (Prasad et al., 2020; Muralidhar et al., 2020), and the main difficulty highlighted by the participants was also the sense of loneliness and lack of human interaction when working remotely. The second difficulty that our participants encounter the most was being repeatedly interrupted by members of the family or pets, and thirdly, the option that was also highly chosen, was the difficulty of separating professional life and personal life. In agreement with the last analysis, our participants reported some

inconsistency in maintaining separate work life from family life (Grant et al., 2013), regarding this issue an exploratory analysis was conducted, and male participants had less difficulty in balancing work life and family life than female participants. This might be explained by the paper of Hartig, Kylin and Johansson (2007) whose findings suggest that for women, house-work represents a time-constraint and working remotely gives them the feeling of continue presence of "double-shift".

Moreover, studies show that remote working increases employees' productivity and gives them the opportunity of having a more flexible schedule without the office hours restrictions (De Menezes & Kelliher, 2011). In our results regarding this problematic, a great deal of the respondents declared they were being more productive than when they were in the office, the second more chosen option was being as productive as they were in the office, and only a few respondents stated they were being less productive.

As to the workload, the majority divided themselves into having the same amount of work or having more work than when they were in the office. Additionally, new variable was created regarding the difference between the results in the hours participants were working remotely and the hours their contract anticipated, and it was concluded that our participants were working averagely 7,87 more hours than their contract anticipated. Which means that overall people are working considerably longer hours while staying at home.

The hypotheses presented in Problem 1 that wellbeing was directly correlated with work life balance (H1a and H2a), were built upon the findings of Hartig, Kylin and Johansson (2007) who stated that remote workers experienced an overlap between home and work lives, eliminating the sensation of relaxation after work due to the fact they were at home all the time. Our results highlight that individuals who are better at balancing work life and personal life have lower level of stress which goes in line with the findings of Grant et al. (2013) who concluded that over-working and the lack of time for recuperation affected directly the wellbeing of remote workers.

Regarding the second Hypothesis proposed in Problem 1, wellbeing was correlated with productivity (H1b and H2b), the results were statistically significant and also support the findings of Grant et al. (2013) who concluded that job effectiveness can be influenced positively and negatively by the well-being. Furthermore, remote working can result in feelings of isolation and loneliness, and when working at home the absence of social

interaction can also negatively influence the productivity of the employees (Prasad et al., 2020; Muralidha et al., 2020).

Based on problem 2 and aiming to understand if having passion and perseverance for achieving long-term goals (grit) was correlated to better productivity and better management of work life balance (H3a ad H3b), correlations were conducted. The results were significant in both variables. One possible explanation for it can be that participants who score higher in grit are more optimistic in the way they interpret the adverse events as challenges and not as setbacks; this leads to resilience when dealing with a pandemic crisis (Duckworth et al., 2009). In fact, people with higher values of grit normally accept their current situation and condition, and do not let the adversities get in the way of their goals (Duckworth et al., 2009), in the case of this study, their career and life goals

Based on ability of gritty people to pursue long-term goals (Human-Vogel & Van Petegem, 2008), along with the observations made by Vainio and Daukantaitė (2015) that grit was strongly related to psychological wellbeing (H4a and H4b), Problem 3 was formulated and tested. According to this theory, individuals with high levels of grit have a high level of discipline and self-regulation, which is associated with health and psychological benefits (Joseph & Newman, 2010). In our analyses the same conclusion was reached, and the participants that scored higher in grit had significantly lower levels of stress and distress.

The first limitation found on this dissertation is the fact that is an exploratory study and even though it can open a path for future research, it can be sometimes inconclusive. Furthermore, since it has a small sample of participants the results reached in this dissertation cannot be interpreted for a generalize population. Adding to the impossibility of generalizing to the population, is the unequal number of female participants and male participants.

Another limitation that can be enunciated goes along with the limitation of the Angela Duckworth's Grit Scale. Participants when answering the questionnaire can suffer from "reference bias" that appears when people hold different standards by which they judge their own behavior (Duckworth & Yeager, 2015). Additionally, individuals can be influenced by the overconfidence bias, where they have a false sense of their talent or self-belief and tend to think more of themselves which leads to committing errors (Kahneman & Tversky, 1996), in this case errors of personality.

The lack of cause effect relationships in this study is considered also as a limitation, in the way that in this dissertation it is explained the negative effects of Covid-19 by using descriptive statistics, but not by using statistical analyses. In future studies, it should be analyzed how Covid-19 can predict stress by first create a measure to evaluate the influence of Covid-19 and then conduct multiple regression analyses.

In this dissertation only the wellbeing of employees who were working remotely was analyzed, and perhaps different results would appear if the study target employees whose work does not allow them to work remotely and have to be in the field while the outbreak (i.e. health, hospitality, public services, transportation, etc.).

Moreover, it would be interesting in future studies to do an extend of this dissertation and transform it in a longitudinal study, and measure the differences between the wellbeing felt by coworkers in a different timeline of the pandemic outbreak.

Chapter 6: Conclusion

This dissertation addresses an outgoing topic, that is the Covid-19 outbreak, and overall, aimed to explore the wellbeing of remote workers and how a certain personality trait – grit – could influence how workers were coping with this new reality. Despite the limitations of this dissertation, it should provide useful and innovative insights regarding the correlation between grit, remote working and wellbeing.

Being a recent topic with scarce literature, the exploratory analyses conducted allowed us to understand how remote workers are feeling and how they are coping with this, hopefully, once in a time life experience. Human beings are social individuals that rely on social interactions; therefore, the main difficulty remote workers encountered by the beginning of quarantine was the sense of loneliness created by social isolation. Regarding the workload, our participants reported an increase, although the majority declared they were being more productive at home than they had been in the office. The findings of this dissertation confirmed most of our assumptions, and it was found that the ability of perseverance for achieving long-term goals (grit) is a significant predictor of one's wellbeing and, at its turn, the wellbeing is significantly correlated with a good work life balance and productivity.

According to the literature, grit is positively correlate with life satisfaction and wellbeing and by norm gritty people tend to be more optimistic and focus more on eudonic happiness instead of immediate compensation; our results do support this line of though, one possible explanation being that, perhaps, people with high values of grit are dealing better with the pandemic since they know that what they are doing is going to improve their life in the long run.

To conclude, this dissertation could be consider as a starting point for studies to analyze the impact of grit not only in the area of remote working but also in exploring the impact grit can have in the perception people have of a global pandemic.

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Appendix

Appendix A – Questionnaires

Demographics Questionnaire

1. What is your age?
2. What is your gender?
    - Male
    - Female
    - Other
    - Prefer not to say
3. What is your nationality?
4. What is the highest degree or level of school you have completed?
    - Less than high school
    - High school graduate
    - Bachelor's degree
    - Professional degree
    - Doctorate
5. What is your marital status?
    - Single
    - Living together, but not married
    - Married or customary marriage
    - Widowed
    - Separated or Divorced
6. Do you have kids?
    - Yes
    - No
7. If yes, hoe many?
8. How many people are in the household?
    - 1
    - 2
    - 3
    - 4

- 5
- More than 6

9. What is your area of employment?

Remote work and Covid-19 Outbreak

1. Since when are you in social isolation? Please indicate the date.
2. What were the reasons to start your isolation?
    - Contact with someone suspect of having covid-19
    - Emergency state declared
    - Travelled to other countries
    - Other
3. Before the Covid-19 forced quarantine, how often did you used to work remotely?
    - Never
    - A few times a month
    - Once a week
    - Two or more times a week
    - All the time
4. What are the main difficulties you encounter when working remotely?
    - Managing Your Own Schedule & Time
    - Technology hiccups (wi-fi, programs,...)
    - Interruptions (family, pets,...)
    - Loneliness and lack of human interaction
    - Dislike of the programs used for online meetings
    - Hard time prioritizing work (f.e. procrastination)
    - Blurred Line Between Personal & Professional Life
    - Reduced Supervision & Direction
    - Miss communications between co-workers and coordinators
    - Unclear Performance Metrics
    - Motivation & Long-Term Vision
    - Excessive supervision
    - Other
5. How many hours your work contract anticipate per week?

6. How many hours you work remotely per day?
7. Do you have an office or a room in your home dedicated only for working?
    - Yes
    - No
8. Are you being able to separate work life from family life easily?
    - Definitely yes
    - Probably yes
    - Might or might not
    - Probably not
    - Definitely not
9. In your own perspective, on a scale of 1-5, 1 being less productive and 5 more productive, do you think you are being more or less productive working?
10. What about your workload? Do you think is bigger or smaller than when you were in the office?
    - Bigger
    - Smaller
    - The same
11. What are your main sources of information about Covid-19? Choose no more than 2 options.
    - Television
    - Newspaper/online newspaper
    - Social media
    - Scientific articles
    - DGS/WHO website
    - Radio
    - Friends and family
12. What are your main fears about this pandemic? Choose no more than 4 options.
    - Family's health
    - Personal health
    - Personal mental health
    - Personal economic situation

- Country's economic stability
- Food shortages
- Country's political stability
- Job security
- My parents' / Older friend's health

13. On a scale of 1-5 how worried are you about Covid-19?
14. How much do you think Covid-19 influenced your work?
    - A lot
    - A moderate amount
    - A little
    - None at all
15. How many times do you go outside your house?
    - Daily
    - 4-6 times a week
    - 2-3 times a week
    - Once a week
    - Never

Kessler Psychological Distress Scale (K10)

These questions concern how you have been feeling over the past 30 days.

Please answer each item using a 5-Point Likert scale where 1 means "None of the time" and 5 means "All the time".

1. During the last 30 days, about how often did you feel tired out for no good reason?
2. During the last 30 days, about how often did you feel nervous?
3. During the last 30 days, about how often did you feel so nervous that nothing could calm you?
4. During the last 30 days, about how often did you feel hopeless?
5. During the last 30 days, about how often did you feel restless or fidgety?
6. During the last 30 days, about how often did you feel so restless you could not sit still?
7. During the last 30 days, about how often did you feel depressed?
8. During the last 30 days, about how often did you feel that everything was an effort?

9. During the last 30 days, about how often did you feel so sad that nothing could cheer you up?
10. During the last 30 days, about how often did you feel worthless?

"Perceived Stress Scale" (PSS-4) Questionnaire

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, please indicate your response by choosing from the 5-Point Likert scale where 1 means "Never" and 5 menas "Very Often".

1. In the last month, how often have you felt that you were unable to control the important things in your life?
2. In the last month, how often have you felt confident about your ability to handle your personal problems?
3. In the last month, how often have you felt that things were going your way?
4. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

Grit Scale by Angela Duckworth

Here are a number of statements that may or may not apply to you. There are no right or wrong answers, so just answer honestly, considering how you compare to most people. At the end, you'll get a score that reflects how passionate and persevering you see yourself to be. Answer in a 5-Point Likert scale where 1 means "Very much like me" and 5 means "Not all like me".

1. New ideas and projects sometimes distract me from previous ones.
2. Setbacks don't discourage me. I don't give up easily.
3. I often set a goal but later choose to pursue a different one.
4. I am a hard worker.
5. I have difficulty maintaining my focus on projects that take more than a few months to complete.
6. I finish whatever I begin.
7. My interests change from year to year.
8. I am diligent. I never give up.

9. I have been obsessed with a certain idea or project for a short time but later lost interest.
10. I have overcome setbacks to conquer an important challenge.

Appendix B - Demographic Analyses of Participants

Table 21 - *What is your age? (PT) Qual é a sua idade?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	19.00	1	.3	.4	.4
	21.00	1	.3	.4	.8
	22.00	8	2.5	3.2	4.0
	23.00	9	2.8	3.6	7.7
	24.00	5	1.5	2.0	9.7
	25.00	7	2.1	2.8	12.6
	26.00	11	3.4	4.5	17.0
	27.00	3	.9	1.2	18.2
	28.00	4	1.2	1.6	19.8
	29.00	1	.3	.4	20.2
	30.00	7	2.1	2.8	23.1
	31.00	10	3.1	4.0	27.1
	32.00	3	.9	1.2	28.3
	33.00	3	.9	1.2	29.6
	34.00	2	.6	.8	30.4
	35.00	7	2.1	2.8	33.2
	36.00	2	.6	.8	34.0
	37.00	6	1.8	2.4	36.4
	38.00	2	.6	.8	37.2
	39.00	9	2.8	3.6	40.9
	40.00	6	1.8	2.4	43.3
	41.00	4	1.2	1.6	44.9

	42.00	8	2.5	3.2	48.2
	43.00	7	2.1	2.8	51.0
	44.00	7	2.1	2.8	53.8
	45.00	6	1.8	2.4	56.3
	46.00	7	2.1	2.8	59.1
	47.00	7	2.1	2.8	61.9
	48.00	6	1.8	2.4	64.4
	49.00	2	.6	.8	65.2
	50.00	3	.9	1.2	66.4
	51.00	5	1.5	2.0	68.4
	52.00	4	1.2	1.6	70.0
	53.00	7	2.1	2.8	72.9
	54.00	7	2.1	2.8	75.7
	55.00	7	2.1	2.8	78.5
	56.00	7	2.1	2.8	81.4
	58.00	11	3.4	4.5	85.8
	59.00	10	3.1	4.0	89.9
	60.00	6	1.8	2.4	92.3
	61.00	4	1.2	1.6	93.9
	62.00	3	.9	1.2	95.1
	63.00	5	1.5	2.0	97.2
	64.00	5	1.5	2.0	99.2
	65.00	1	.3	.4	99.6
	67.00	1	.3	.4	100.0
	Total	247	75.8	100.0	
Missing	System	79	24.2		
Total		326	100.0		

Table 22 - *What is your gender? (PT) Qual é o seu género?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male / Masculino	70	21.5	28.3	28.3
	Female / Feminina	176	54.0	71.3	99.6
	Prefer not to say / Prefiro não dizer	1	.3	.4	100.0
	Total	247	75.8	100.0	
Missing	System	79	24.2		
Total		326	100.0		

Table 23 - *What is the highest degree or level of school you have completed? (PT) Qual as suas habilitações académicas mais elevadas?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than high school / Ensino Básico (1º ao 9º ano)	3	.9	1.2	1.2
	High school graduate / Ensino secundário	17	5.2	7.0	8.3
	bachelor's degree / Licenciatura	111	34.0	45.9	54.1
	Master's Degree / Mestrado	79	24.2	32.6	86.8
	5	2	.6	.8	87.6
	Professional degree / Curso profissional	5	1.5	2.1	89.7
	Doctorate / Doutoramento	25	7.7	10.3	100.0
	Total	242	74.2	100.0	

Missing	System	84	25.8
Total		326	100.0

Table 24 - *What is your nationality? (PT) Qual a sua nacionalidade?*

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		79	24.2	24.2	24.2
	American	1	.3	.3	24.5
	Brazilian	2	.6	.6	25.2
	German	1	.3	.3	25.5
	Greek	1	.3	.3	25.8
	Luso Canadiana	1	.3	.3	26.1
	Portuguese	237	72.7	72.7	98.8
	Romania	1	.3	.3	99.1
	Turkish	1	.3	.3	99.4
	Ukrainian	2	.6	.6	100.0
	Total	326	100.0	100.0	