A Multiple Regression Analysis of the Impact Organisation Size, Frequency of Remote Work, and Personality have on the Well-being of Remote Workers Based in Ireland.

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Abstract

The nature of the workplace has faced several changes in recent years due to globalisation, improvements in technology, changing demographics, and cultural shifts. The Covid-19 pandemic brought more change as many organizations were forced to implement remote working, which allows employees to work in a setting other than the typical office environment. Previously an uncommon practice, both employers and employees were unprepared for the event and faced many challenges, particularly regarding employee well-being. The pandemic put the concept of well-being at the top of HR practitioner's agenda, as negative well-being can result in a high turnover of staff, presenteeism, and absenteeism, which has potential to create conflict in the organisation or increase costs due to extra recruitment needs and lack of productivity.

Literature surrounding remote working and employee well-being was scarce or outdated. Accordingly, this study aims to address the gap created in the remote working and well-being literature by investing the factors that could predict the well-being of remote workers. In particular, the study aims to investigate whether organisational size, frequency of remote work, or personality traits can help predict the well-being of remote workers.

As quantitative surveys on the impact of working remotely on employee well-being were carried out in various geographical regions during the pandemic, this researcher carried out a quantitative survey on the geographical region of Ireland as there is a lack of empirical data for this region. This study design is quantitative, nonexperimental, and cross-sectional. 146 respondents aged between 18 and 65+ answered a well-being survey and the Big Five Inventory 10-item personality survey. Multiple regression analysis was used to analyze the data. The results found that size, frequency, extraversion, conscientiousness, and neuroticism were not statistically significant, while openness and agreeableness were. A limitation of the study is the small sample size. Future research on different factors and further research on the aforementioned factors is advised.

Keywords: remote working, employee well-being, Covid-19, pandemic, Big Five, personality

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Chapter 1. Introduction

1.1 Background and context

At the onset of the Covid-19 pandemic, organisations throughout Ireland were forced to implement the practice of remote working due to a government mandate. The sudden work-from-home advice meant there was little time to prepare for the change. Prior to the pandemic, the practice of remote working was uncommon, though it was slowly becoming more prevalent with demographic changes, globalisation, and societal trends responsible for this increase (Wang *et al.*, 2021). Hunter (2019) builds on this work by factoring in technological changes, social trends, and cultural changes. Examples of the technological changes include developments in information and communication technologies (ICTs) and the greater availability of high-speed internet (Wang *et al.,* 2021). While these developments were taken advantage of by some companies, others were unaware of how best to change to remote working, and often did not consider the impact it could have on their employees and their well-being.

Juchnowicz and Kinowska (2021) discuss how remote working has a particular impact on three aspects of employee well-being: workplace relationships, mental and physical well-being, and work-life balance. Brown *et al.* (2019) inform us that employers have become more focused on the well-being of employees as they have observed the benefits of positive employee well-being on productivity and engagement. Kowalskia and Loretto (2017) further reiterate its importance as poor employee well-being can cause a decrease in both performance and productivity. It can also lead to issues with retention, which has implications on HR such as increased costs of recruitment (CIPD, 2021b). The trend of remote working is said to continue as Sytch and Greer (2020) argue that organizations will take a hybrid approach to remote working post-pandemic. As a result, research into the impact of remote working is still necessary to consider.

1.2 Identified problem

During the quarantine, there was a significant increase in media and press regarding the challenges of remote working and on mental health and well-being. However, the recommendations being to HR practitioners were based on research carried out prior to the pandemic. Wang *et al.* (2021) suggests that research needs to shift focus "from understanding whether or not to implement remote working to understanding how to get the most out of remote working." In other words, it is time for research to focus on how organisations can best accommodate the practice.

1.3 Proposed research

As a result of this shift, it is important to look at additional factors that can influence a remote workers' well-being. Information gathered in regarding remote working and well-being has focused on employees from geographical areas outside of Ireland. There is limited data regarding the well-being of remote workers in Ireland. This research would be valuable as the Irish government is considering legislation on the right to work remotely, while some organisations who employ many workers in Ireland, such as Facebook, have implemented the option for remote working permanently (Kenna, 2021; O'Brien, 2021). This research will focus on employees based in Ireland to rectify this gap.

Juchnowicz and Kinowska (2021) and Mostafa (2021) conducted quantitative surveys to investigate how remote working impacts employee well-being in Poland and Egypt respectively. This study will use a quantitative research method to make generalisations about remote workers based in Ireland, which can provide guidance for organisations and HR practitioners for a post-pandemic work setting.

1.4 Structure of Study

This study commences with a comprehensive literature review that details the meaning of remote working, the meaning of well-being, and the different factors that could potentially predict a remote worker's well-being score. The factors discussed are organisation size, frequency of remote working, and personality. Based on the literature review, the researcher develops three main research objectives for this study in Chapter 3. The Methodology Chapter 4 then details the research carried out, including the philosophical underpinning, research design, surveys used, sample, sampling method, data collection, data analysis, method limitations, and ethical considerations before moving to Chapter 5 to carry out the multiple regression analysis and examine the findings. The study then moves to discuss the findings in Chapter 6, then offer recommendations in Chapter 7. Lastly, a personal learning statement is included. This chapter has provided background and context for the Literature Review and for the study as a whole.

Chapter 2. Literature Review

2.1 Introduction

This research aims to obtain insights into the impact of remote working on the well-being of remote workers in Ireland. The purpose of this literature review is to make the different aspects of the research clearer. This section starts with a discussion of the definition of remote working and its advantages and disadvantages. It then moves to consider the meaning of well-being, specifically employee well-being. The chapter then links the concepts with a discussion of the variables that may predict the well-being of remote workers, including size of the organisation, frequency of remote work, and personality.

2.2 What is Remote Working?

According to Grant *et al.* (2013), there is no clear consensus in the literature in what constitutes remote working. Sullivan (2003, p. 158) agrees that "the search for a universally accepted definition of telework, that is suitable for academic research, has been the source of some considerable contention and debate". Another aspect of remote working that can cause confusion is the wide number of terms that can be used, such as "telework, remote work, distributed work, virtual work, flexible work, flexplace, and distance work, among other labels" (Grant *et al*. 2019, p. 17). Grant *et al*. (2019, p. 17) label the practice "e-working", observing that "e-worker" is frequently used in the UK while "teleworking", "teleworker" and "telecommuting" are North American in origin. This study will use the terms remote work and telework interchangeably while refer to those who partake in the practice as remote workers.

As well as disagreement over the name given to remote working, there are discrepancies among the definitions (Grant *et al.*, 2013). "Teleworking" was first mentioned in 1973 by researcher Jack Nilles, and Bailey and Kurland (2002, p. 384) define it as "working outside the conventional workplace and communicating with it by way of telecommunications or computer-based technology". Similarly, Chiru (2017) describes remote work as work activities carried out in a location other than the office, however the author specifies that the remote worker must be using technology. Joice (1999, p.3, cited in Madsen, 2001) classifies remote work as a "work arrangement in which employees work at alternate worksites to conduct some or all, of their officially assigned work during paid work hours". The author further stipulates that the employee must spend on average at least eight hours every two weeks in the alternative worksite, and that their commute to the site must be reduced (Joice, 1999, cited in Madsen, 2001). In contrast, Jack Nilles proposes that remote working was

"periodic work out of the principal office, one or more days per week, either at home, at a client's site, or in a telework centre" (Ellison, 1999, p. 341).

It can be said that there is a gap in the literature for remote working due to the lack of agreement among scholars. Allen, Golden and Shockley (2015) state that the lack of agreement of the definition of the term poses challenges for understanding this mode of work as it is difficult to cross reference literature. However, based on the definitions afforded to the researcher, it is possible to identify advantages and disadvantages of the practice.

2.3 Advantages and Disadvantages of Remote Working

Remote working poses advantages and disadvantages for both employers and employees. Regarding the advantages for employers, Choudhury *et al.* (2020) observes that it has allowed organisations to widen their talent pool. Technology has allowed for improved quality in online communication, such video conferencing, which can allow employees from all over the country, and even globally, connect with the main office. Lewis and Cooper (2005) observe that it is a way of reducing costs for an organisation, such as on rent and electricity for the company, without compromising productivity. Challenges include that it can be difficult to foster organisational culture, there may be a lack of managerial control, and it could be difficult to monitor performance (Madsen, 2011). The organisation may also face the cost of employee remote working set ups and face the health and safety concerns that occur along with this (Cook, 2019).

Regarding employees, Wheatley (2012) reports that there are increased levels of satisfaction. Research conducted by Klopotek (2017) found that flexible working hours, less time spent commuting, and increased autonomy were key advantages of remote working. Madsen (2011) offers a list of advantages including avoidance of office politics and better work/family balance. However, in contradiction to this, Klopotek (2017) lists some of the disadvantages as an inability to differentiate home affairs from work affairs. Another challenge is the lack of visibility between some employees and their employers, therefore less opportunities for promotion. Related to the previous point regarding organisational culture, employees typically enter organizations where their person-environment fit is maximized, meaning their values and culture align with that of the organisations' (Carnevale and Hatak, 2020). As a result, they have higher levels of satisfaction, overall well-being, and engagement (Kristof-Brown, Zimmerman, and Johnson, 2005). A company's values and culture can shift when making the change to remote working, which can disrupt their workforce. It can be said

that the advantages and disadvantages listed for employees are specifically related to their well-being, and as a result the researcher then explored the meaning and aspects of well-being.

2.4 What is Employee Well-being?

As stated by Zheng *et al*. (2015) and Sandilya and Shahnawaz (2018), there is no accurate definition available for employee well-being. In 1987, Warr defined the concept as "the overall quality of an individual's subjective experience and functioning at work" (Grant *et al*., 2007). This relates to the work of Grant *et al.* (2007), who identify two dimensions of well-being in the literature. The first dimension is referred to as 'happiness well-being' and is concerned with an individuals' subjective experience of work (Grant *et al.,* 2007). This dimension encompasses elements such as job satisfaction (Grant *et al.,* 2007). The second dimension of employee well-being is concerned with physiological and psychological health, such as job-related stress, exhaustion, and anxiety (Danna and Griffin, 1999). Despite the definition by Warr and the research into the two dimensions, De Simone (2014) felt the literature on employee well-being as "disjointed and unfocused". Building on the work of Danna and Griffin (1999), De Simone (2014) discusses the three antecedents to poor employee well-being: personality, occupational stress, and work setting. Personality refers to traits the employee has that makes them prone to stress, while occupational stress refers to the lack of fit between the individual and the demands of the role (De Simone, 2014). An intriguing aspect of this research was the reference to work setting. It could be said that work setting is relevant to remote work, as the setting is different from typical work.

2.4.1 Social Well-being

De Simone (2014) also refers to social well-being. Spreitzer *et al.* (2005) explains that quality social connections to others is related directly related to well-being. CIPD (2021) state that social well-being encompasses communication, employee voice, consultation, and involvement in decision making. This observation is also included in research by Juchnowicz and Kinowska (2021). Social well-being is particularly concerned with forming positive workplace relationships. Guest (2017) states that as remote workers are away from the workplace, social isolation is a challenge they face. There are no opportunities for informal conversations that can result in knowledge sharing and learning (Guest, 2017). Avis (2018) argues that virtual meetings can ease feelings of loneliness. However, Guest (2017) notes that there is scarce research on the remote workers feelings of isolation. This led the research to consider the mental well-being of an employee.

2.4.2 Physical and Mental Well-being

It could be said that the most thought of aspect of well-being is physical and mental well-being. Mann and Holdsworth (2003) discovered that remote workers experienced less stress than their office-based colleagues, but also experienced increased loneliness and irritability. Linked to the social aspect of well-being, these negative mental health emotions were ascribed to social isolation and no opportunities to share their worries with colleagues (Mann and Holdsworth, 2003). Findings from studies on the physical impact of remote working on employee well-being are mixed, with evidence showing that it can be beneficial, including lowered blood pressure when remote working in comparison to blood pressure while in the office (Grant, Wallace, and Spurgeon, 2013). However, this research also found that these advantages can be rendered ineffective if work continues outside of normal working hours, which leads into the concept of work-life balance.

2.4.3 Work-Life Balance

The third aspect of employee well-being identified by the researcher was the concept of work-life balance. Work-life balance refers to the equilibrium between a person's time at work and their time outside of work. The implication is that the quality of either element would deteriorate should there be any "spillover" from one into the other (Guest, 2002). Work-life balance is related to well-being due to impact such a spillover could have on the employee. Wepfer *et al.* (2018, p. 727) discusses how improvements in technology like smart phones and laptops have "blurred the boundaries between work" and home life, which can put pressure on a remote worker to feel as though they are "always on". This observation echoes the work of Hartig *et al*. (2007, p. 231), who states that "having a separate room for telework appeared to ameliorate spatial but not temporal or mental overlap of work and non-work life". In other words, while a separate room provided a physical boundary that divided the workspace and the living space for remote workers, the boundary wall was not enough to create a psychological division. Flexible working has been praised for allowing employees time to pursue other hobbies due to the reduced time spent commuting. Wepfer *et al*.'s (2018) states that a lack of recreational and recovery time from work can lead to exhaustion and burnout, which can cause a distant attitude towards work. Madsen (2011) argues that remote working enhances work/life balance. Guest (2017) supports this point of view, claiming that the flexibility of remote working can be a positive for employee well-being as it gives employees the freedom to shape the balance themselves. However, Wheatley (2012) found that despite the newly available time for other activities from remote working, this time was

not often not used for leisure activities and relaxation but filled on household chores or other work, particularly for women, which is contrary to Guest's (2017) research.

Following this investigation into the meaning of well-being, the researcher determined that social well-being, physical and mental well-being, and work-life balance, were the three elements of well-being most discussed in the literature. This study then required a suitable way of measuring employee well-being.

2.4.5 Measures of Employee Well-being

As mentioned previously, research on employee well-being evolved from work on general well-being, such as subjective well-being and psychological well-being (Ilies *et al*., 2007). Page and Vella-Brodrick (2009) observes that most scholars define well-being and to suit their own research objectives. As a result, no uniform measurements has yet emerged. Psychological well-being, subjective well-being, and job satisfaction are used interchangeably to exemplify well-being. It has also been suggested that the life satisfaction scale (Diener *et al*., 1999), positive and negative affect schedule (Watson, Clark, and Tellegen, 1998), workplace well-being index, affective well-being scale (Daniels, 2000) should also be surveyed.

When researching the variety of surveys available, the researcher found a recent survey devised by Juchnowicz and Kinowska (2021) from the Gallup-Healthways global survey. As this survey measures employee well-being in terms of workplace relationships (social well-being at work), physical and mental health, and work-life balance, the researcher found it to be suitable for this study.

Parent-Lamarche and Marchand (2019, p. 298) state that "it is of great importance for organizations to identify what can influence employees' well-being to design a workplace environment that enhances it." Following this, the researcher moved to consider predictor variables for employee well-being.

2.5 Size of Organisation

A gap exists in the research in terms of how sector and organisation size relate to an employee's well-being (Kowalskia and Loretto, 2017). For example, "small businesses have been relatively overlooked to date in terms of how they can manage employee well-being with limited resources" (Kowalskia and Loretto, 2017, p. 2246). Smaller organisations may have difficulty with allocating funds for IT for remote working, a well-being programme, or have less social interaction due to smaller number of employees. This research aims to

discover whether smaller organisations can predict lower well-being scores, and whether smaller organisations should allocate more resources to well-being. The Organization for Economic Cooperation and Development (OECD) classify organisation size as Small (fewer than 50 employees), Medium (between 50 and 249 employees), and Large (over 250 employees), therefore these categories were used for this study.

2.6 Frequency of Remote Working

As mentioned previously, the definitions for remote working provided by Nilles and Joice (1999, cited in Madsen, 2001) specify the amount of time required to constitute remote working. Wang *et al.* (2021) note that studies conducted before the pandemic occurred in a context where the practice was infrequent or occasional. In addition, only a select few of the employees in an organisation would have participated. In their work, Bailey and Kurland (2002, p. 396) observe that "[the] occasional, infrequent manner in which telework is practiced, likely has rendered mute many suspected individual-level outcomes for the bulk of the teleworking population". In other words, an employee who frequently worked remotely may have different outcomes and opinions compared to those who worked infrequently. Findings by Juchnowicz and Kinowska (2021) imply that working remotely 1–2 days per week or full-time can result in lower well-being scores, particularly under workplace relationships. As there is now a wider population available to sample to investigate the impact of frequency of remote working on well-being scores, it is important to take the opportunity to clarify this gap in the research.

2.7 Personality and Well-being

While reading the literature, the researcher found many articles that dealt with personality and well-being. Steele *et al.* (2008) state that refining the relationship between personality and well-being is a fundamental human concern. Previous research conducted on the relationship between each of the Big Five personality traits and employee well-being are as follows:

2.7.1 Extraversion
Extroverted people tend to be more sociable and lean toward positive emotions. They are optimistic and fun-loving (Costa and McCrae, 1992). Evans *et al.* (2021) found that extroverted remote workers felt less productive, less engaged, and less satisfied with their jobs and were more vulnerable to burnout. However, Parent-Lamarche and Marchand (2019) found that the trait of extraversion was significantly associated with well-being. In addition, Russo *et al.* (2021) found that extraversion positively correlated with well-being. They

explained this inconsistency by suggesting that introverts typically avoid social interactions, and they had to actively put additional effort into having social interactions (Russo *et al.,* *2021)*.

2.7.2 Agreeableness

An agreeable person is empathetic, a good collaborator, trustworthy, and often a good listener. Hakulinen *et al.* (2015) found that agreeableness has no great effect on workers' well-being. However, a study by Smith, Patmos, and Pitts (2018) found that elevated levels of agreeableness was positively associated with remote job satisfaction.

2.7.3 Conscientiousness

People who are conscientious are said to be well organized, hardworking, and ambitious (Costa and McCrae, 1992). Hakulinen *et al.* (2015) find that a higher score for this trait is associated with a higher score for employee well-being as the employees can remain motivated through changing circumstances.

2.7.4 Neuroticism

People with a high neuroticism score are said to have a tendency towards negative emotions, such as nervousness, anxiety, irritability, and low self-esteem (Costa and McCrae, 1986). Neuroticism is often associated with lower well-being for workers (Hakulinen *et al*., 2015). Echoing this, employees who were highly neurotic ended up struggling with remote work the most as their anxiety could not allow them to adapt to the change.

2.7.5 Openness

Openness refers to being open-minded, intellectually curious, and flexible (McCrae and Costa, 1985). According to Hakulinen *et al.,* (2015), openness to experience does not significantly influence the level of well-being of an employee.

2.7.6 Identified gaps

While reading the literature, the researcher found that many authors suggest that only certain individuals have the right characteristics to succeed at remote working. As mentioned previously, De Simone (2014) suggests that personality is an antecedent to well-being. Madsen (2001) states that the proposed impact of personality on well-being, however, is based upon speculation or anecdotal evidence. Furthering this, Loverde's (1997, cited in Madsen, 2001) research discovered that employee performance was positively impacted by remote working, regardless of personality. On the contrary, Alfes, Shantz, and Truss (2012)

hold that certain personal characteristics of employees can affect their perceptions about methods in the workplace. This highlights the lack of consensus in the literature.

Personality has been used in previous research to predict job outcomes. Saari and Judge (2004) used employee attitudes to predict job satisfaction. Goodstein and Lanyon (1999) state that personality assessment measures can predict job performance and inform personnel selection (Goodstein and Lanyon, 1999). In the context of well-being, more research on personality could clarify the aforementioned gaps to help understand the needs of different remote workers and determine which employees would be better candidates for remote working.

As a result of the previous research that personality can play a role in well-being, and the use of personality measures to predict employee behaviour, this study will use the Big Five Personality Inventory 10-item scale to measure personality as a predictor variable.

2.8 Conclusion of the Literature

This literature review has highlighted different perspectives of academics as to the definitions of remote working and its advantages and disadvantages, particularly on employee well-being. It successfully identified three key aspects of employee well-being: workplace relationships, health, and work-life balance. It also successfully identified three predictor variables: organisation size, frequency of remote work, and personality. This chapter has laid a strong foundation for the development of research questions and objectives.

Chapter 3. Research Question and Research Objectives

The main research question for this paper is: "What factors can predict the impact remote working has on employee well-being?"

As this research question is broad, the researcher narrowing the question by examining factors that could potentially predict the well-being of remote workers. Based on the literature review, this question can be broken down into the sub-questions and objectives:

- **Can the size of an organisation predict the well-being of the organisations' remote workers?**

$H_0 1$: there will be no significant prediction of the well-being of remote workers by organisation size.

- **Can the frequency of remote work predict the well-being of remote workers?**

$H_0 2$ – there will be no significant prediction of the well-being of remote workers by frequency of remote work.

- **Can the personality traits of extraversion, agreeableness, conscientiousness, neuroticism, or openness to experiences predict the well-being of a remote worker?**

$H_0 3$ – there will be no significant prediction of the well-being of remote workers by any of the personality traits.

Chapter 4. Methodology

This chapter will first discuss the philosophical basis for this research, along with the different methods of research that could have been used to conduct this study. The research design will then be discussed, as well as the sample, the research method selected, and the data analysis procedure. The chapter will then discuss the limitations of this research and the ethical considerations.

4.1 Research Philosophy

Saunders *et al*. (2016), using the research onion, discusses the factors which are necessary to consider before undertaking research. The first stage is determining the research philosophy. Saunders, Lewis, and Thornhill (2016) state that by addressing a specific problem in an organisation, this research is developing new knowledge. As a result, there is a system of beliefs and assumptions around it known as a philosophy (Saunders *et al*., 2016). These assumptions can be made subconsciously.

The two main philosophical viewpoints are known as epistemology and ontology. Ontology is the branch of philosophy that concerns concepts such as existence, being, becoming, and reality. Epistemology focuses on knowledge. This study is concerned with how individuals experienced remote working, and when examining the aims and objectives of the research, it can be said that the philosophy the researcher has chosen is an epistemology approach. Epistemology is divided into two categories: positivism and interpretivism. This research would be considered part of the positivism philosophy as it large scale, deductive, the researcher will take an objective stance, and the findings will offer predictions as its contribution to the field (Saunders *et al*., 2016).

4.2 Research Method

Before commencing this study, the researcher was required to consider whether a qualitative or quantitative method was most appropriate from obtaining the required information. Qualitative research typically involves in-depth interviews or focus groups with candidates (Mills and Birks, 2014). Barnham (2015) state that qualitative research is useful when the researcher requires a comprehensive insight into the views, attitudes, and behaviours of the participant. In contrast, quantitative research involves a survey sent to a large group of people to make generalisations about the population. Previous research on the impact of remote working on well-being conducted by Pradham and Hati (2019), Juchnowicz and Kinowska (2021) and Wang *et al*. (2021) used quantitative measures to determine relevant factors for

well-being. Mostafa (2021) used a quantitative survey to get a wide-ranging sample of employees who worked remotely due to the pandemic in Egypt. As a result, this method was utilized a similar method of data collection for this research paper using the geographical location of Ireland. The researcher acknowledges that should the results of this research warrant further investigation, a qualitative approach may be suitable.

4.3 Procedure

This section of the methodology chapter outlines the pilot study conducted by the researcher and the chosen data collection method.

4.3.1 Pilot study

According to Saunders *et al.* (2007), conducting a pilot test can help minimize the respondents' issues with the questionnaire. Saunders *et al.* (2007) remark that pilot surveys should be done on a minimum of 10 people. The researcher held a pilot study for the questionnaire on 10 remote workers based in Ireland. The respondents did not report any issues, and the average time for study completion was 5 minutes.

4.3.3 Research Sample

The population for the research is remote workers in Ireland. Participants must be over 18. This research collected both nominal and ordinal data from 146 remote workers through both convenience and snowball sampling. The general rule for multiple linear regression is to have 20 records per predictor variable. As this study has 3 predictor variables, a minimum of 60 responses were required. Two criterions were set for participation in this study; the participants engaged in remote working and were over the age of 18. Participants were first asked to answer demographic questions reporting their age, gender, employment sector/industry, frequency remote working, and the size of their organisation. Age, gender, and sector provided information on the participant's profile relating to remote working and was recorded for descriptive statistics. This study design is quantitative, nonexperimental, and cross-sectional.

4.3.2 Data Collection Method

Participants completed the survey which was hosted online by GoogleForms. Similar to Mostafa (2021), the researcher posted the study on social media, including LinkedIn and Facebook (see Appendix I). The posts included a summary of purpose of the study as well as participation criteria. Participants were then required to access the survey by clicking hyperlink where they found additional information. Both the convenience and snowball

methods of sampling were chosen. One negative aspect of convenience sampling is that potential respondents may not engage with the survey. A negative aspect of snowball sampling is that it relies on the goodwill of the respondents to share the data, however it allowed the researcher to gain access to people they originally had limited access to. The final section of the survey encouraged participants to share the link for the survey with others with the aim of increasing the number of participants using the snowballing effect.

4.4 Surveys and Measures

All participants completed an initial demographics survey where they were asked to report their gender, age range, employment sector, the size of their organisation, and their frequency of remote work. The participants then completed a well-being survey, followed by a personality survey.

The scale used to determine employee well-being was developed by a Juchnowicz and Kinowska (2021) from the Gallup-Healthways global survey. The results highlighted three aspects of employee well-being, with the subcategories of workplace relationships, physical and mental health, and work–life balance. The researcher was not required to obtain written approval for this scale as it was open access. The questions for this survey can be found in Appendix II.

The scale used to determine the personality traits of the respondents was the Big Five Inventory (BFI-10) scale. The researcher did not require written approval for this scale as it can be used without permission in non-commercial research (Rammstedt and John, 2007). The BFI-10 item survey is self-rated. There is one true score item per trait and one false score item, the latter of which is reverse-scored and recoded before analysis. For example, the true item for extraversion is ""I see myself as someone who is outgoing, sociable" while the false score item is "I see myself as someone who is reserved". The sum of each personality trait (two items per trait) is calculated. Higher trait scores are an indication that the respondent had a propensity for the trait behaviour, e.g. a high score under extraversion means they are more likely to be considered an extravert, a low score would imply the respondent was an introvert. Rammstedt and John (2007) state that the shortened survey still provides an adequate measurement of personality traits when the allotted for data collection is limited. The questions for this survey can be found in Appendix II.

Both surveys are measured using an ordinal five-point Likert-type scale, with 1 representing "Strongly Disagree" to 5 representing "Strongly Agree." All response values for well-being

and each predictor variable, including each trait under personality, were summed to give a factor score.

4.5 Data analysis

Data was analysed using SPSS system. The nominal data was sorted into descriptive statistics. Based on the literature review, the predictor variables were frequency of remote working, size of organisation, and personality with well-being scores as the outcome variable. Multiple linear regression analysis was used.

4.6 Validity of Research Methodology

Validity is essential in ensuring the research findings are credible. This research ensured validity by using previously validated surveys and running a Cronbach's alpha report on the surveys.

The Cronbach's alpha score for the employee well-being survey was alpha=0.881, which is above the required academic threshold of 0.7. The Cronbach's alpha score for each of the traits on the BFI-10 scale were as follows: Extraversion (α = 0.845), agreeableness (α =0.44), conscientiousness (α =4.82), neuroticism (α =0.62), and openness (α =0.52). The Cronbach's alpha obtained for conscientiousness, neuroticism, and openness show that these scales are internally consistent as they are over the minimum of Cronbach's alpha requirement of .45 allowed for two-item (Eisinga, Grotenhuis, and Pelzer, 2012). Although the score for agreeableness is close to the .45 requirement, the scale was not considered internally consistent, therefore the results were interpreted with caution.

4.7 Limitations of Research Design

There are many limitations for quantitative research. In the context of this study, time was a limitation as the research was collected over a month-long period. This was during the summer months where prospective respondents may have been on annual leave or enjoying their personal lives away from platforms used to collect the data, such as LinkedIn. Quantitative research methodology typically requires a large sample size. A lack of incentive for individuals to participate may result in a lower response rate. Another limitation of quantitative research is that it offers limited insight into the specific lived experiences of the respondents. However, quantitative research is a useful tool to make generalisations about a topic or demographic, which can be the first port of call for employers and organisations looking for guidance on how to best accommodate their

employees. As a result, the researcher contends this research design remains a strong chose for the research questions posed.

4.8 Ethics

Ethical considerations were at all stages of this study. A proposal containing a broad outline of the research was submitted in January 2022. The National College of Ireland Ethics Committee approved this proposal and the research prior to commencement. Participants were encouraged to state that they were eligible to part-take in the study and confirm they were over 18.

This study contained minimal risk to the participants. All participants gave informed consent and could not commence the survey without ticking a box that indicate consent to participation. The consent form explained that participation was completely voluntary and that they had the right to withdraw from the survey at any point prior to the submission of their answers. After submission, their data could not be retracted. Respondents were informed that data pertaining to your personal information (e.g. name, IP address) was not collected and so their answers could not be traced back to them. Respondents were advised that there was no reward for participation in the survey, or penalty for withdrawing from participation. Participants were provided with the researcher's email address and encouraged to contact the researcher if they had any further queries.

As the subject of well-being falls under the topic of mental health, respondents may find aspects of the survey upsetting. Participants were informed of the nature of the survey within the consent form (see Appendix I) and encouraged to withdraw from the survey should they experience any distress. On completion of the survey, participants were provided with links and contact information for support services such as Samaritans and the HSE YourMentalHealth information line.

Chapter 5. Findings and Analysis

This chapter will first discuss the descriptive statistics for the analysis. It will then look at inferential statistics, which will set up a basis for the discussion chapter.

5.1 Descriptive Statistics

The study data is taken from a sample of 146 participants (n = 146). The majority of the sample (45.8%, n = 67) worked in industries other than those given as an option, while 13.75% worked in the IT/Telecommunication sector (n = 20), 13% in Banking and Finance (n=19), 8.2% in Education (n = 12), 7.5% in Advertising and Marketing (n = 11), 4.1% in Healthcare (n = 6), 4.1% in Pharmaceutical Sector (n = 6), and 3.4% in Retail and Hospitality (n = 3.4%). 51.4% of respondents were Female (n =75), 44.5% were Male (n = 65), while 4.2% selected either the Other or Prefer not to Say options. The age of the respondents ranged from 18 to 65+. Further descriptive statistics can be found in Tables 1 and 2.

Table 1: Frequency chart of participant Age

Age Range	Frequency	Percent
18-24	29	19.9%
25-34	55	37.7%
35-44	36	24.7%
45-54	10	6.8%
55-64	15	10.3%
65+	1	0.7%

Table 2: Descriptive Statistics

	Mean	Std. Deviation	N
Well-being	35.2123	7.81970	146
Size of Company	2.2945	.81510	146
Frequency of Remote Work	2.6507	.97974	146
Personality Traits			
Extraversion	6.6575	2.58227	146
Agreeableness	6.8699	1.98707	146
Conscientiousness	8.3630	1.70549	146
Neuroticism	5.7260	2.27587	146
Openness	6.9726	2.06429	146

The analysis indicated that the Well-Being scores were not normal as the histogram was not normally distributed and was positively skewed. While the histograms for agreeableness, neuroticism, openness, and frequency of remote work were normally distributed, extraversion and conscientiousness were positively skewed and not normally distributed. No outliers were identified. Histograms for each of the predictor variables are available in Appendix II.

5.2 Inferential Statistics

The research exceeded the required 20 records per predictor variable by obtaining 146 records. It was important to first determine that none of the assumptions required were violated before multiple linear regression.

<u>Assumption 1: The relationship between the predictor variables and the outcome variable were linear.</u> This was determined through a series of scatterplots close to the line.

<u>Assumption 2: No multicollinearity was detected in the data.</u> The results for Tolerance and VIF fell within an acceptable range as the VIF scores were well below 10, while the Tolerance scores were above 0.2. None of the predictor variables had a correlation above .7, therefore none of the variables were multicollinear.

<u>Assumption 3: The residuals' values were independent.</u> For assumption 3 to be met, The Durbin-Watson value should be close to 2. The Durbin-Watson value was 1.894, indicating that this assumption was met.

<u>Assumption 4: The residuals' variences were constant.</u> The test for this assumption is of homoscedasticity, which assumes that the residuals' variation is similar all points of the model. This is the amount of error in the model. None of the points on the scatterplot fell outside of -3 or 3 on either the X or Y axis and had a rectangular score distribution (see Appendix I), therefore this assumption was met.

<u>Assumption 5: The values of the residuals were normally distributed.</u> One issue found by the researcher was that the scores for the outcome variable of well-being were not normally distributed. However, the Well-being P-P plot presented a reasonably straight line (see Appendix I). Several data points do not touch the line at all, indicating that the assumption of normality may be seen as violated. As a result, the reader should interpret the results of this survey with caution.

<u>Assumption 6: There were no influential cases causing bias to the model.</u> This assumption was met as there were no outliers under Cook's Distance as all values were less than 1. The review of the assumptions showed that multiple regression analysis could begin.

As all the required assumptions were met, a multiple linear regression was carried out to investigate whether the size of an organisation, the frequency of remote work, and each personality trait could significantly predict participants' well-being scores. As $R^2 = 0.286$, it can be said that 28.6% of the variance in the data can be explained by the predictor variables. As the significance value is less than 0.05, it can be said that the regression model significantly predicts well-being, $F(7, 138) = 7.915$, $p = .000$. While the personality traits of openness and agreeableness contributed significantly to the model, $(B = 0.643, p=0.028)$ and $(B = 1.410, p = .000)$ respectively, the other predictor variables did not: size $(B = 1.110, p = 0.126)$, frequency $(B = .244, p = .683)$, extraversion $(B = .198, p=.474)$, neuroticism $(B = -.464, p = .128)$ and conscientiousness $(B = .161, p = .664)$. Well-being is negatively correlated with neuroticism however this study does not show statistical dependence (i.e. $p < 0.05$). It is possible that this study did not have sufficient power (or a large enough sample size) to detect the dependence. More information is available in Table 3.

The final predictive model was as follows: Well-being Score = 17.848 + (1.110*Size) + (.244*Frequency) + (.198*Extraversion) + (1.410*Agreeableness) + (.161*Conscientiousness) + (-.464*Neuroticism) + (.643*Openness).

Table 3: Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	T	Sig.	Tolerance	VIF
1	Well-being	17.848	4.933		3.618	.000		
	Size	1.110	.721	.116	1.539	.126	.915	1.093
	Frequency	.244	.595	.031	.410	.683	.932	1.073
	Personality							
	Extraversion	.198	.275	.065	.719	.473	.627	1.595

Agreeableness	1.410	.318	.358	4.432	.000	.791	1.264
Conscien.	.161	.370	.035	.435	.664	.794	1.259
Neuroticism	-.464	.303	-.135	-1.532	.128	.664	1.506
Openness	.643	.289	.170	2.222	.028	.886	1.128

5.3 Conclusion of findings and analysis

This chapter has produced the results and findings of the statistical analysis carried out to investigate the research objectives. The first aim was to investigate if company size could predict the well-being of remote workers. No significant relationship was found between size and well-being. The second research objective aimed to investigate the impact of frequency of remote working on well-being scores. No significant relationship was found between frequency of remote work and well-being. The only significant finding emerged regarding the third objective, which aimed to investigate the impact of a remote workers' personality on their well-being. The traits of openness to experience and agreeableness were found to predict higher well-being scores.

Chapter 6. Discussion

This chapter will reflect on and examine the findings which were gathered and analysed in the methodology chapter. It will discuss why the findings are relevant to the research and will link and related the findings back to the literature review.

6.1 Discussion of Results

The principal objective of this study was to investigate the factors that could predict the well-being of a remote workers. The factors chosen by the researcher were the size of the organisation, the frequency of remote work, and the personality traits of extraversion, conscientiousness, agreeableness, openness, and neuroticism. As there was no statistical significance for organisational size and frequency of remote work, it is not possible to reject the relevant hypotheses and has not offered further insight into these areas.

However, regarding personality traits and well-being, some of the study findings are inconsistent with previous research. As highlighted in the literature review, Hakulinen *et al*. (2015) found that agreeableness has no significant effect on workers' well-being. Similarly, Hakulinen *et al*. (2015) found that openness was not significantly associated with worker's well-being. However, the results of this study showed that agreeableness was statistically significant. As a result, this study agrees with the work of Smith, Patmos, and Pitts (2018). It could be said that while Hakulinen *et al*.'s (2015) research examined the well-being of workers in a traditional workplace setting, it did not account for the shift in setting for remote working. It could be believed that different personality traits are more significant for the setting of remote working. In addition, there was a significant negative correlation between neuroticism and well-being scores. However, as the p-value was not <0.05, the results ought to be interpreted with caution. Higher scores for neuroticism revealed lower scores for well-being. This result would be consistent with the work of Hakulinen *et al*. (2015), who stated that neuroticism is often associated with lower well-being. It can be said that neurotic people are not suited to remote working, while agreeable or open people are. This observation could be used in the recruitment and selection process, similar to Goodstein and Lanyon (1999).

As a result, these findings reject the third hypothesis and arguments of Madsen (2001) and Loverde, the former suggesting that personality has no effect, while the latter posited that employee performance was positively impacted by remote working, regardless of personality. The findings of this study should be considered when employers are recruiting and selecting employees for remote working to ensure they are best suited for the practice.

6.2 Limitations and Future Research

This study is not without its limitations. The main limitation is the small sample size. A study with a larger sample size may show greater correlation with each of the predictor variables and the outcome variable, for example in the case of neuroticism. The sample may not be an accurate representation of the whole population of Ireland as the researcher is unaware of where the respondents were located within the country. The questionnaires used in this survey were self-reporting, and it is possible that participants may not have been honest in their responses to the questions or may have answered the personality questionnaire in terms of how they would like to be, rather than how they are, which may lead to bias. In addition, it is possible that an employee's well-being may change throughout their remote working experience, and so a longitudinal study is therefore recommended.

This study has highlighted areas where future research can be carried out. The research was only concerned with employees based in Ireland, and so it would be interesting to see the research conducted in other countries and regions.

As mentioned previously, 45.8% of respondents to this study worked in industries not listed within the question, and so chose the "Other" option. Future research could be industry specific, as there may be differences between small, medium, and large organisations within the same industry.

Additionally, this study focuses on employee well-being. Future research could focus on the well-being of employers or focus on different roles and ranks within an organisation. Finally, future research could explore different predictor variables in more detail such as remuneration, leadership style, and organisational culture. Research could also be expanded to include mediators and moderators of the relationship between remote working and employee well-being.

Chapter 7. Conclusion

The aim of this research was to investigate if organisational size, frequency of remote working, and personality can predict the well-being of employees based in Ireland who partake in remote working.

This study began with an exploration of the literature in the areas of remote working and well-being. There were several gaps in the literature, particularly regarding the definition of remote working and the meaning of well-being. The researcher employed an operational definition of remote working, and read that well-being encompassed the workplace relationships, physical and mental health, job satisfaction, and work-life balances of employees. The researcher then moved to considered specific factors that could predict well-being scores for remote workers. Expanding the research scope introduced the researcher to the potential factors of organisational size, frequency of remote working, and personality. A quantitative research approach was used to conduct this study. The researcher posted a Well-being survey and the Big Five 10-factor Personality Inventory survey on social media such as LinkedIn and Facebook. Multiple regression analysis was used to analysis the 146 responses. While the personality traits of openness and agreeableness contributed significantly to the model, the other predictor variables of size, frequency, extraversion, neuroticism, and conscientiousness did not.

It is important to note that many countries including Ireland are drafting legislation regarding remote working. This legislation should lead to guidelines for remote workers well-being and establish best practice. Research and study findings may inform such legislation and provide recommendations for future HR policies.

7.1 Recommendations

As evident from the literature review, well-being is an important aspect of an employee's experience at a company. Negative well-being can lead to presenteeism, absenteeism, and high levels of turnover. While this study did not find statistical significance between organisational size and well-being, that does not mean that the smaller organisations participants worked in did not invest resources into a well-being programme. Companies should continue to invest in their well-being programmes.

However, based on the findings, it is evident that personality can predict a remote workers well-being score. Potential candidates can take a personality test during the recruitment and hiring process to see if they are a good fit for a remote working position. Personality tests can make the HR team more efficient by speeding up the recruitment process, filtering out

unsuitable candidates before they can reach the interview stage. Personality tests can be expensive, either due to paying for access to the test or for someone to score it, so this must be weighed up with the potential cost of recruitment.

Tests can help to accommodate existing employees who may be struggling with a shift to a remote working position and suffering with engagement and motivation. HR managers can then determine the best way to accommodate them. For example, an employee who has scored high in neuroticism may suffer from increased anxiety, worry, and loneliness and therefore may need access to a well-being programme or increased interaction with a HR executive. A well-being programme may be an expensive and time consuming to implement and may not be a priority for the organisation if only a small number of remote workers were suffering. However, it would be quick and easy to increase interaction in an organisation. An employee and a HR person can discuss soft topics over the phone. This may take time away from the supervisor's other work, so perhaps there should be dedicated time each week/two weeks depending on the needs of the employee to keep them engaged and prevent turnover. It is important that small organisations who may not have a dedicated HR person for this role encourage team leaders to engage in these interactions.

It should be noted that there is not necessarily a right or wrong answer to a personality test, and HR managers should be careful to not discriminate against employees but accommodate them and ensure that they are in a position where their talent can be nurtured, and they can reach their full potential. Personality tests can be long and may dissuade a potential candidate from completing the application process. Candidates may also answer the question according to what they think the employer wants. However, personality tests may still be beneficial as time, money, and conflict can be avoided early if the right candidate is placed in the right role.

Personal Learning Statement

I decided to focus my research on the area of remote working as it has become a major point of contention in organisations since the Covid-19 pandemic. I was particularly interested in focusing on employee well-being as I am passionate about mental health, and I witnessed people in my life have different reactions to the change of practice. From carrying out this research, I have gained extensive knowledge on the area of remote working as well as the different factors that can affect the well-being of those who partake in the practice. While

writing this dissertation was a very challenging experience, I have greatly benefitted from it as I have gained both research and analytical skills.

During this research, I needed to be able to critically analyse academic articles and condense the information given while ensuring that key details were retained. By repeating this task, I am now more decisive and able to quickly identify important information, which has made my work faster yet still accurate. I gained an insight into quantitative research. I chose quantitative research as it was most effective in helping me to generalise data. I was exposed to statistical analysis for the first time, which has boosted my skillset and could help me in future to interpret the results of various employee surveys while working in HR. I developed my communication skills while answering messages from those who were interested in the survey or had additional queries, which helped me to have confidence in my work and thought processes. This also helped me to expand my network and communicate with people I did not previously know from different companies with quite different cultures. This dissertation process has also taught me resilience and how to work through unexpected obstacles. Time management skills are crucial when writing a dissertation, and I improved on this area and will now allow time for such unexpected obstacles.

Overall, I enjoyed this dissertation process and hope my findings are helpful to both employers and employees who participate in remote working.

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Study on the impact of remote working on employee well-being in Ireland

You are invited to take part in a research study. This research is being conducted as part of a Master's Degree in Human Resource Management at National College of Ireland. It aims to explore the impact of remote working on the wellbeing of employees based in Ireland, and how employers can best support their employees. Please take time to read the following information carefully.

You are eligible to participate in this study if you are over 18 and are an employee based in Ireland who part-takes in remote working. Remote working includes hybrid working, and includes working from anywhere outside the main office/typical place of work (e.g. working from home). You will first be asked some demographic information, then a survey on well-being, and finally a personality survey. The survey will take approximately 5-10 minutes to complete.

Participation in this survey is voluntary. You have the right to withdraw from the survey at any point prior to the submission of your answers. After submission, your data cannot be retracted. This survey is anonymous. Data pertaining to your personal information (e.g. name, IP address) is not collected, therefore your answers cannot be traced back to you. There is no reward for participation.

Some respondents may find aspects of this survey distressing as employee wellbeing falls under the topic of mental health. In the event of any distress, please withdraw from the survey.

If you have any queries about this study or your participation, please contact the researcher via the email below.
Researcher: Rachel Bohan
Email: x21105383@student.ncirl.ie

Please tick the box below if you consent to participate in this survey.
Thank you.

Rachel Bohan • You
MA in Human Resource Management Student
3w • Edited •

Hi everyone,

For my MA in Human Resource Management dissertation I am researching the impact of remote working on employee well-being. If you are an employee based in Ireland who partakes in remote/hybrid working, I would be very grateful if you could fill out this quick survey and share it with anyone else who could participate.

Thank you!

Appendix II – Surveys

Juchnowicz and Kinowska (2021) Well-being survey:

Item No.	Item
1	There is a nice and friendly atmosphere in my team.
2	My relationship with my supervisor is very good.
3	My supervisor treats me more like a partner than a subordinate.
4	I have confidence in my colleagues and supervisor.
5	My health and physical condition are suitable for the work I do.
6	I look to the future with hope and enthusiasm.
7	My work gives me satisfaction.
8	I do my best at work every day.
9	I have a good balance between work and personal life.

Rammstedt and John (2007) 10 item version of Big Five Inventory

| Item No.	Item	Trait
1*	I see myself as someone who is reserved	Extraversion
2	I see myself as someone who is generally trusting	Agreeableness
3*	I see myself as someone who tends to be lazy	Conscientiousness
4*	I see myself as someone who is relaxed, handles stress well	Neuroticism
5*	I see myself as someone who has few artistic interests	Openness
6	I see myself as someone who is outgoing, sociable	Extraversion
7*	I see myself as someone who tends to find fault with others	Agreeableness
8	I see myself as someone who does a thorough job	Conscientiousness
9	I see myself as someone who gets nervous easily	Neuroticism
10	I see myself as someone who has an active imagination	Openness

*Reverse coded

Appendix III- Evidence of Data
(File available on request)
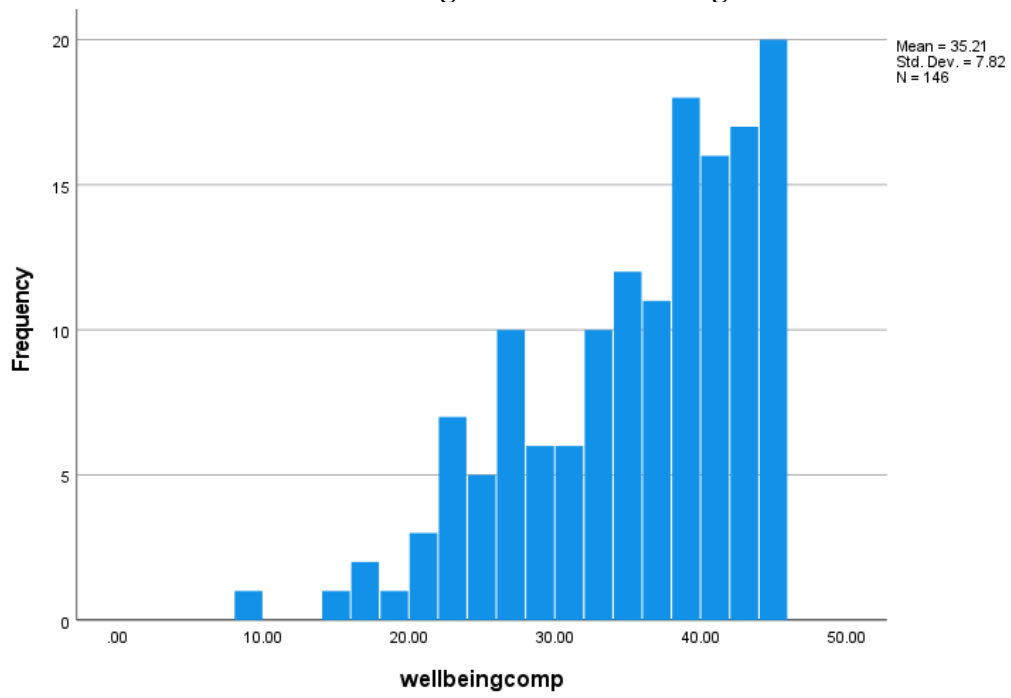
Normal P-P Plot of Regression Standardized Residual
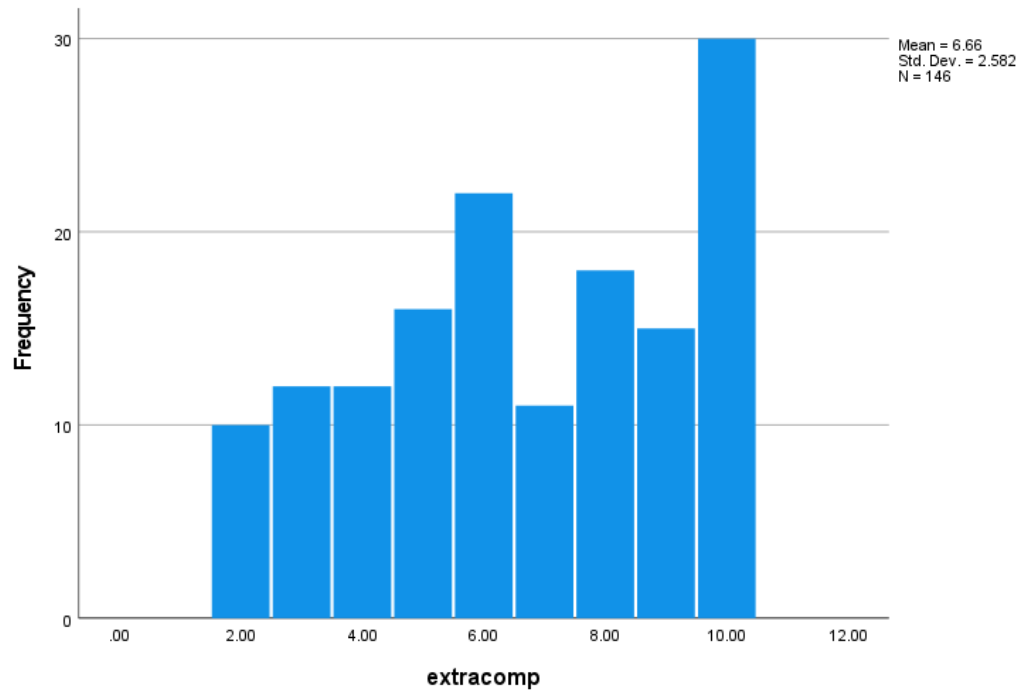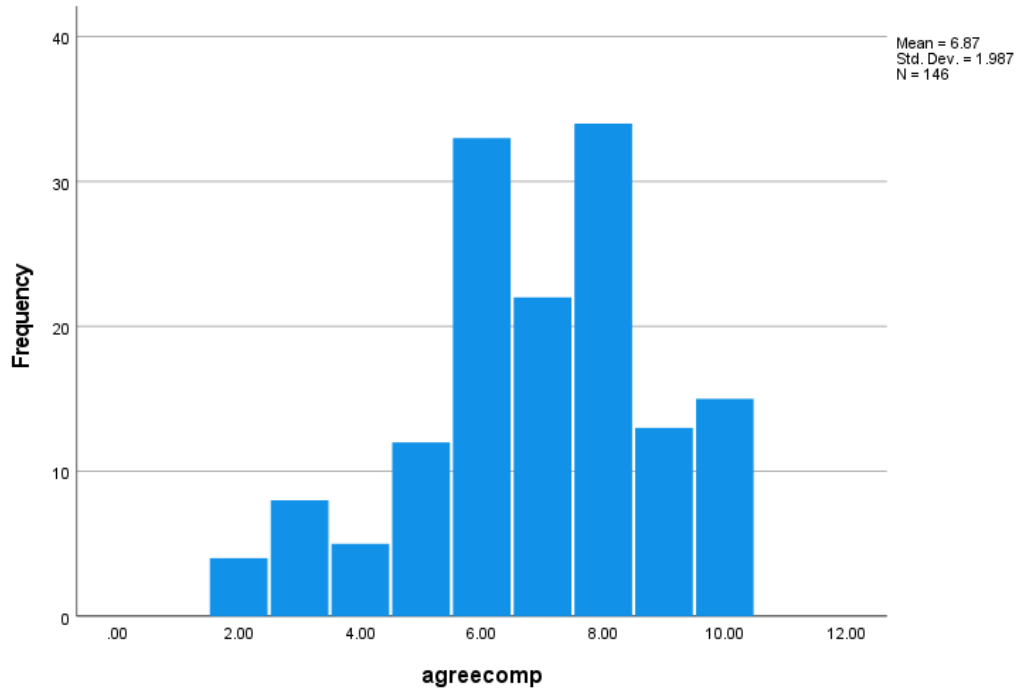
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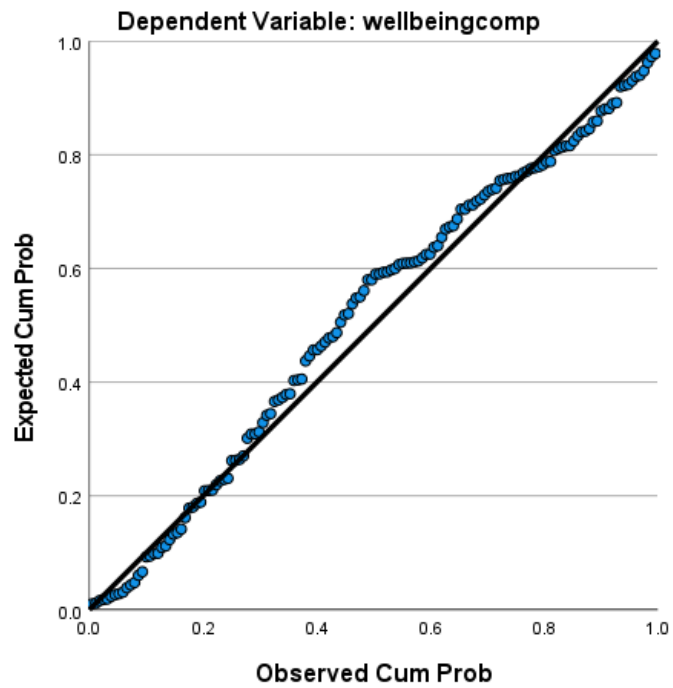
Scatterplot

Dependent Variable: wellbeingcomp
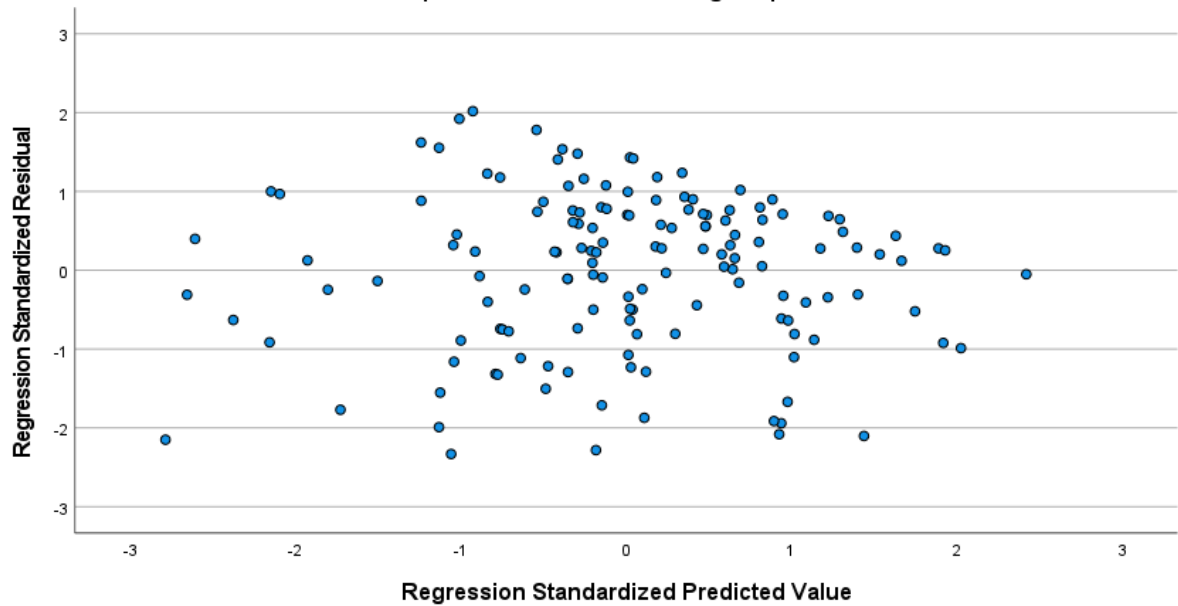
Appendix IV- Histograms

Histogram For Well-being Scale

Histogram For Extraversion

Mean = 6.66
Std. Dev. = 2.582
N = 146

Histogram For Agreeableness

Mean = 6.87
Std. Dev. = 1.987
N = 146

Histogram For Conscientiousness

Mean = 8.36
Std. Dev. = 1.705
N = 146
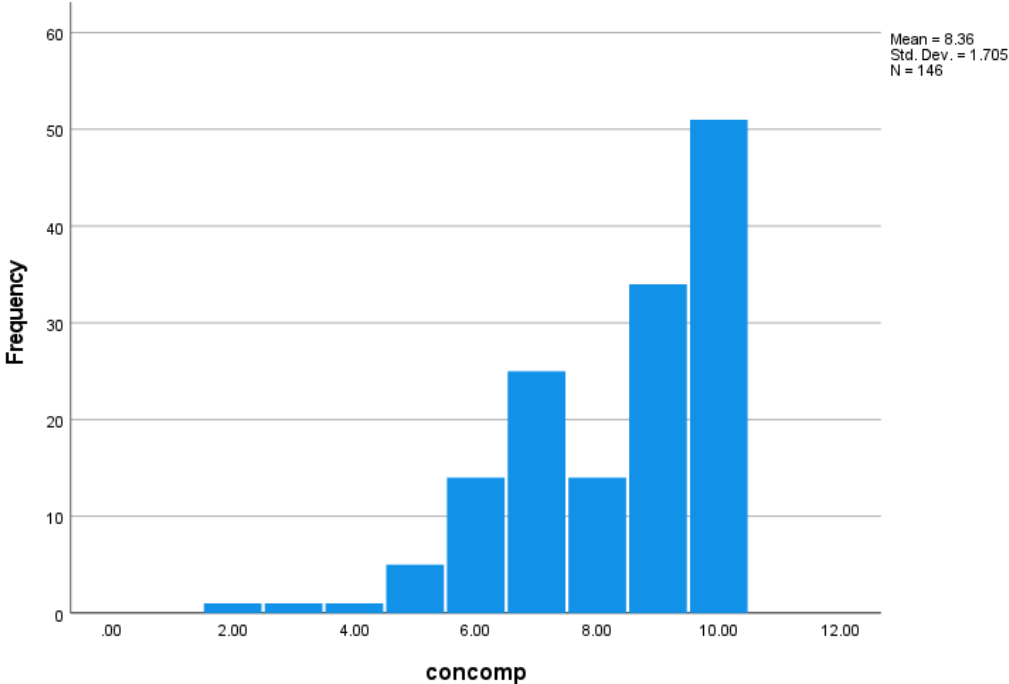
Histogram For Neuroticism

Mean = 5.73
Std. Dev. = 2.276
N = 146

Histogram for Openness

Mean = 6.97
Std. Dev. = 2.064
N = 146
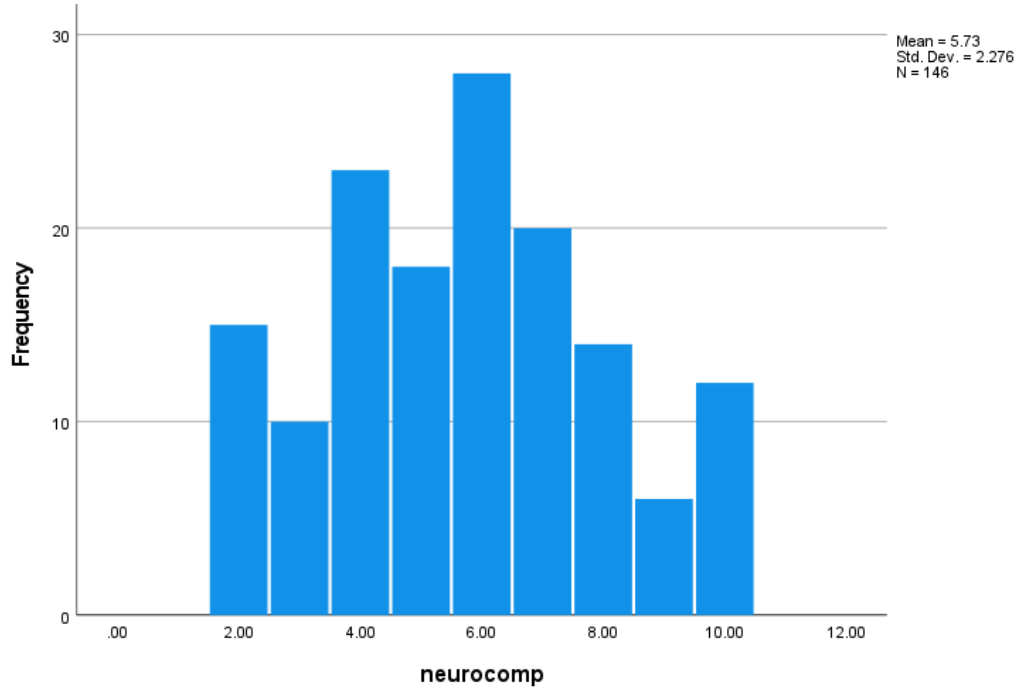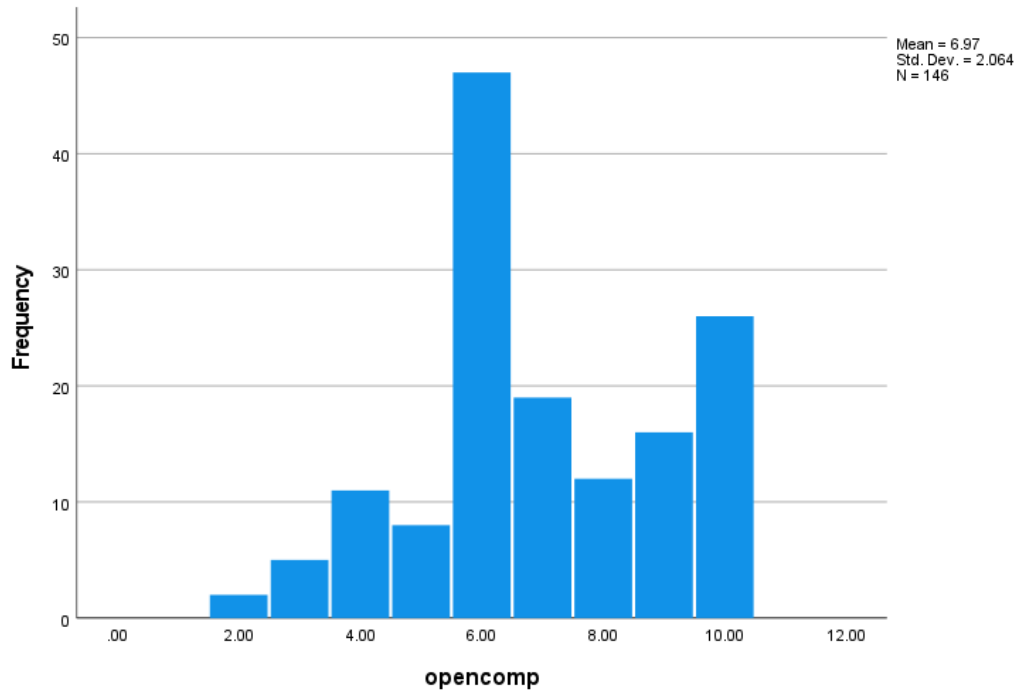
Histogram for Size of Organisation

Mean = 2.29
Std. Dev. = .815
N = 146
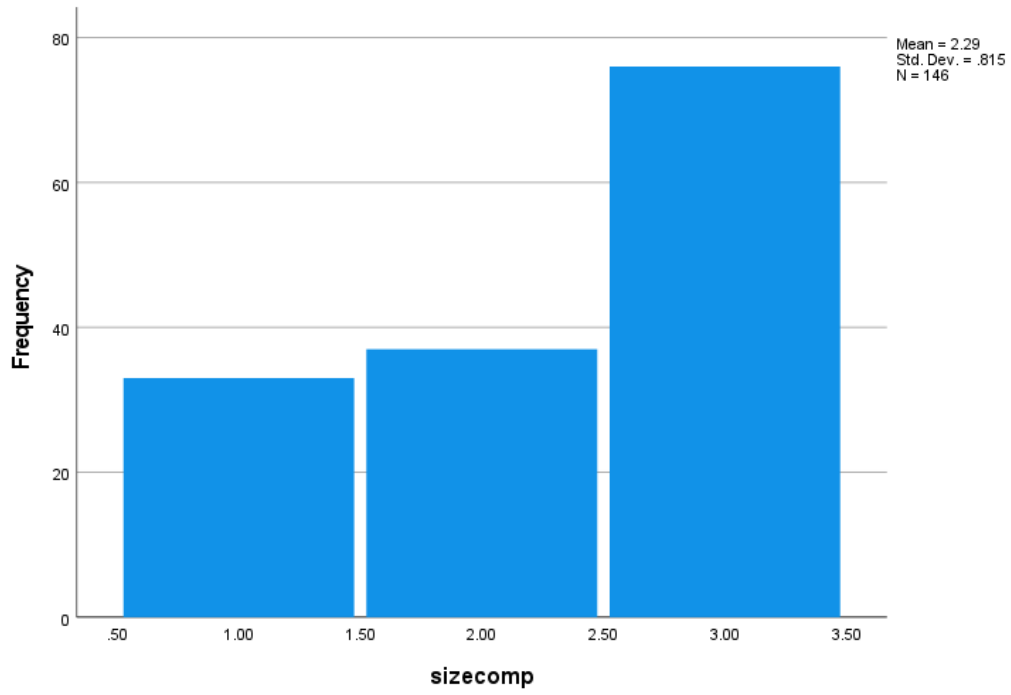
Histogram for Frequency of Remote Work

Mean = 2.65
Std. Dev. = .98
N = 146