

DEPARTMENT of PSYCHOLOGY

When the home becomes our office

- The relation between personality, perceived work engagement and work life balance during a new wave of work from home

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Abstrakt

Trenden med virtuellt arbete och arbete hemifrån har snabbt accelererats av Covid-19-pandemin. De huvudsakliga frågorna för denna studie var huruvida de fem stora personlighetsfaktorerna kunde förutsäga individens upplevda nivåer av arbetsengagemang och balans i arbetslivet kring deras hemarbete, i nuläget och under perioden av det senaste året. Detta gjordes genom ett online-frågeformulär med skalor för femfaktorsmodellen, upplevt arbetsengagemang och för upplevd balans i arbetslivet. Samtliga frågor i de två senare ställdes två gånger, en för nuvarande tid och en för hemarbetets start. Detta för att kunna konstruera en variabel som representerade skillnaden över tid. Resultaten visade bland annat att personlighetsdraget samvetsgrannhet (.33***) positivt predicerade nuvarande upplevt arbetsengagemang, medan öppenhet predicerade högre upplevt arbetsengagemang (.16*) och högre balans i arbetslivet (.17*) i början på pandemin jämfört med nu, med andra ord en reducering över tid. Detta kan vara av stor relevans när man försöker förbättra arbetsengagemang och balans i arbetslivet beroende på varifrån man arbetar.

Nyckelord: Personlighet, big five, arbetsengagemang, balans i arbetslivet, hemarbete

Abstract

The trend of virtual work and work from home have been rapidly accelerated by the Covid-19 pandemic. The main questions for this study were whether the five major personality factors could predict the individual's perceived levels of work engagement and work life balance during work from home, at present and over time. The relationships were tested using scales for big five personality traits, work engagement and work life balance. All of the questions in the latter two were asked twice, one for the current time and one for the initial time of working from home. This was to construct a variable that represented difference over time. Results showed, among other things, that the personality trait conscientiousness (.33***) significantly positively predicts current perceived work engagement, while openness significantly predicted higher work engagement (.16*) and work life balance (.17*) at the beginning of the pandemic compared to now, hence, a reduction over time. The results can be of great relevance when trying to distinguish differences in work engagement and work life balance between personalities depending on where you work from.

Keywords: Personality, Big five, work engagement, work life balance, working from home

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Introduction

In January 2020, two office workers are sitting beside each other on the train to work. One of them sees the commute as valuable time for activation, to get some time for thought before going to work and does not mind sitting on the train before another day at the office. The other feels the opposite. The time on the train is wasted and she would most of all want to work from home since it is stressful takes over two hours to commute every day. Shortly after, the rapid spread of the coronavirus forced the two individuals to work from home, which they now have been doing for over a year.

In an article in BBC¹ by Fogarty et al. (2020) on the labour market consequences due to the Covid-19 pandemic, a wide range of professors, managers of world-leading companies and researchers agreed on one thing - that the labour market might change forever. For example, Cary Cooper, professor at the Manchester university stated that “the 9-to-5 in an office environment is dead” and Karin Kimbrough, chief economist at LinkedIn, said that “we are seeing a huge increase in demand for remote work on our platform”.

A study made by Westberg² et al. (2020) presented some initial information on the situation in Sweden during the first part of the pandemic. However, while the field of research within virtual work has risen, little has been done in such a setting as the current one. Rather, work has been done on special organizational programs where some employees have been given the option of working from home to some extent . This particular thesis will try to reach some understanding on how perceived work engagement and work life balance can be predicted with the help of the big five model. How can organizations successfully adapt to these new circumstances? And from the employee’s view, how can one grasp what changes that will come with working from home? How can one obtain a good level of work engagement and work life balance?

In January 2021, the commuters’ emotions and well-being have changed. The first one is feeling alone, disconnected from work, is bored of working from home and being dislocated from the colleagues. In contrast, the other commuter is thriving, feeling an increase of freedom, more time for reflection during the day and no need for the time consuming and uncomfortable train. What made these commuters interpretations of the situation so widely

¹ ” Coronavirus: How the world of work may change forever – BBC”

<https://www.bbc.com/worklife/article/20201023-coronavirus-how-will-the-pandemic-change-the-way-we-work>

² ”Flexibelt arbete är det nya normala” – Westberg, Tengblad, Kajonius and Hedestad

<https://www.netigate.net/sv/articles/undersokningar/att-leda-arbete-i-hemmet-en-undersokning-om-hemarbete/>

different? One way to analyse our internal differences is through our different personalities. To understand personality in an applied scientific context, the big five traits theory of great help. The main goal with this thesis was grasp into how different personalities and traits of employees working from home over time predict their perceived work engagement and work life balance to answer the question:

Do personality traits predict our perceived work engagement and work life balance when working from home over time?

Consequently, the hypotheses are that personality, in this thesis, assessed by the big five personality traits, are significantly predicting perceived work engagement and work life balance when working from home, *as of currently and changing over time*. This is the main topic of the study.

Theoretical Background

The theoretical background for this study first presents theories and definitions of work from home. As very little research has been done in the current environment, surrounding theories such as remote work was also of some interest (where it is only specified that the employee is working out of office, but not necessarily from home). Secondly, the background will present and cover the big five theory and present its different traits. There will also be a general review of the personality trait theory itself. Thereafter, a review on work engagement and work life balance will be presented. These theories will be the foundation for the present thesis.

Working from home

Virtual work is a type of employment where the individual is performing work outside of the office (Raghuram et al., 2001). Another definition that is more concentrated around working in physical isolation where the employees are not in physical connection (Bartel et al., 2012), and for example, working from home. These definitions are surrounding the fact that the employer has left the traditional way of office working, and thus, changing the traditional field of the working from an office or onsite. According to Golden et al. (2008), even though the tasks and the work is the same, virtual working creates major changes

concerning how we interact with our organization and also our working environment. In a modern context, new technology and the trending globalization has made remote work grow and rise extensively (Wiesenfeld et al., 2001).

In a major meta-analysis on 46 studies analysing telecommuting on different levels, Gajendran and Harrison (2007) argued that there have not been any earlier conclusions in reviews arguing that telecommuting is good or bad for the individual. In their own conclusion however, the researchers suggested that telecommuting is likely having more positive than negative influences on the employee. Positive outcomes such as perceived autonomy, satisfaction and work life balance are mentioned. On the other hand, the negative outcome is that the co-worker relationships could be harmed if a majority of the work is done out of office. The personality traits that are desirable in a physical working environment might not be the same ones when it comes to working virtually. Baring this in mind, there is big importance in understanding how different traits and personalities may differently adapt to working out of office.

However, it is important to keep in mind that previous research has been characterized by voluntary virtual working environments and inconsistent amounts of virtual working (Bailey & Kurland, 2002), while the present study makes use of a mandatory or recommended working-from-home condition. In this particular research, the big five model was assessed to identify perceptive personality differences and also changes in their perceived attitude towards working from home over time. Working from home will also be used furthermore in this study, so it is not mixed with virtual or remote work, which could be done anywhere out of the office, but not exclusively from home.

Personality Traits

According to Johnson (1997), the trait taxonomy is a great fit for understanding personality in a scientific environment. In short, personality traits are recurring patterns of feelings, thoughts and actions that define and distinguish us from each other. Our traits can either be observable and behavioural and in other words, outer. They could also be inner traits that are cognitive and emotional (Hogan et al., 1997). Having a specific set of traits does not make someone's responses foreseen and totally consistent (Johnson, 1997). We can react differently depending on circumstances. Our behavioural inconsistency does not

automatically cause inner inconsistency. The relevance of the trait theory is its possibility to be affected frequently by circumstantial cues.

Big Five Traits Theory

The big five theory is central in describing and understanding our behaviour in different situations and times. The five traits included in the big five theory are extraversion, agreeableness, openness, conscientiousness, and neuroticism. Goldberg and Saucier (1998), argued that all different traits of a personality can be included in the big five and its great variety of facets. Though, the definition of a trait is very discussed and not entirely agreed upon (Carver & Scheier, 2012). In the big five theory, there are five different factors in the theory as the name implies, covering a specific set of personality characteristics. There have been many discussions on the precise meaning of the factors, but despite this, much of the traits that are put into the factors are the same, even though the specific naming of the factors could differ, according to a meta-analysis made by Barrick and Mount (1991). They also mention that there has been a great number of literature and research done that strengthen the robustness of the big five theory.

For this particular work, an IPIP-NEO set with 30 predetermined facets selected by Kajonius and Johnson (2019) were assessed. The selected set showed to be a robust when tested against a major IPIP-NEO-120 set made by Johnson (2014), consisting of $N = 320$ 128. A short table will provide some initial info and description of the traits and their facets, followed by an introduction of each trait, in order to provide a sufficient knowledge basis for the thesis.

Table 1.

The big five traits and facets example table

<i>Trait</i>	<i>Example Facets</i>
Neuroticism	Anxiety, Impulsiveness
Extraversion	Activity, Assertiveness
Openness	Fantasy, Curiousness
Agreeableness	Cooperation, Compliance
Conscientiousness	Dutifulness, Self-discipline

Neuroticism

Barrick and Mount (1991) presents in their meta-analysis that common facets within the factor are anxiety, anger, embarrassment, depression, worry and insecurity. McCann (2018) adds that individuals with a high level of neuroticism are more sensitive to stress and less prone to handling stress well. Furthermore, highly neurotic individuals tend to worry about many things and not be able to handle strained situations well.

In a working environment, Neal et al. (2012) argued that adaption or initiation to change could affect a neurotic individual's performance negatively. In correspondence with this, Bozionelos (2004) pointed out that individuals scoring high on neuroticism are generally worried and not developing positivity in relation to their work. Their lack of confidence and positivism causes them to not be inclined to set high goals when it comes to career or performance. As a result of this, neurotic individuals are less likely to be devoted to their work.

When it comes to the relation between neuroticism and work life balance, Michel et al. (2011) presented that individuals with high levels of this trait often react stronger to stress and hence, perceive higher levels of conflicts when their life domains are turned against each other. Positive relationships have also been shown between neuroticism and all forms of work-family conflicts.

Extraversion

Neal et al. (2012) declared that extraversion defines who we are and how we behave in situations where we are required to interact with other people and work together as a group. Strong levels of extraversion often create efficient interpersonal connections with others in the workplace and the extroverts gather energy from those relations. In accordance, extroverts find themselves satisfied with roles involving much social interaction (Huang et al., 2016). Barrick and Mount (1991) mentioned that characteristics associated with high levels of extraversion are to be sociable, active, gregarious, and talkative and that those high on extraversion seem to be a great fit for jobs involving much interaction. In a meta-analysis by Borman et al.,(2001) made from 48 studies, extraversion was positively predicting teamwork.

Bozionelos (2004) argues that extroverts are socially dominating, ambitious, sensation-seeking and that individuals with strong extrovert levels are feeling the need to reach central positions in their work to satisfy those ambitions and to fulfil their personality needs. Though, the excitement seeking, and interpersonal dominance tendencies could be maladaptive if overwhelming, which could cause behaviour that sets aside other's opinions (Carter et al., 2018). This goes in line with earlier research on the general characteristics of individuals with high levels of openness. It has been difficult for researchers to establish a common conclusion between work life balance and the extraversion trait (Wille et al., 2013).

Openness

Individuals with high levels of openness are often curious and creative and seeking new experiences according to Dollinger et al. (1996). Those with higher levels of openness prefer and strive for variety in everyday life, while those on lower levels are satisfied with more continuity. Our openness is also related to our fantasy mindset and aesthetic sensitivity. McCrae (1987) stated that openness is the factor within the big five that has the strongest relation to a person's level of creativity.

When it comes to a working environment, there is an assumption that openness should influence how employees react to uncertainty since those conditions require the individual to adapt to changes in processes, systems, and structure (Neal et al., 2012). In conformity with this, high levels of openness should predict a strong ability to initiate and adapt to changes at work. Meta-analyses have shown that openness is a predictor for training success, which also could indicate a strong adaptive skill (Barrick & Mount, 1991). The authors are arguing that

this could be due to the fact that individuals scoring high on openness are more likely to have a positive mindset in relation to learning from training.

Though, there is a complication in this trait regarding that openness in itself can be measured from several different levels and contexts depending on what kind of openness that is of interest (Coan, 1972). This makes it more complex and more discussed when it comes to reaching a specific definition of what the factor openness really is and what it describes. Therefore, it has become the most controversial of the traits within the big five theory and has also been labelled as the trait that we understand the least (Dollinger et al., 1996).

Agreeableness

Agreeableness views our personality through the aspects of cooperation and tolerance (Neal et al., 2012). It is also argued that our level of agreeableness will be visible when we are working in teams where we are relying on others (Tett and Burnett, 2003). Consequently, this trait wishes to describe our ways of reacting and responding to other's actions. Those with higher degrees within this trait should respond with helping, coworking and adapting well to social changes. In line with this, employees with high levels of agreeableness are less likely to act proactive due to their confirmatory personality and are more likely to support what is established at the time (LePine & Van Dyne, 2001).

Individuals with low levels of this trait are more prone to depression and bad psychological health. They could additionally have a lack of compassion and empathy for others (Mongrain et al., 2018). Moreover, quarrelsome behaviour has often been related to low levels of agreeableness over different contexts and over time. According to Tett and Burnett (2003), employee's levels of agreeableness in a working environment should affect how they interpret and react to other actions and that individuals with high more agreeableness are more commonly conforming to group norms. There have been both positive and negative relations on research done on agreeableness and work life balance and conflict. It is depending on whether focus is on their will to comply that might lead to them being run over by others (Bruck & Allen, 2003). One could also emphasize their ability to get social support from their surroundings (Wayne et al., 2004),

Conscientiousness

Conscientious individuals are following set norms and rules and act organized and planful (Giluk & Postlethwaite, 2015). They are dependable and striving for performance (Barrick & Mount, 1991). Automatic feelings and thoughts that make us different from each other are often recognized as our conscientiousness (Roberts & Jackson, 2008). According to Witt et al. (2002), individuals high in this trait are more probable to perform their working tasks correctly and methodically than someone with lower conscientiousness. This is confirmed by Giluk and Postlethwaite (2015), who pointed out that conscientious workers are thorough, effective when it comes to completing tasks and purposeful.

Cheremie and Simmering (2010) point out that individuals with low levels of conscientiousness are often seen as impulsive, careless, and lazy at their workplace. However, increasing their accountability and clarifying an expectation to learn, reduced this behaviour and increased the learning for those low on conscientiousness. Research have shown that working individuals with high levels of conscientiousness are generally performing well, no matter the task or job and that specific trait facets are a strong sense of purpose, obligation, and persistence (Barrick & Mount, 1991).

Work Engagement

Bakker and Demerouti (2008), defines work engagement as “*a work-related state of mind that is fulfilling and positive*”. They argued that work engagement is divided into three components: vigour, dedication, and absorption. Vigour is presented as high levels of energy while working and the employee’s resilience. Absorption is the ability to be strongly concentrated and captivated by one’s work. Lastly, our dedication is the ability to involve and strongly engage into the work and feel significant and enthusiastic. In other words, engaged workers have a lot of energy, and are passionate about their job.

This does not mean that those individuals working with high levels of engagement are addicted to their work. They find the work fun and are not struggling to enjoy themselves outside of work. Instead, according to a structured qualitative interview study made by Schaufeli et al. (2002), workers with high engagement (scoring high in the Utrecht Work Engagement Scale) from different occupations indicated that their energy also appeared outside of their working life.

There has been a great increase in research within the field of work engagement according to Bakker et al. (2011). Furthermore, it is also suggested that this research has linked work engagement with basic work-related outcomes such as economical returns, work performance and clientele satisfaction. Bakker and Demerouti (2008) argued that work engagement is facilitated by different drivers, such as job- and personal-related resources. The job-related resources are presented as intrinsic motivators in order to satisfy our need for autonomy, relatedness, and competence (Bakker et al., 2011). Though, they could also reach out extrinsic motivators as our environment could help us to engage in reaching the working goal.

Meta-analyses have shown a positive relationship between job resources and work engagement (Halbesleben, 2010). For instance, a study showed that increases in learning opportunities, autonomy, performance feedback and social support were predicting work engagement over a 1-year period (Schaufeli et al., 2009). Bakker and Demerouti (2008) have argued that the level of work engagement affects the productivity of the employee. Furthermore, Saks (2006) presented that individual performances lead to greater results for the company. This is supported by Bakker et al. (2011), who suggested that it is of great importance for the organisation to be able to inspire and engage their working force to reach its full potential. However, because of the various definitions of work engagement, measuring it has become more difficult (Saks, 2006). Something that has seemed to be constant, though, is the emphasis on levels of energy and identification with one's work (Bakker et al., 2011).

Work Life balance

A review by Kalliath and Brough (2008), presented many existing definitions on work life balance but none that has been validated widely in literature. After bringing up six of the more common definitions, they themselves suggested that work life could be defined as *the "the individual perception that work and non-work activities are compatible and promote growth in accordance with an individual's current life priorities"*. In addition to this, the authors argued that understanding of the changings in life depending on specific events in life is also important to emphasize when it comes to work life balance. It is also mentioned that definitions on work life balance often include the relationship between both conflicts and facilitators within work, family. Additionally, newer measures of work life balance are based upon the work life conflict perspective.

According to Greenhaus and Beutell (1985), conflicts between the working and private life are based on role conflicts within the individual where the different roles are to some extent incompatible. Their work points out three main conflicts between work and family life:

- (a) time-based conflict. Time based conflicts can occur when a person cannot take on two roles at the same time. It could also occur when one feels pressure from one role that causes preoccupation although one is trying to meet the expectations from the other role. Conflicts within the time base could be caused by both work and family.
- (b) strain-based conflict. This involves conflicts where the individual is stressed due to incapability to cope with different roles. It is often present where stressors from one part of life affects the performance in another one. It often produces symptoms such as anxiety and depression and irritability.
- (c) behaviour-based conflict. This conflict is revolving around the issues on acting consistently. Thus, where one behaviour is required in a certain role and not compatible with the expectations in another one.

For the first, the number of hours worked per week have shown a positive relation with conflicts as well as commuted hours per week, irregular shift work and the presence of overtime. For the latter, marriage, children and their age and spouse employment can create pressure to participate in the family role. The work life balancing conflicts can occur in both directions – either that working life takes up too much of the private life, or the other way around (Carlson et al., 2000). Consequently, there can be six potential work-family conflicts.

Newer research has shown an increase in resources invested in enhancing the work life balance from the employers to their employees' due to issues regarding stress and burnout caused by a malfunctioning work life balance (Frone, 2000).

Aim of study

This study aims to reach a deeper understanding on how different individuals feel around working from home and more specifically, when it is implemented quickly and at a short notice where it is more or less, mandatory, as during the current pandemic. There has been little work done in this particular field before. By understanding what people think and feel around the transition to working from home, we can be more prepared when it comes to changes in our world, no matter where and how they come around. Considering the rapid

growth of virtual work and working from home (Gajendran & Harrison, 2007; Wiesenfeld et al., 2001), this seems more important than ever. The overarching hypothesis for the present study is that personality, in this case assessed using the big five traits, can predict current, as well as perceived changes in, working engagement and work life balance.

H1: Personality traits will predict the individual's perceived work engagement at the current time

H2: Personality traits will predict the individual's perceived work engagement change over time

H3: Personality traits will predict individual's perceived work life balance at the current time

H4: Personality traits will predict the individual's perceived work life balance change over time

Method

All the statistical analysis in this thesis was done using version 1.6.14 of Jamovi (2021) after being downloaded into an Excel sheet. To reach an initial view of the collected material, means and standard deviations were presented. Thereafter, a correlation matrix was to reach further analysis on causality of the different variables. The tools to conduct this research was a shortened version of the IPIP-120 by Johnson (2014) constructed by Kajonius and Johnson (2019) by separating the most informative items from a 120-item scale. The initial 120-item scale has been validated against the most used big five model made by McCrae and Costa (1987) and has shown to be commensurate. Two other validated tests were done to understand the perceived work engagement (Schaufeli & Bakker, 2004) and a questionnaire on perceived work life balance by Brough et al. (2014). The internal consistency within all the tests (Big five, UWES and WLB) was tested by computing and checking the Cronbach's α value with a set threshold of >0.70 (Taber, 2018).

It should also be kept in mind that the variables of change over time indicated the opposite. A positive score revealed that the initial variable score was higher than the current one, creating a positive differential score. Similarly, a negative value indicated a positive change over time.

Statistical Analysis

The research was conducted as a cross-sectional study on individuals working from home with the endeavour to reach their personality traits, work engagement and work life balance when working from home as of currently and the change over time. This was done to cover the four presented hypotheses. The statistical analysis was done through adjusting the scales of perceived work engagement and work life balance and design questions that touched on two different times to grasp if there was change over time in perceived work engagement and work life balance. For example, one question was if the respondent felt inspired by their job during the beginning of working from home another one if they felt inspired as of currently.

All of the questions concerning the same time were then grouped and divided into means for perceived work engagement and work life balance. One mean for the initial time, and one for the current. Thereafter, the current mean was subtracted from the initial mean which created a new variable of change over time. The means for the current time and the calculated change over time in perceived work engagement and work life balance were set as the dependent variables for this study. The control variables assessed in the design were the participants' age, gender, square meter living space and the big five traits. The dependent variables were initially analysed through a correlation matrix. Secondly, they were analysed through different regressions models where one of the dependent variables was tested against all of the control variables at the same time.

Procedure

Relevant research articles within the subject of the thesis were found via google Scholar. Search terms revolved around virtual work, the big five traits, work engagement and work life balance. The survey was made as a quantitative cross-sectional study and was presented as an online survey as shown in the appendix. The questionnaire was created in google forms. A progress bar was included to motivate the participants to complete the questionnaire. The first page provided the participant with the background of the study, its purpose, and the ethical considerations. The respondents had to click that they consented to the considerations and guidelines in order to start filling the questionnaire. The study was made in English in order to

be available to as many respondents as possible. By doing so, translations were also avoided for some of the scales which was only available in English.

The survey was shared through a convenience selection on social media as well as with the help of contacts who shared the survey in their organisations. Moreover, specific emails were also sent to unions with affected members calling for their participation for an increased response rate. The final questionnaire was sent out for around a month before closing. After about two weeks, a reminder was sent out to increase the response rate. The material was thereafter downloaded as an excel sheet.

Ethical considerations

In compliance with the Swedish science ethics council (2002), the four principles of ethics were concerned. *The information requirement* was met through the introductory letter in the beginning of the survey. *The consent requirement* was met by requiring the respondent to agree to their participation in order to start the questionnaire. It was also stated the respondent by submitting in the end, consented to filling out the questionnaire voluntarily. No names or personal information was taken in addition to the descriptive questions in order to meet the *requirement of confidentiality*. No individual answers could be traced. The gathered information was not used for any other research, which in other words, met the fourth requirement – *the requirement of utilization*.

The participants

The recruitment for the questionnaire was around for a month and gathered a N = 253 after removing some doubles and those who answered that their understanding and interpretation of the questionnaire was “not so good” a N=253 was obtained and analysed in Excel and Jamovi (2021). 4.4% (N=11) was allowed to work onsite, while 49,6 (N=125) were required to work from home. 46% (N=116) were not required to work from home but had it as a recommendation. The only respondent criterion stated initially in the questionnaire was that the respondent to some extension had been working from home during the last year. 21% (N=53) answered that they were working less than 50% from home while 79% (N=200) answered that they were working more than 50% from home.

The sample characteristics

The sample for this study consisted of individuals to some extent working from home from several different fields. Female participants were around 75% while the male participants were around 23%. 2% did not want to respond to the question regarding their gender. The frequency distribution of gender is presented below in table 2. The total *N*-value was 253. The present sample was well distributed when it came to age, something that is shown in table 2 below. The mean age was 40.6 (*SD* = 12-9).

Table 2.

Frequency distribution of gender and age

	Frequency	% of Total	Cumulative %
Gender			
Female	189	74.7 %	74.7 %
Male	59	23.3 %	98.0 %
Other	5	2.0 %	100%
Age			
22-30	81	32.0 %	32.0 %
31-40	50	20.6 %	52.6 %
41-50	49	18.5 %	71.1 %
51-60	55	21.8 %	92.9 %
61-72	18	7.1 %	100.0 %
SQM			
0-50	35	13.8%	13.8%
51-100	100	39.5%	53.3%
101-200	110	43.5%	96.9%
200+	8	3,1%	100%

Note. *N*=253 *SQM* = *Square meter living space*.

Instruments

All of the scientific questionnaires were directly transferred into the survey. Their original Likert scales were included to retain the original shape of the questionnaire.

Big five questionnaire

For measuring personality, a big five questionnaire was assessed. There are many different versions and a thought on the balance between its extent of the questionnaire and the risks of respondent fatigue had to be done. For this particular work, a 30 items scale was picked in the end with 6 facets for each of the 5 factors (extraversion, agreeableness, conscientiousness, openness, and neuroticism). The picked scale has been constructed and shortened down through analysis from a random Swedish sample N=1930 and a random American sample N=25000 made by Johnson (2014). The most informative items were picked out with help of IRT (item response theory methods). The original model had 120 items, 5 factors and 30 facets. The respondents answered on a Likert scale of 1-5. The only change done to this questionnaire was that the questions were conducted twice. For the first set, the respondent was asked to respond around one's feelings during the start of working from home. For the second, one was asked to respond on how they felt as of today. This was done to capture the perceived change during the time working from home .

Utrecht Work engagement scale

The Utrecht work engagement scale 9 instrument contains statements regarding one's self-assessment regarding working commitment (Schaufeli & Bakker, 2004). There are two different tests within the UWES. A long one that contains 17 statements and a short one, containing 9 statements. For this research, the shorter one was chosen in order to reduce the risk of fatigue and respondent dropout. For example, one statement is about how much inspiration one is getting from work. The respondent then has 7 alternatives on a Likert similar scale: 0= Never 1 = Almost never 2=Rarely 3=Sometimes 4= Often 5= Very often 6=Always. The answers for the questions are then added and divided into an average engagement. There are three different factors within the UWES – Vigour (statement 1,2,5), Dedication (statement 3,4 and 7) and Absorption (statement 6,8 and 9). The scale has proven to have a strong internal consistency with Cronbach's α values over >0.70 (Schaufeli & Bakker, 2004).

As instructed in the manual constructed by Schaufeli and Bakker (2004), the answers of the statements were added and then divided to create a mean for the mentioned factors. The mean of the three computed new factors could also be added to create a total mean for the individual's perceived working engagement.

Work life balance scale

A questionnaire made by Brough et al. (2014) was included in the questionnaire in order to understand the perceptions on the respondents work life balance. The authors conducted a small but concise measurement of work life balance and have been tested with four independent samples of different workers employed in Australia and New Zealand with an $N=6983$). The Cronbach's α for the different sample tests had high internal consistency ranging from 0.84 to 0.94. The questionnaire consists of four questions regarding one's perceived work life balance. with responses form 1-5 on a Likert scale from strongly disagree to strongly agree.

Results

Descriptive statistics

The descriptive summary of the study variables can be found in table 3 below, the most general information from the different psychological questionnaires is presented down below. Among the big five factors, agreeableness and conscientiousness had the highest $M = 4.27$ ($SD = 0.50$) and 3.99 ($SD = 0.53$). Work engagement (UWES) were perceived as higher in the beginning of the pandemic. In other words, respondents were feeling a perceived lower work engagement as of now. The questionnaire on work life balance had very similar values on the perceptions between then and now. All of the Cronbach's α values had a satisfactory value over the critical value of >0.70 when assessing the internal consistency of the instruments (Taber, 2018), with agreeableness being the only exception $\alpha=.56$. When assessing the skewness and kurtosis levels, there were no interference with the set value thresholds of +2 and -2 (Gravetter & Wallnau, 2014).

Table 3.*Descriptive Statistics of the Study Variables*

	<i>M</i>	<i>SD</i>	Skewness	Kurtosis	α
<i>Big Five</i>					
Neuroticism	1.86	0.67	0.74	0.26	.84
Extraversion	3.65	0.77	0.34	-0.59	.80
Openness	3.82	0.68	-0.33	-0.46	.74
Agreeableness	4.27	0.50	-0.37	-0.26	.56
Conscientiousness	3.99	0.53	-0.25	-0.09	.76
<i>UWES-9</i>					
Initial	3.94	0.87	-0.43	0.59	.88
Current	3.64	0.92	-0.46	0.37	.89
<i>Work life balance</i>					
Initial	3.08	0.86	0.40	0.36	.87
Current	3.04	0.91	0.29	-0.05	.86

Note. *M* = Mean. *SD* = Standard deviation. α = Chronbach's alpha. UWES-9 = work engagement. WLB = work life balance. The big five scale was between 1-5. UWES-9 scale was between 0-6. The WLB scale was between 1-5.

The Big five traits, Work Engagement and Work Life Balance

In order to reach some insight on the hypotheses, a correlation matrix was conducted to reach some insight to whether there were relations between the personality traits and the dependent variables on perceived work engagement and work life balance. The final analysis was done by constructing regressions models in order to understand whether the correlations were significant when including all of the control variables. The overall hypothesis was that the big five traits would be significant predictors of the perceived work engagement and work life balance of the respondents. The current work engagement and work life balance were analysed, as well as the differences in work engagement and work life balance change over time. All variable correlations are presented below in table 4 with Pearson's R values. For example, work engagement was positively correlated with extraversion $r(251) = .27, p < .001$.

Table 4.*Correlation matrix on Study Variables*

	Current UWES	UWES difference	Current WLB	WLB difference
Neuroticism	-.35***	.12	-.24***	.08
Extraversion	.27***	-.06	.15*	.05
Openness	.02	.16*	-.17*	.15*
Agreeableness	.03	.04	.09	-.01
Conscientiousness	.40***	-.13*	.06	-.04
Age	.07	.03	.03	-.01
Gender	.01	.07	.01	.04
SQM	.07	-.01	.20**	-.04

Note: * $p < .05$ ** $p < .01$ *** $p < .001$ (2 – tailed); N = 253. SQM = Square meter living space. Gender 0=Female 1=Male 2=Other or wish to not answer. UWES = work engagement. WLB = Work life balance.

While correlations are limited to showing relationships, regressions attempt to estimate one variable based on another. Therefore, separate linear regression models were done with the four different dependent scales with all of the control variables. When checking the diagnostics, the collinearity for the regression tables showed no cause for concern about multicollinearity and singularity. All variables entered the equation without violating the default values for tolerance and VIF, all values were below two which was satisfyingly under the threshold of the value of 3,3 where collinearity between variables could be an issue (Kock & Lynn, 2012).

All the linear regressions results are shown below in table 5. For example, linear regression showed a significant negative relationship between work engagement and neuroticism ($p < .05$). The slope coefficient for neuroticism was -0.18 so the work engagement decreases by 0.18SD of each increase SD of neuroticism when including all big five traits in the model. The R^2 thresholds for the models were set according to Cohen (1992), where a R^2 value .12 or below indicate a low effect, .13 to .25 indicate a medium effect, and .26 or above indicate a high effect size.

For instance, the R^2 value of the work engagement regression model was 0.236 so 23.6% of the variation in work engagement can be explained by the differences in perceived personality traits. According to the set thresholds, this was a medium effect size.

Table 5.

Regression models on Study Variables

	Current UWES	UWES difference	Current work life balance	WLB Difference
	Stand.β	Stand.β	Stand. β	Stand.β
Neuroticism	-.18*	.09	-.21**	.09
Extraversion	.17*	-.02	.08	.08
Openness	-.04	.16*	-.20**	.17*
Agreeableness	-.07	.05	-.09	-.04
Conscientiousness	.33***	-.11	-.03	-.03
Age	.01	.02	-.01	.03
Gender	.09	.03	.07	.01
SQM	.02	-.02	.18**	-.15*
F-Value	9.42	1.85	4.60	1.26
R2-value	.24	.06	.13	.04

Note: * $p < .05$ ** $p < .01$ *** $p < .001$ (2 – tailed); N = 253. SQM = Square meter living space. Gender 0=Female 1=Male 2=Other or wish to not answer. UWES = work engagement. WLB = Work life balance.

Discussion

The purpose of this thesis was to analyse whether personality traits have an effect on and can predict perceived work engagement (UWES) and perceived working life balance (WLB) at the current time and also change in these variables over time. Results showed, for example, that conscientiousness is the strongest predictor for current perceived work engagement, while the trait openness negatively predicted perceived current work life balance. This trait also

positively predicted both perceived work engagement and work life balance change, implying that the perceived work engagement and work life balance had been reduced over time for those with high levels of openness. When assessing the four initial hypotheses, different personality traits were significantly predicting all the regression models with varying strength.

The big five personality traits will be discussed in relation to perceived work engagement, and secondly, in relation to perceived work life balance. Lastly, study limitations will be brought up, as well as directions for further studies and conclusions.

Big five and Work Engagement

There were some informative correlations and predictive results between the personality traits and perceived work engagement. Individuals with high levels of neuroticism had a negative view on the present perceived work engagement. Bozionelos (2004) argued that neurotic individuals are often worried and not positive in their relationship with their work. These insecurities seem to have been following them to working from home. Working from home could also have lowered their devotion due to the physical distancing from the workplace. This is in a with what McCann (2018) presented on the insecurity of neurotics. Working from home might have hampered their working engagement due to being distanced from their colleagues and being forced to work more independently.

Extroverted individuals seem to keep finding work from home interesting which is somehow contradicting in the sense that much research emphasizes their fit for social environments and working as a group together with others in order to reach their full potential (Neal et al., 2012). Meta Studies have insisted that extraversion is a strong predictor of teamwork (Borman et al., 2001), and that extroverts seem to prefer work roles involving much social interaction (Huang et al., 2016). Meanwhile, Bozionelos (2004) points out the strong ambitiousness and sensation-seeking within extroverts, which are two traits that could fit into the new working environment. One could believe that their present high level of working also could be due to the digital possibilities for social interaction that has been enhanced during the period of working from home, enabling extroverts to still reach out with their ideas and communicative skills.

Openness was the strongest correlated and significantly predictive trait with the studies dependent factors as it was related to work engagement change over time as well as current work life balance and work life balance over time. It should be borne in mind that the positive

predictions of change over time indicated actually indicates a lowering in levels of work life balance and work engagement. Individuals with high levels of openness rely on creativity and uncertainty, according to Neal et al. (2012). This seems to have been the case during the initial time in working from home but not now. This could have caused the negativity in their views of difference over time when it comes to work engagement. Meta-analysis by Barrick and Mount (1991) has results showing that high levels of openness predict a strong adaptive ability, but this could have been changed over time for the open-minded during the longer period of working from home.

Conscientiousness seems to be the most positively predictive trait in order to function when working from home as of now and in change over time, having positive significance in relation to current work engagement and a negative correlation with difference in work engagement change over time, implying they had higher levels of work engagement now than before. This goes in line with earlier research. Barrick and Mount (1991) argued that conscientious individuals tend to perform well no matter the challenge, which seems to go in line with the current context. It is also mentioned that conscientious traits are, for example, to feel a strong sense of purpose and obligation. This could explain the strong relationship between level of conscientiousness and current work engagement. On the contrary, Chermie and Simmering (2010) have reported that those with low levels of the trait are careless and lazy at their workplace. An idea presented was that those with low levels could receive enhanced accountability as a solution to reduce the careless behaviour from those low on conscientiousness.

There was no correlation or regression significance when it came to agreeableness. It seems that relevant facets, such as cooperation and helping others might not appear as often when working from home, hence making a relationship harder to establish. This could also be the case for those with low levels of agreeableness and their lack of compassion and empathy for other individuals around themselves (Mongrain et al., 2018). Neither does working from home create an environment for group norms which could help to understand the difficulties in measuring agreeableness to work engagement in a home working environment.

Big five and Work life balance

Neuroticism was negatively related to work life balance. Research has shown that neurotics are often sensible to collisions of different life domains, according to Michel et al.

(2011). This seems to be consistent with the conflicts presented by Greenhaus and Beutell (1985). Most of all, perhaps, when it comes to strain- and behaviour-based conflicts, that indicated that the conflict came from inability to cope with several different roles where stressors from one part of life affected other ones and an incapability to comply to the expectation of several roles. Thus, the transition to working from home could have had negative effects on their capability of keeping work and life balance apart from each other during the actual period. The same authors have also argued for the relationship between neuroticism and work-family conflicts. This could be explaining the negative significance between neuroticism and current work life balance. Extraversion was in itself correlated to work life balance, but the linear regressions analysis did not show any significance when involving the other big five traits and the control variables affecting the relationship between extraversion and work life balance. Previous research has proven difficulty in getting to a common understanding on the relation between work life balance, conflict, and the extraversion trait (Wille et al., 2013).

Openness was negatively correlated with both variables of work life balance, current work life balance and work life balance change over time. Indeed, it seems that those with high levels of openness have had a tough time adapting to working from home over time. This goes in line with earlier research on the general characteristics of individuals with high levels of openness. Dollinger et al. (1996) suggested that those with higher levels of openness prefer variety in life, while those on lower levels are satisfied with the continuity in life. The current situation for many individuals as of now seems to be tied with a lot of routine where you might feel a struggle to create changes in life. There is also a lack of possibility to try new things, which is something that individuals high on openness are feeling a strong need of. Working from home could have been stimulating initially, but it seems that the stimulation and work life balance has diminished substantially over time.

Agreeableness had no significant relation with work life conflict and balance. Some research has been done, but no common answer has been reached on how agreeableness is related to work life balance according to Wille et al. (2013).

Limitations

All studies that use a self-reporting questionnaire are questionable due to the subjective participants, and their ability to understand what is demanded by them by the different items

and the inventories. However, it should be mentioned that the tests that were used in the questionnaire have had strong levels of internal consistency historically (Brough et al., 2014; Johnson, 2014; Schaufeli & Bakker, 2004) and in the present study. The only exception being the α -value on agreeableness.

The quick conduction of the cross-sectional study was a great benefit in this case. However, recall bias is an issue. Much in this study is revolving around their perceptions of earlier work engagement and work life balance which might not be fully correct. It could be hard for the respondents to clearly reach their memories of what happened one year ago. Recall bias would not have been present if the thesis were done with a longitudinal design and could have provided a more correct result due to its unique way of researching a phenomenon over time. For this thesis though, it was not possible to implement.

Another thing worth mentioning is the skewed gender distribution, where females stood for almost 75% of the responses on the questionnaire. A larger sample with a more even gender distribution could be more informative and give a stronger result which could be something to be done in the future. At the same time, it should be borne in mind that this study focuses on work from home, where gender perhaps is not a dominant factor. Gender was not an influential factor in this study and hence, it would not guarantee another result.

Conclusions

There seems to be a stream of different reasons for our behaviour during sudden change. As we are all unique – our response to our surroundings and changes within it are also unique. Though, some important patterns can be pointed out from this thesis when it comes to understanding the current work engagement from individuals working from home. For example, conscientiousness seems to be the safest predictor of work engagement when working from home for a longer period of time. On the other hand, those with high levels of openness who often have been praised in literature for their ability to react and create change (Neal et al., 2012) does not seem as fit to be working from home over a longer period of time. Hence, this study could be a first indicator on the differences between how different traits predict different work engagement depending on where one is working from.

The last question of the overall survey was an open one concerning “what do you personally think have been the biggest changes as a consequence of working from home during Covid-19 pandemic?”. A majority of the respondents emphasized missing their

colleagues. A positive aspect was the adapting of digital tools in order to make cooperation function when working from home and the reduction of commuting time and energy. The experiences were vastly divided. In a large proportion of the answers, there were two distinct groups. Either the respondent had an overall positive experience with better life balance, sleep, and seeing the homework as an increased opportunity to dispose their time. Opposingly, many felt an inability to quit their jobs on time, a feeling of less free time and bad managing of their work life balance. Some viewed working from home as isolating and depressing, while others saw it as refreshing and positive.

The current state of the working world is unlike something in history which also made this research possible and shared some light over new research. The findings indicate the relevance for organizations to put resources into creating an extended understanding of the different requirements of working from home, in contrast to the traditional office work to reach strong work engagement and work life balance within their work force. There is much more to be understood and learned when it comes to the followings of working from home, but this could be an initial step.

There are some relevant novelties that this thesis brings. Not least due to the scarce previous research on the relationship between personality, work engagement and work life balance during work from home over time and the great increase of work outside of office (Gajendran & Harrison, 2007; Wiesenfeld et al., 2001). There is much future research that can be conducted within this field. Longitudinal studies would be of great value in order to get a more correct and comprehensive view of employees' experiences of working from home during a longer period of time. Larger samples with a more even gender distribution could also be fruitful. Analysing what kind of support that could be of help for those that find themselves struggling when working from home and out of office is another possible interesting addition. Especially when the labour market is rapidly changing, and with the continued growth of working from home and remote work in mind. It seems focal that workplaces and organizations create clear policies, guidelines, and boundaries in order for their workers to function and perform, no matter the job or where it is location. A focus on how changes are handled by the employees in order for the organization to keep functioning and succeeding is of significant relevance. There is also an increased responsibility on the employees to avoid the different work family role conflicts (Greenhaus & Beutell, 1985) . When working from home, the roles seem to be closer than ever.

In a way, this thesis opens the field of research on the relation between personality, work engagement and work life balance when working from home and what traits that could predict successful homework over time and when it is mandatory or recommended. The findings suggest that organizations might need to look at new perspectives and approaches on the personalities of their employees to ensure that they have motivated workers who successfully manage their work life balance - even from home.

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Appendix

Hello!

My name is Gabriel and I am currently conducting a research study at Lund University. This survey is a very important part, and I would therefore be extremely grateful if you wanted to take the time to answer the questions.

The survey should take around 8-10 minutes to complete. Just intuitively answer how you feel about the statements.

The purpose of the thesis is to understand how attitudes can affect perceived work engagement and work life balance as a result of the working from home caused by Covid-19. It is addressed to you that to some extent have been working from home during the ongoing pandemic.

By completing the form and clicking 'submit' towards the end you certify that you have consented filling out this questionnaire voluntarily, in line with the latest GDPR (Personal Data Act). You can cancel at any time and the participation is voluntary. All data is anonymous, is encrypted, and any client or third party will never have access to how you have answered specific questions.

The initial descriptive questions are followed by a set of questions about general attitudes. After, there comes a set of questions related to work engagement and work life balance, at the start of working from home and in the current situation.

Finally, there are two sets of general questions about your view of the change to working from home over time and its consequences. By answering the questions, you consent to participate in the study.

If you have any questions or want to read the study when it is finished, please email me at Bev15gni@student.lu.se

Thank you in advance for your participation!

I will answer to the best of ability

I am...

Female - Male - Other - Wish not to answer

Age?

To what extent have you been working from home during the Covid-19 pandemic?

Less than 50% - More than 50% - 100%

Does your employer require you to work from home?

Yes – No – No, but it is recommended

How much did you work at home or remotely before the Covid-19 pandemic?

0% - Less than 50% - more than 50% - 100%

Do you have a partner/spouse?

Yes - no

If yes, to which extent have your partner/spouse worked from home during the Covid-19 pandemic?

0% - Less than 50% - more than 50% - 100%

Do you have children at home?

Yes – No

If yes, to which extent have your children studied from home during the Covid-19 pandemic?

0% - Less than 50% - more than 50% - 100%

Big five factor items questionnaire

1. Not at all/rarely - 2. - 3. Sometimes 4. - 5. Very well/almost always

1. Get stressed out easily.
2. Am afraid of many things.
3. Feel that I am unable to deal with things.
4. Panic easily.
5. Am often down in the dumps.
6. Fear for the worst.
7. Feel comfortable around people.
8. Make friends easily.
9. Avoid contacts with others.

10. Talk to a lot of different people at parties.
11. Have a lot of fun.
12. Avoid crowds.
13. Believe in the importance of art.
14. See beauty in things that others might not notice.
15. Have a vivid imagination.
16. Avoid philosophical discussions.
17. Have difficulty understanding abstract ideas.
18. Do not enjoy going to museums.
19. Am concerned about others.
20. Am indifferent to the feeling of others.
21. Take advantage of others.
22. Take no time for others.
23. Am not interested in other people's problems.
24. Feel sympathy for those who are worse off than myself.
25. Waste my time.
26. Carry out my plans.
27. Work hard.
28. Complete tasks successfully.
29. Know how to get things done.
30. Do just enough work to get by.

Work engagement scale

0.Never - 1.Almost never - 2.Rarely - 3.Sometimes - 4.Often - 5. Very Often - 6.Always

At the beginning of the working from home

1. At my work, I feel bursting with energy
2. At my job, I feel strong and vigorous
3. I am enthusiastic about my job
4. My job inspires me

5. When I get up in the morning, I feel like going to work
6. I feel happy when I am working intensely
7. I am proud of the work that I do
8. I am immersed in my work
9. I get carried away when I'm working

At the current time

1. At my work, I feel bursting with energy
2. At my job, I feel strong and vigorous
3. I am enthusiastic about my job
4. My job inspires me
5. When I get up in the morning, I feel like going to work
6. I feel happy when I am working intensely
7. I am proud of the work that I do
8. I am immersed in my work
9. I get carried away when I'm working

Work life balance scale (asked twice)

Strongly Disagree - Disagree - Neutral - Agree - Strongly Agree

At the beginning of the working from home

1. I currently have a good balance between the time I spend at work and the time I have available for non-work activities
2. I have difficulty balancing my work and non-work activities.
3. I feel that the balance between my work demands and non-work activities is currently about right.
4. Overall, I believe that my work and non-work life are balanced.

At the current time

1. I currently have a good balance between the time I spend at work and the time I have available for non-work activities

2. I have difficulty balancing my work and non-work activities.
3. I feel that the balance between my work demands and non-work activities is currently about right.
4. Overall, I believe that my work and non-work life are balanced.

Additional questionnaire

Comparative set

1. Not good at all - 2. - 3. Its ok. - 4. - 5. Very good

At the beginning of the working from home

1. Do you feel that you have received good feedback on your work?
2. Do you feel that you can / could concentrate on work?
3. Do you feel that you like / liked your organization's values?
4. Do you feel that you would recommend your employer to a friend?
5. Do you feel that you have / had fun at work?
6. Do you feel / felt motivated to work?
7. Do you feel that you feel / felt proud of your company / employer
8. Do you feel that you are / were listened to by your colleagues?
9. Do you feel that you are / were listened to by your boss?
10. Do you think that working from home have had an effect on your colleagues work engagement?
11. Do you think that working from home have had an effect on your colleagues work life balance?
12. How did you experience your summary assessment of your employer?'

At the current time

1. Do you feel that you have received good feedback on your work?
2. Do you feel that you can / could concentrate on work?
3. Do you feel that you like / liked your organization's values?
4. Do you feel that you would recommend your employer to a friend?
5. Do you feel that you have / had fun at work?
6. Do you feel / felt motivated to work?

7. Do you feel that you feel / felt proud of your company / employer
8. Do you feel that you are / were listened to by your colleagues?
9. Do you feel that you are / were listened to by your boss?
10. Do you think that working from home have had an effect on your colleagues work engagement?
11. Do you think that working from home have had an effect on your colleagues work life balance?
12. How did you experience your summary assessment of your employer?"

Questions on extent of change during working from home

1. Significantly decreased -2. - 3. It's the same 4. -5. Significantly increased

1. To what extent has your enjoyment of working from home changed since the pandemic started
2. To what extent do you feel that your motivation for your work has changed since the pandemic started?

1. Not good at all - 2. - 3. A bit . - 4. - 5. Very much

3. To what extent do you feel that your life has become more comfortable with working from home?
4. To what extent have you had more time left over in your private life?
5. To what extent do you think you currently have a better balance between private and working life?
6. To what extent do you miss being able to meet your colleagues?
7. To what extent do you think your personality is better suited for work at home?
8. To what extent do you think your personality is better suited for work at work?

1. Much less - 2. - 3. It's the same. - 4. - 5. Much more

9. To what extent do you think your boss had contact with you compared to before the Covid-19 pandemic?

If you have a partner/spouse that has been working from home, to what to extent do you feel that your partner/spouses (if not, just skip this page)

1.Significantly decreased -2. - 3.It's the same 4. -5.Significantly increased

1. Motivation has changed during working from home?
2. Well-being has changed during working from home?
3. Personality has changed during from home?
4. Work engagement has changed during working from home?

What do you personally think have been the biggest changes as a consequence of working from home during Covid-19 pandemic?

To what extent do you feel that you have understood the questionnaire?

Not so good – Good – Very good – Perfectly

Your mail?