

Final Project

Academic Research

*The effects of stress and segmentation
preferences on employee well-being and
work-life balance in the context of
remote work*

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Abstract

The COVID-19 pandemic has radically changed the modern workplace, introducing a forced, long-term, mass shift of many employees to a remote working mode. This has presented an opportunity to study the relationships of many factors traditionally used in research within this field in a new context. Therefore, this study has evaluated the impact of stress and segmentation preferences of employees on their well-being and work-life balance in the context of remote work during a worldwide COVID-19 pandemic. Following an analysis of cross-sectional survey data collected from 249 working adults within the city of Baku, Azerbaijan in April-May 2022, several causal effects of stress and segmentation on the chosen factors has been established. The findings have shown the existence of a direct negative causal relationship of stress on work-life balance and its effect on deterioration of well-being, represented by depression and insomnia. It was further found that high segmentation preferences cause an improvement of work-life balance as well as an increase in depression. The results of this study contribute to the field of remote work, highlighting links between traditional factors in a non-voluntary remote work context and offering new avenues for research, while also providing insights to management and human resource professionals into the causes of important aspects within a new work environment.

Key Words: Remote work, segmentation preferences, stress, work-life balance, depression, COVID-19

Introduction

The realities of work have been rapidly changing in recent years in a multitude of different ways. One of the most prominent of these changes are those in relation to the working arrangements of employees. Flexible working arrangements in general and specifically remote work (also known as telework, telecommuting, virtual work, virtual work, distributed work, mobile work, etc.) have increasingly become an accepted more of work and a viable alternative to traditional jobs, focusing on already established, in-office working modes (van der Meulen, van Baalen, van Heck, & Mülder, 2019). This concept of conducting work from home, or any other place outside the workplace using technological means as a conduit has become increasingly prevalent in recent years and decades, and this naturally prompted academic interest in the topic of remote work itself and the effects it has on the work, employees, their families, as well as comparing said effects to those of traditional working modes and locations (Charalampous, Grant, Tramontano, & Michailidis, 2018; Allen, Golden, & Shockley, 2015; Allen, Johnson, Kiburz, & Shockley 2013; Choudhury, Foroughi, & Larson, 2021). As a result of this, a significant amount of research in the fields of business, management, administration, information technology, psychology, medicine, etc. has been conducted into the topics mentioned above. The findings of this research vary significantly, with both positive and negative factors being uncovered, as well as inconclusive results in some areas (Charalampous et al., 2018; Gilson, Maynard, Jones Young, Vartiainen, & Hakonen 2014).

However, keeping the above in mind, and to acquire relevant context, it is important to note that neither flexible working arrangements as a whole nor remote work in particular are a novel concept in the workplace. Flexible working arrangements can be defined as arrangements that present the freedom to choose the location, time and quantity of work to a certain extent to the employee with allowing them to balance their lives during work and outside of it more effectively often being the goal (De Menezes & Kelliher, 2016). This topic, of course, has been a topic of significant academic interest in the recent decades, with scholars attempting to determine the existence of the impact of these flexible working arrangements on work and measure the extent of it. This research was conducted both into each of the variants of these arrangements (Kelly et al., 2014; Lyness, Gornick, Stone, & Grotto, 2012; Choudhury et al., 2021), as well as all of them (Mas & Pallais, 2017; Allen et al., 2013; Ter Hoeven & Van Zoonen, 2015).

Following the results of research into this field as well as individual experiments, employers of various sizes have entertained ideas to implement non-standard working

arrangements for employees in order to accommodate workers with disabilities, secure the retainment of existing trained specialists, and increase the appeal of their vacancies to new prospective employees (US Department of Labor [DOL], 2022). By 2016, a significant part of the European labor market has seen the influence of flexible working arrangements, with some data suggesting that 3 of 4 employees in Europe enjoy the benefits of work or schedule flexibility in one way or another. However, the proportion varies from country to country as well, with some of them, such as the Netherlands and Nordic countries having a ratio of up to 90% (Organization for Economic Co-operation and Development [OECD], 2016). The same data provided by the OECD additionally claims that women are disproportionately more likely to make use of flexible scheduling arrangements, with them being three times more likely to choose to utilize these options when offered.

As such, the adoption of remote work in the workplace is caused and encouraged by multiple different factors. The first of these factors are natural changes and evolutions such as the significant advancements in information and communication technologies also known as ICT. This includes the increasing proliferation of powerful mobile computers, laptops, smartphones and tablets, the introduction of specific software for collaborative work and communication (such as Microsoft Teams, Zoom, Skype, WeChat, etc.) as well as software as a service and cloud computing solutions. It was additionally facilitated by the increased availability of high-speed broadband internet connections to both consumer and enterprise users, both geographically and in terms of affordability. (Ter Hoeven & Van Zoonen, 2015; van der Meulen et al., 2019; Wang, Liu, Qian, and Parker, 2021).

Secondly, said shift comes as a result of deliberate organizational change within many companies in order to gain or maintain competitive advantages in recruiting employees. With some studies finding that the introduction of flexible working arrangements into the work environment improves the performance of employees within the companies by increasing their motivation, improving their retention and enhancing their productivity, some companies have been offering such arrangements more frequently (Perry, Rubino, & Hunter, 2018; Kotey & Sharma, 2016; Mas & Pallais, 2017; Nurmi & Hinds, 2016).

Another reason that has emerged as of very recently, is the forced shift of a significant number of workplaces worldwide into special remote working arrangements due to the mandatory lockdowns, crowd control measures and the enforcement of personal isolation by governments around the globe in order to stop or slow the spread of the COVID-19 pandemic around the globe (OECD, 2020). These measures began in the first months of 2020 and have been implemented in varying forms by severity and conditions. Due to this, many employees were compelled to switch

working modes regardless of their choice or individual preferences (Chadee, Ren, & Tang, 2021; Hodder, 2020; Wang et al. 2021). The latter factor is different from the former ones in that it is not a natural evolution of working modes or a conscious choice by employers and employees to increase the effectiveness of their work, but rather an involuntary factor which they had to accept and adapt to throughout the past 2 years, which means that unlike the past cases when employees adopted a remote working mode by evaluation the information about it, examining the conditions and choosing it as a better alternative for them, after the start of the pandemic period, many remote workers were unprepared for such a dramatic, compulsory shift in their modes of operation, which may have put them in worse conditions than their previously used traditional working arrangements (Becker, Belkin, Tuskey, & Conroy, 2022, Hodder, 2020).

A particularly important aspect of flexible arrangements as a whole, and remote work specifically, is the experiences of the workers in regards to their well-being and work-life balance. During the entirety of the aforementioned process of growth and introduction of remote work and flexible working arrangements into the workplace, an important part of its adoption included evaluating its effects not only the effectiveness on the work, but also on the well-being and work-life balance of the employees switching to the new mode of work. There has been significant academic interest into stress experienced on when working as a teleworker (Delanoeije & Verbruggen, 2020; Biron & Van Veldhoven, 2016; Kelly et al., 2014), their ability to balance work and home life (Delanoeije & Verbruggen, 2020; Kelly et al., 2014; Moen et al., 2016; Delanoeije, Verbruggen & Germeys, 2019; Biron & Van Veldhoven, 2016; Becker, et al., 2022) and well-being. The latter specifically has had various definitions and components used to measure in extant research, however, to address both mental and physical aspects of it, in the context of remote work, depression/anxiety and sleep deprivation are used (Anderson, Kaplan, & Vega, 2014; Becker et al., 2022; Kelly et al., 2014; Nurmi & Hinds, 2016; Costa et al., 2022). The preferences of the workers themselves in regards to segmentation of their work and home life is an additional factor that has found use in past research as a part of the boundary theory (Ashforth, Kreiner, & Fugate, 2000), and with the increased emergence of remote work, has been used in studies to examine issues stemming from it. (Piszczek, 2016; Methot & LePine, 2015; Derks, Mierlo, & Schmitz, 2014; Becker et al., 2022). However, although many of the above have been utilized in extant research (Becker et al., 2022) none of the works to our knowledge have so far examined the full relationship between all of the named factors. Moreover, no studies of this kind have been conducted within Azerbaijan, to the best of our knowledge, which allows an opportunity to extend existing research practices in the field of remote work to this country. Furthermore, within the prior 2 years of the conduct of this research (2020-2022) a vastly significant complication was

introduced to research in the remote work field, that significantly altered the circumstances and the context in which further research would be conducted – the COVID-19 pandemic.

The fundamental shift of remote work from either a predominantly voluntary and niche mode of working, or an experimental or secondary method of operations used in cases of direct necessity, to an mass scale, all-encompassing, semi-permanent and mandatory mode of work, often with lack of any other choice on behalf of both the employers and employees, especially with the complicating circumstances in the context of a global COVID-19 pandemic, introduces a completely new dynamic into the workplace and adds the possibility and the need of confirmation of the conclusions of past research into remote work. As such, several works in the remote working field conducted after the start of the pandemic highlight effects of factors commonly related with telework created or enhanced by it, particularly those that refer to the stress, well-being and work-life balance of workers (Chadee et al., 2021; Niu et al., 2020; Afonso, Fonseca, & Teodoro, 2021; Costa et al., 2022; Wang et al., 2021; Hodder, 2020; Kerman, Korunka, & Tement, 2021; Mendonça, Coelho, Ferrajão, & Abreu 2022) Needless to say, that considering the state of affairs, conclusions on mental health and work-life balance in relation to the topic of remote work may need to be reevaluated as well, with the pandemic introducing a completely new set of stressors for the entire population and potentially affecting existing ones in unexpected ways. The effects of the pandemic on these factors are further confirmed by multiple institutional reports throughout its course (Lodovici et al., 2021; Fana, Milasi, Napierala, Fernandez-Macias, Gonzalez Vazquez, 2020; United Nations [UN], 2020; OECD, 2021; Czeisler et al, 2020).

As such, despite a significant amount of established research into flexible working arrangements and remote work, the current circumstances present an opportunity to study the effects of teleworking on a truly mass scale, with the pandemic forcing the switch to virtual work of large parts of the majority of workplaces, and the entirety of some others. Moreover, research based in the context of the lockdowns caused by the virus could additionally be relevant in cases of similar nationwide or global emergencies which cause employees to be transferred outside the workplace on a mass scale, such as possible future pandemics or natural disasters (Becker et al., 2022).

Of all the factors connected to remote working as a phenomenon, perhaps among the most relevant in the current state of affairs are the well-being of employees, and their ability to balance work and home lives in the conditions caused by the COVID-19 pandemic. Both of these, as well as their factors that comprise them have seen extensive research into them during pre-pandemic years as some of the primary aspects of remote work (Delanoeije & Verbruggen, 2020; Biron & Van Veldhoven, 2016; Kelly et al., 2014; Charalampous et al., 2018). However, the lockdowns

and the pandemic introduce additional complications and may have had an effect on these factors. This can be observed particularly in the case of work-life balance, in which aside from the usual issues associated with it, the families of employees spending an increased amount of time at home due to being affected by the same lockdowns may introduce additional complications. The well-being of employees in such a trying time, especially the stress exerted upon them, their mental health and similar issues may require reevaluation as well, considering the possibility of their conditions being exacerbated in the said context. That said, the direct impact of stress in the field on other factors is somewhat underexplored, as it is often grouped with components of well-being such as anxiety, depression and insomnia (Henke, Benevent, Schulte, Rinehart, Crighton, & Corcoran, 2016; Sprung & Rogers, 2021).

Furthermore, the circumstances of the pandemic have served to additionally highlight another significant factor in the field of remote work – their preferences to set clear boundaries between their work and non-work lives, otherwise known as segmentation preferences. This factor, as well as its role in the effects on well-being and work-life balance has been highlighted in several recent studies (Becker et al., 2022; Smith, Huang, Horan, & Barratt, 2021; Kerman, et al., 2021), illustrating its relevance in this context. Furthermore, in addition to the use of this factor in research, the capacity it was utilized in is important, as was almost exclusively included as a moderator for other relationships (Delanoeije et al. 2019; Derks et al., 2014; Lapierre, van Steenbergen, Peeters, & Kluwer, 2016; Becker et al., 2022; Kerman et al., 2021). It was not however, utilized independently, as a factor influencing other aspects of remote work. The application of segmentation preferences in this role to explore its impact on other chosen variables is among the aims of this research

As such, it can be said that this academic study aims to address the aforementioned issues building on extant literature related to remote work post- and pre- COVID-19 pandemic, and conduct research into the stress experienced by employees, their predisposition to set boundaries between home life and their jobs, and the effect of these factors on the on their well-being and work-life balance. Consequently, the two research questions of this study are set forth:

Q1. What are the effects of stress experienced by employees on their well-being and work-life balance in the context of remote work?

Q2. What are the effects of the segmentation preferences of employees on their well-being and work-life balance in the context of remote work?

This paper will include the research into the stated questions in several steps. Firstly, a literature review will be conducted to ascertain the state of the field in which the study is being conducted, as well as relevant factors on it in order to identify variables to be used in the analysis. Secondly, the methodology of the research will be described and justified, including the data collection procedures, the methods utilized for variable measurement as well as details regarding sampling. Following that, an analysis will be conducted based on the requirements of this research to best accomplish the goals set out, with the findings and their implications discussed. Finally, a concluding thought will be given, along with mention of the limitations of this study.

Literature Review

Taking into consideration the information provided, a number of articles, reports, books and other information sources that are related to the research question posed and the field selected were chosen for this literature review. The goal of it is to establish the background of the field as a whole, to illustrate the role of remote work in today's workplace and also provide specific information regarding the factors of interest for this research.

Recent years have witnessed a growing academic interest in remote work and telecommuting in response to both the increase of flexibility in work processes facilitated and encouraged by developments in information and communication technologies (ICT). Research has been conducted into both these working arrangements as a whole in the context of technological progress (Ter Hoeven & Van Zoonen, 2015; Biron & Van Veldhoven, 2016; Charalampous et al., 2018) as well as into specific, more niche and completely novel working conditions spawned by said changes in the workplace environment, such as gig economy platforms and virtual teams (Gilson et al., 2014; Lehdonvirta, 2018; Kässi & Lehdonvirta, 2016).

This coincides with a several opinions withing academic circles, supporting the notion that the mentioned technological trends, as well as social factors cause the workplaces around the world to change, with work becoming more effective, while also being cheaper and faster in execution (Perry, et al., 2018). The research into remote work has been done in various forms for several of the most recent decades, with the scholars researching telecommuting, virtual working teams, and the communication methods via various computer-based platforms, as well as their effect on remote work itself (Makarius & Larson, 2017). However, considering that prior to this recent trend, research into remote work was conducted in a variety of business and research literature, and the fact that it was done in various different fields (Gilson et al., 2014), the papers chosen vary quite a bit in terms of the focus of their research, as well as the processes, design and methodology used during it. They all however, discuss the topic of remote work or telecommuting. Nonetheless, considering that the topic of remote work and the effects of it that this research aims to evaluate, it must be noted that the literature that contributes to this work is interdisciplinary, being part of psychological, organizational and managerial studies. However, the majority of the studies reviewed pertain to behavioral theory due to the specifics of the factors that were chosen to be evaluated as part of this work.

The spatial aspect of flexible working arrangements has begun rapid advancement in the recent decades in the form of remote work. This advancement was mainly facilitated by the technological progress that allowed working outside the traditional workplace more effectively

(Ter Hoeven & Van Zoonen, 2015; van der Meulen et al., 2019; Wang, et al., 2021). The initial form of remote work was called telecommuting. It is essential to establish what exactly is meant by remote work (also called telecommuting, telework, virtual work, distributed work, and mobile work in various research in recent decades (Makarius & Larson, 2017). It is often understood as the practice of conducting work from home while also communicating with the workplace or all types of work done outside the office, while still linked to it. And although teleworking from one's home is the most commonly used mode of remote work, in most recent years, studies found that an increasing number of people have begun working from multiple locations even prior to the pandemic (Charalampous et al., 2018). The idea of "telecommuting" or "teleworking" in the sense of using information and communication technologies (often newly developed at the time) to conduct work at one's home instead of a designated office or other workplace has emerged in the early 70s of the last century.

As is evident from the name, the original intent behind it was to simply solve energy consumption, air pollution issues and alleviate the pressure exerted by daily commuting workers on the transport system with traffic as well as offer employees slightly more flexibility in their work with a better work-life balance (Menon, Salalah, Plaisent, Bernard., 2017). As such, it is apparent that the modern topics that are commonly discussed, researched and debated in scholarly articles in relation to flexible working arrangements and remote work, such as its merits and impacts on the physical and mental well-being, stress, work engagement, performance and productivity of employees working in such an arrangement have emerged later on in various literature in this sphere (Charalampous et al. 2018).

The eventual evolution of the said concept of telecommuting initially took place in the private sector, specifically in companies that were among the most technologically advanced at the time – International Business Machines Corporation (IBM) and Control Data Corporation, both of which were information technology companies and possessed the expertise and the capacity to explore this working mode and offer it to their prospective employees (Allen et al., 2015). These companies were among the first in the world to explore the working mode of conducting work assignments and tasks from home as a hiring boon in an effort to offer an incentive to recruit highly skilled specialists and programmers, which were in short supply and high demand at the time. At the same time, with the steady increase in the number of families in which both of spouses are working in the 70s and 80s, telecommuting was often considered as a possible working mode to provide to such employees in order to increase their ability to manage their work and family responsibilities as well as exert a higher degree of control over the balance between these responsibilities (Allen et al., 2015).

And although the technical advancements allowing for the existence of remote work have advanced over several of the last decades, before widespread adoption as an alternative or even preferable work mode in various corporations, it had first become an acceptable working arrangement in more niche segments such as inherently virtual working teams and various short term, temporary commitments between companies and independent workers known as the gig economy. Both of these spheres of work are inherently, by design based on the concept of flexible working arrangements and remote work, and have extensively utilized it to facilitate both synchronous and asynchronous conduct of labor in the workplace. (Panteli, Yalabik, & Rapti, 2018; Lehdonvirta, 2018). These early stages of widespread remote work within the frame of said small niche spheres allowed for the emergence of managerial policies applicable in the medium, the evaluation of the increased importance of specific factors within the working process (such as the quality of the communication methods, learning opportunities and job complexity). They also highlighted the aspects of the work flow in this new context that will experience increased load and require adaptation to the remote working realities, such as the leadership, and coordination building efforts of working teams (Gilson et al., 2014; Mani, Srikanth, & Bharadwaj, 2014, Nurmi & Hinds, 2016).

The gig economy in particular has seen great progress in implementing flexible working arrangements due to its predisposition to such working modes considering the fundamental nature of this work phenomenon and has become an important contributor to the development of remote working practices as a whole. The gig economy has become among the first major forays into work done fully through a type of a digital platform, foregoing any physical contact whatsoever. As such gig economy has become one of the sources of propagation for flexible working arrangements as a main mode of work, without using the traditional working mode, introducing a new environment for the conduct of work, its regulation and communication (Stewart & Stanford, 2017; Kaine & Josserand, 2019; Healy, Nicholson, & Pekarek, 2017; McKinsey, 2016). It must however also be noted, that the gig economy cannot be adequately compared to standard employment due to the specifics of this working model. Namely, due to the fact that gig economy, as inferred from the word “gig” (a short term job, not a serious commitment) is inherently focused on offering non-complex, interim tasks to people that are usually freelancers not interested in longstanding employment, preferring to go from one work task to another without being tied down to one company (McKinsey, 2016). Some of the jobs in the gig economy involve extremely small workloads and time spend and as such are often referred to as microwork (the remote completion of various small information process tasks, such as classifying images, writing out small sized pieces of text from a snippet, identifying items on a photo, all of these often done in bulk) (Wood, Lehdonvirta & Hjorth, 2018).

Therefore, gig workers cannot be fully compared to remote workers (which is understood as employees conducting mostly traditional work remotely using technological means) as they choose to work completing non-traditional, shortened tasks instead of established work in a remote form. It is a common practice in the gig economy platforms to give employees full control over their choice of workload and schedule, while also conducting all of it online (Lehdonvirta, 2018). These online gig economy platforms (e.g. Freelancer.com, Guru.com, Upwork.com, Peopleperhour.com, and many other analogues) were also one of the conduits of somewhat mainstream implementation of remote work on a large scale, taking it further than single teams or even organizations working in a remote mode to make virtual work available platform-wide. Moreover, they have also managed to facilitate the increase in use of such remote work by growing the medium at an exceedingly rapid pace, with an index measuring the growth of online gig economy platforms implying an annual growth rate as high as 26 per cent globally (Kässi & Lehdonvirta, 2016). As a result of this growth, the gig economy has expanded to employ over 48 million workers around the globe by 2015, creating a \$5 billion market for remote and online work (Wood, Lehdonvirta et al., 2018).

And while remote working was at times used in isolation, it was often offered to employees as a part of several working conditions allowing employees to conduct the work in a more flexible manner. Flexible working arrangements, among which remote work is one, have long been a focus of studies in the fields of management, information systems, international business, as well as business communications (Gilson et al., 2014; Charalampous et al., 2018). They, and specifically remote work are commonly used by organizations and businesses as an incentive to attract highly skilled applicants, with some estimates indicating that by 2015, 20-25% of employees worked remotely and studies showing that over half the companies across several industries allow their employees to work remotely if the need for that arises, with about a third of them offering full-time remote employment in some form (Perry, et al., 2018). As such, flexible working arrangements and remote work, a measure that was used in rare cases when it was a necessity, and as a favorable working condition for employees, while being viewed as a luxury reserved predominantly for employees with high income (those earning over 65,000 USD annually) and white collar workers (highly skilled professionals, managers, and executives of companies), has become an increasingly normal practice implemented in the workplace with the shift caused by ICT (Wang et al., 2021). Another significant manifestation of the change in work caused by remote work is the emergence of completely new work types, based fundamentally on the concept of remote work via ICT. The previously mentioned gig economies are one of these new work types, one which is inseparable from the remote working mode (Lehdonvirta, 2018). This shift was

significantly accelerated, expanded and spread into more industries by the lockdowns and other preventative measures induced by the COVID-19 pandemic (Fana et al., 2020; Becker et al., 2022)

Moreover, studies have also found that the availability of teleworking had been affected by the size of the organization in question, with the larger enterprises being significantly more likely to offer flexible working arrangements than small businesses. This was to some extent related to the fact that larger organizations were more often able to access more advanced communication technologies, as well as afford to implement organizational changes (Kotey & Sharma, 2016). Consequently, a working mode that was only considered to be appropriate only for specific positions and specific jobs, has become the “new normal” for workers, regardless of their preferences, the nature of their work, or their abilities and experiences in the workplace. (Wang et al. 2021; Kotey & Sharma, 2016). Remote working has found to have many benefits both to the employees and the employers, however, some studies suggest that negative effects can also manifest when a worker shifts from office work to conducting their duties remotely. While the explosive increase in the digitalization of workplaces and the vast increase of digital working means such as mobile digital devices (e.g, tablets, laptops, smartphones) as well as specific platforms allow working and engaging with work colleagues via those devices (e.g, Zoom, Microsoft Teams, WhatsApp, Telegram), some scholars suggest that this has had negatively affected employees by reducing their engagement due to work interruptions created by the demands from the family domain (e.g. the need to take care of children) (Delanoeije et al., 2019; Wang et al. 2021; Ter Hoeven & Van Zoonen, 2015). However, it must be noted that the change in work interruptions induced by the shift to remote work is a debated matter in research, as other studies suggest a decrease in the number of interruptions when teleworking due to lack of close proximity to colleagues, allowing for a higher degree of concentration on work tasks (Anderson et al., 2014; Charalampous et al., 2018) This means that in the current conditions and situation, remote work should not be researched from the perspective of being a favorable working arrangement granted by employers to their workers out of necessity or as a favor as it was in older studies, but rather to approach it as a working mode that is rather equivalent to the traditional working modes based in the office.

As such, it is clear that remote work as a field has been extensively researched in the past, often with conflicting results and no definitive evidence of this mode of work being inherently superior a traditional ones. However, it is important to distinguish the aforementioned extant research into remote working and flexible working arrangements from the contemporary works and studies due to a significant difference in the context and circumstances within the field during the years post 2020. As mentioned previously, the predominant contemporary reason for an

increase in research into remote work due to its rapid growth can be attributed to the completely unexpected, near immediate and forced shift of millions of workers in every part of the world to remote working arrangements due to the outbreak of the Covid-19 pandemic (Pew Research Center, 2020). Remote work, despite this great change in its environment in these years, has seen a significant amount of studies due to its extraordinary rise in relevance and normalization of its use within the workplace (Wang et al., 2021; Becker et al., 2022; Chadee et al., 2021; Hodder, 2020; Niu et al., 2021; Choudhury et al., 2021). This research illustrates the differences between the previously extensively studied field of telework and the new remote work environment forced by the pandemic. It additionally provides insight into the important factors relevant to teleworking, explores possible changes observed in them, and provides methodologies that have been adapted to the needs of academic research considering the transformed circumstances. This research will make use of both existing studies within the sphere of remote work, as well as the emerging studies, to highlight both the background of the remote working mode of operations, as well as the factors important within it, particularly those with relation to the well-being and work-life balance of employees in the workplace.

Using the above as a basis for the literature review into remote work, the more specific focus of the research must be specified. Namely, the following sections will describe the factors related to virtual work that have been chosen to be observed as part of this study, including their presence in extant academic literature within this field, and descriptions of their relevance as used and cited in past research. The factors chosen specifically are Stress, Work-life balance, Segmentation preferences, Insomnia, Depression. Moreover, the sections below utilize the provided information found in literature to establish several hypotheses that will be used to address the aims of this research.

Work-Life Balance

Work-life balance (also referred to as work-to-family conflict, work-life conflict, work-home balance in various research) has been extensively researched in literature for decades, with effects of it and on it by organizational changes, job conditions and working arrangements being the common focus of it (Delanoëje & Verbruggen, 2020; Kelly et al., 2014; Moen, et al., 2016; Grant, Wallace, & Spurgeon, 2013; Haar et al., 2014; Haar, 2013). Moreover, work-home conflicts have been a common factor included and measured in research specifically related to remote working modes and their implementation, with various findings (Charalampous et al., 2018; Wang et al. 2021; Delanoëje et al., 2019; Biron & Van Veldhoven, 2016). A considerable amount of literature has been published on appraising the work-home conflicts of employees and changes in

them affected by shifts in working modes, whether by offering general flexible working arrangements to the employee, or shifting their working mode to teleworking, both individually and in groups. The findings of these research mostly highlight positive effects of the changes, with improving work-life balance of employees, however some cite drawbacks of this shift, such as increased number of interruptions and work-home interference, increase in tendencies to procrastinate and loneliness, while also decreasing communication effectiveness (Wang et al. 2021; Becker et al., 2022; Hodder, 2020).

However, it must also be noted that the majority of the research on this topic is either conducted in the period before the COVID-19 pandemic, or are based on data from that period. This can mean that prior findings in this field could not be fully applicable to the now normal remote working modes on a mass scale, which presents an opportunity to further the research into work-home conflicts in a more modern setting, to observe the effects exerted both on work-life balance by stress levels and segmentation preferences of employees, as well as through it, on well-being during the period of adoption of remote working as a full-time work mode within the context of the COVID-19 pandemic. As mentioned before, work-life balance has been found to have a positive effect on depression and insomnia (Becker et al., 2022). Furthermore, it has been shown to be a frequent mediator used within the field of remote work research. The indirect effects of work-life balance have been explored and shown in extant research (Becker et al., 2022; Haar, 2013; Lee & Choi, 2019), and considering that, this study aims to use it as a mediator for stress and segmentation preferences.

Stress

One of the most common factors researched in relation to flexible working arrangements in connection to employee well-being is the stress of said workers. These studies largely agree that the implementation remote working and flexible working arrangements leads to a decrease in levels of stress among employees (Delanoeijs & Verbruggen, 2020; Biron & Van Veldhoven, 2016; Kelly et al., 2014). However, some studies suggest that negative effects from such a transition also exist and manifest in different forms and circumstances. Examples of them being an increased number of interruptions during remote working due to calls and emails, higher requirements to self-control due to lack of constant oversight and in-person managerial monitoring, increased stress from being separated from professional colleagues and the office environment as a whole, increased loneliness, as well as coping mechanisms to deal with said stress such as procrastination, lowering the effectiveness of the work (Hodder 2020; Biron & Van Veldhoven, 2016; Wang et al. 2021). It is, however, important to note that once again, a significant

amount of the studies, experiments and observations in this field of research have been conducted before the COVID-19 pandemic, and have been managed in a controlled manner, with the employees participating agreeing beforehand to take part in remote work initiatives (Kelly et al, 2014; Delanoetje & Verbruggen, 2020; Perry et al., 2018) . However, with the start of the pandemic and the sudden shift of a significant number of workplaces into remote working modes, not all employees were necessarily ready for the transition, frequently being forced into it (Becker et al., 2022). As such, non-voluntary transitions to remote work may need to be further observed for unexpected negative effects on the employees, and particularly their well-being. Such research may also be relevant in the case of possible future pandemics or other social, political, or natural disasters that may cause a similar forced shift in working arrangements.

As such, in addition to being a frequent topic of research within the remote work field, stress has been shown by several past studies to have an effect on the physical and mental well-being of both remote and conventional workers (Perry et al, 2018; Bs, Yan, Zhao, & Yuan, 2014; Munn, Barber & Fritz, 1996) as well as their work-home balance (Holden & Sunindijo, 2018; Yusof, Razak, Adli, Rizat, & Ismail, 2014; Zahoor, Abdullah, & Zakaria, 2021) . However, these effects have yet to be confirmed in a non-voluntary remote working environment, which this research is focused on. Moreover, in addition to the abovementioned effects, work-life balance has likewise been shown to cause a positive effect on both insomnia and depression (Becker et al., 2022) All of this led to the decision to adopt stress as one of the main indicators predicted to affect the work-life balance of employees, as well as their well-being of through it as part of this research.

Considering this information, the first hypothesis of this research is put forward, predicting the existence of a causal effect of stress on work-life balance, and that said effect will be negative in nature.

Hypothesis 1: There will be a negative effect of Stress on Work-life balance.

Segmentation preferences

Another important factor that requires noting and is of interest for the purposes of this research is the segmentation preferences of employees. As a term closely related to work-life balance (Bulger, Matthews, & Hoffman, 2007; Lapierre, et al., 2016), it may assist in illustrating the effects of pre-existing preferences of workers on their work-home conflict.

Firstly, it is important to establish the meaning of segmentation when used in context with work in general and remote working arrangements specifically. Segmentation is a term often used in discussions and research regarding boundary theory (Olson-Buchanan & Boswell, 2006; Becker

et al., 2022; Bulger et al., 2007) which in itself is an important part of understanding the behavior and physical effects of work on employees. This is especially relevant when virtual work is the focus of the discussion. Segmentation preferences as a factor is understood as the predisposition of employees to clearly and fully separate their working lives from their everyday, nonworking lives in such a way that people with a low segmentation preference are known to often tightly mix their work and nonwork lives, seeing them as one and the same to some extent, without dividing them into separate segments of their lives (Powell & Greenhaus, 2010; Ashforth et al., 2000) . And vice versa, high segmentation preferences in a person mean the inclination of the individual to set very clear boundaries between their work and their home. The concept of segmentation has seen use in past literature on both remote work and flexible working arrangements in general, however, it has been clearly given meaning in this context as part of the boundary theory (Ashforth et al., 2000; Nippert-Eng, 1996; Hall & Richter, 1988), which has first defined the notion of segmentation preferences among workers. It should also be noted that extremes of these boundaries are also named integration and segmentation (as alternatives to low and high segmentation respectively) in some research (Lapierre et al., 2016; Olson-Buchanan & Boswell, 2006).

Segmentation preferences have seen rather common use in extant research (Piszczek, 2016; Methot & LePine, 2015; Derks et al., 2014; Becker et al., 2022; Kerman et al., 2021) into working habits in general and especially in the sphere of remote work due to its fundamental notion having a characteristic of somewhat blurring the spatial boundaries between work and family life, leaving the process of setting the boundaries to the individual. These segmentation preferences have often been used as a moderating factor between various chosen variables and one representing work-life balance in some form, with the reasoning that low segmentation preferences, individuals tend to often experience interruptions within their family life time due to work issues, or integrate their work life into their home routine so extensively, that it has an adverse effect of said work-life balance (Delanoije et al. 2019; Derks et al., 2014; Lapierre et al., 2016; Becker et al., 2022; Kerman et al., 2021). The impacts of segmentation preferences can additionally be seen due to various technological advances that allow workers to no longer require a stationary workplace, be it a work desktop, or a home computer. Nowadays, emails, conference calls and various other work tasks can be done off of a mobile platform such as a smartphone, which further complicates the process of setting boundaries between work and family life due to the prevalence of smartphone usage at any place or time of the day. A study by Derks et al. (2014) that observed employees that use a smartphone intensively during some periods have experienced difficulties in their efforts to detach from work psychologically, even if they have inherently high segmentation preferences.

Considering the points made above and the experiences in studies relevant to the topic of our research, it was decided to use segmentation preferences as one of the variables for this research. However, unlike a significant portion of mentioned research in the field of remote work, which utilized segmentation preferences in a moderating role, this study aims to explore the possibility of this variable directly affecting work-life balance and well-being in a consistent manner with its previously shown moderating effect.

Based on the conclusions made regarding the abovementioned factors, the second hypothesis of this research is formed. It is expected that there will be a causal relationship from segmentation preferences to work-life balance, and that this effect will be negative.

Hypothesis 2: There will be a positive effect of Segmentation preferences on Work-life balance.

Depression

In conjunction with sleep deprivation conditions, another factor representing the well-being of employees in this research is depression. Mental health, as well as issues connected to it, such as depression, anxiety, loneliness, have long been a topic of research related to work conditions in general, and specifically remote working modes, ever since they were first introduced into the workplace. In research conducted into the effects of virtual work on people prior to the 2020 COVID-19 pandemic, has been somewhat in line with that looking into the effects into stress, in that while low intensity or short term remote work has had positive effects on the health of respondents overall, the researchers found long term teleworking to be detrimental to the mental health of employees, causing depressive tendencies among them (Henke et al.,2016; Tavares, 2017;).

Studies conducted following the start of the COVID-19 pandemic have been somewhat more consistent in their findings. Within the circumstances of the pandemic, and particularly the lockdowns, multiple researchers found that teleworkers are more prone to developing anxiety and depressive tendencies. As such study by Niu et al, (2021) found that while workers who remained working in their workplaces during the pandemic, and those who briefly switched to teleworking have not shown any significant differences in levels of depressive tendencies. However, the employees who have engaged in telework on a long-term basis have shown significantly more severe anxiety and depression. Sleep deprivation has been used in tandem with depressive tendencies for the evaluation in research by Afonso et al, (2021) finding significantly higher levels of depression and anxiety in remote workers. These findings are to some extent confirmed by data from governing institutions. A report by Lodovici et al., (2021) cites a multitude of surveys and other forms of data collection conducted in various countries in Europe (particularly France, the

UK, Belgium), with numbers of respondents ranging from 2000 to 44000 which found a substantial increase in the number of people reporting symptoms of severe anxiety and depression disorders. This increase has been noted to have been particularly high among women and young adults of ages 16-24 in general, with the largest of the surveys finding that the prevalence of depression is up to 30% among young women, and 29% in younger men, which constitutes a threefold and fourfold increase among said groups respectively (UNRIC, 2020).

There are several factors that may explain this increase in depression related specifically with remote work. A recent study by Mendonça et al., (2022) finds that the negative effects on depression within the context of telework have been a consequence of communication overload, imagined surveillance among the employees, issues which are directly spawned by the shift to work from home. However, depression, among other mental health issues have been connected with the work-life balance of workers in several studies, and this holds true in both research that was conducted preceding the pandemic on a general scale (Haar, Russo, Sunyer, & Ollier-Malaterre, 2014; Sprung & Rogers, 2021; Haar, 2013) as well as that conducted during the current circumstances, focusing on the context of remote work (Becker et al., 2022). Moreover, some studies have additionally considered work-life balance in a mediating role, facilitating the effects of one or more other factors via indirect means (Lee & Choi, 2019, Becker et al., 2022, Haar, 2013). Considering the above, and the experiences in research suggesting work-life balance to be a causal or mediating factor affecting depression, it is expected that this research to show an indirect effect of stress on depression through work-life balance.

Insomnia

When examining remote working arrangements in the workplace, especially in the context of such factors as stress and the balance between family and work life, the sleeping routines and sleep deprivation conditions such as insomnia are often included into the process and discussion. A significant number of researchers cite sleep as either a separate important aspect or a component of a larger set of factors when evaluating the effects of remote work, flexible working arrangements and conditions set by them on employees in the workplace and at home (Anderson et al., 2014; Becker et al., 2022; Kelly et al., 2014; Nurmi & Hinds, 2016; Costa et al., 2022). This comes in tandem with the aforementioned technological advances in both the workplace and at home which allow remote work to be conducted in the first place, which have by themselves drastically increased the reliance of workers on electronic devices, leading to a decrease in sleep quality among other downsides (Shochat, 2012; Billari, Giuntella, & Stella, 2017; Fan, Yin, Tang, Zhang, & Zhang, 2021). This is especially relevant within the context of the COVID-19 pandemic and lockdowns related to it, leading to issues related with work segmentation preferences as both work and leisure activities to be conducted via electronic devices such as phones and personal computers, with isolation induced by the situation further contributing to sleep quality deterioration (Salfi et al., 2021; Terán-Pérez et al., 2021; Wu et al., 2021).

Generally, specific research into the topic of sleep deprivation and sleep disorders in the context of teleworking has been inconclusive, with some recent studies finding that workers are more susceptible to develop these issues and conditions while teleworking, due to social isolation and disturbances in the work-family balance (Costa et al., 2022) and that remote workers experience a poorer quality of sleep, which is mainly caused by shorter durations of said sleep and higher levels of anxiety (Afonso et al., 2021). Other research has had findings conflicting with the mentioned studies. Research based in Japan by Niu et al. (2021) that tracked changes in worker conditions during a shift from a traditional working mode to home-based remote work found that the duration of sleep among employees transferred from the office to home based telework increased by 30% on average. A report by Lodovici et al., (2021) for the European Parliament's committee on Employment and Social Affairs post the shift to remote working caused by the COVID-19 pandemic states that a highly mobile telework and ICT-based workers as well as ordinary home-based remote workers are more likely to report insomnia and other sleeping disorders than workers engaging in traditional on site working modes, with 42% of the former cited reporting such issues compared to only 29% of the latter.

Considering these results, it is important to include sleep as one of the variables measured as part of this research and evaluate the effects on it by other factors in the home life of employees,

in particular their work-life balance. A significant amount of academic work in the fields of both behavioral and purely medical research over the last decades has well established the existing negative relation between stress experienced by people and sleep deprivation conditions that they develop (Kim & Dimsdale, 2007, Haynes, Adams, & Franzen, 1981; Van Reeth et al., 2000; Almojali, Almalki, Alothman, Masuadi, & Alaqeel, 2017; Terán-Pérez et al., 2021). Work-life balance has been shown by several studies to correlate with sleeping disorders developing in workers (Hege, Lemke, Apostolopoulos, Whitaker, & Sönmez, 2019; Becker et al., 2022; Costa et al., 2022) . This is why, as was the case with depression, it is expected that work-life balance will act as a mediator for the indirect effect of stress experienced during remote working periods on the insomnia of employees during that time. As such, the below is predicted:

Hypothesis 3: There will be indirect effects of stress through work-life balance on depression (a) and insomnia (b).

Hypothesis 4: There will be negative effects of segmentation preferences on depression (a) and insomnia (b).

Figure 1 illustrates this conceptual model.

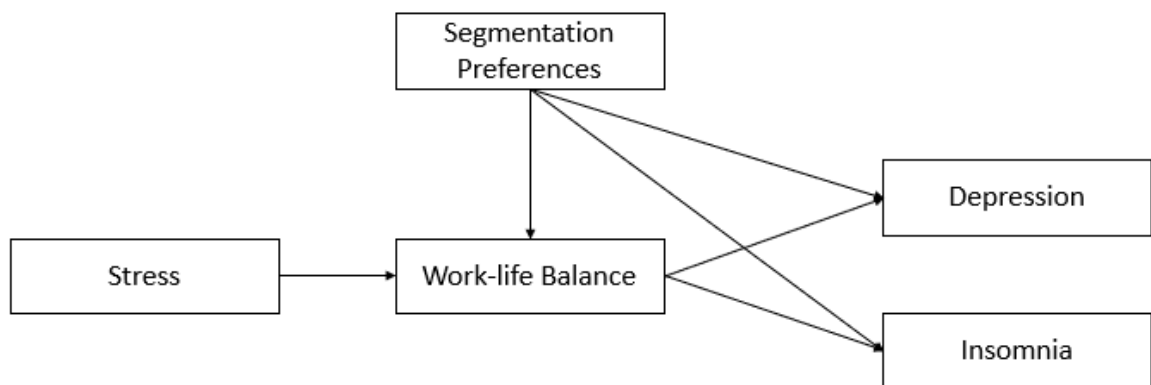


Figure 1. Conceptual Framework.

Methodology

The following section will provide a description on the methods and means used in the process of the data collection, as well as explain the reasoning for the choices made in its shaping.

Data collection

The type of the data to be used in research was decided considering the specifics and requirements of the indicators and variables chosen for it, as well as the experiences and methods implemented and exercised by past studies in the field of remote work and flexible working arrangements. While both qualitative and quantitative data have seen use in extant research in the area pertaining to virtual work, with some studies using both data types in tandem in order to either more accurately analyze a certain factor that is of interest to their research, or in cases where several different factors required to be observed. Such mixed methods were used by Wang et al (2021), Nurmi & Hinds (2016), van der Meulen et al. (2019), as well as in several studies observed in a systematic literature review done by Charalampous et al (2018). Even though a sizeable amount of research in the field of remote work is inherently qualitative (Fana et al., 2020; Sewell & Taskin, 2015; Richardson & McKenna, 2014; Grant et al., 2013; Collins, Hislop, & Cartwright, 2016) due to its ties with behavioral theory as well as such psychological factors such as work stress, work-life balance, working preferences of individuals, etc., this research was decided to be based on quantitative data, in order to both conform to the methodology of analogous extant studies (Becker et al, 2022; Delanoetje & Verbruggen, 2020; Piszczek, 2016, Kelly et al., 2014; Moen et al., 2016), as well as due to its higher suitability to the set goals of it.

The primary method of data collection was selected to be as self-administered questionnaire survey, to be sent out to working individuals geographically located within the city that was chosen for the research. The survey was sent out in one wave throughout April and May of 2022 to collect the necessary responses from the population, therefore making the data this research is based on purely cross-sectional. The platform used to host the survey and collect its responses was Google Forms. The survey is web-based in order to more easily and effectively disseminate it among respondents and collect responses. This reduces other logistical issues that may arise if the survey were to be distributed in a physical form, and allows for more comfort and flexibility for the respondents themselves as, with a web-based survey, they have the ability to complete the survey at any point in time they wish, from a location and device of their own choosing (Evans & Mathur, 2018). Moreover, the platform chosen allows for the automatic saving

of the survey progress of respondents, letting them return to it if they stopped filling it or left the page at any point, which can improve the rate of the survey being completed by the respondent after opening it. Additionally, a survey based on an online platform eliminates the risk of responses to some questions not being submitted making them mandatory, is convenient for the respondent, and most importantly, allows for easy reach and delivery of the survey (Evans & Mathur, 2018), which is relevant in a pandemic context. The platform chosen for the survey allows for additional features such as allowing the respondent to go back and edit an answer to a question within the survey in the case of a mistake occurring. Furthermore, to prevent any possible abuse of the previous feature or the survey being web-based to submit several responses from the same respondent, Google Forms offers to limit the amount of replies to the survey to only one per person taking it. These features were enabled and utilized in the survey for this research.

This method was chosen due to its ability to accommodate larger samples and therefore provide a larger amount of data that is easy to compile and analyze, all within a relatively short timeframe compared to other methods. An additional benefit of this method is the elimination of possible bias of an interviewer. Alternative data collection methods were initially considered due to seeing somewhat common use in the field, often to collect qualitative data to be used in concert with quantitative data, collected via other means (Charalampous et al., 2018; Wang et al. 2021; Choudhury et al., 2021; Nurmi & Hinds, 2016; Chadee, et al, 2021). Some of the literature in the flexible working arrangement and remote working sphere relies exclusively on interviews in order to conduct their research, often in cases where in-depth dialogue is required in order to explore the topics of the research (e.g. trust between employees in a remote working context, loneliness in workers when working from home, direct effects of isolation related to remote work on employee physical health, etc.) or built on past quantitative research (Charalampous et al., 2018). These methods include primarily procedures conducted in a way to collect more data from each individual respondent, such as telephone surveys and personal, face-to-face interviews.

It must be noted that the techniques mentioned have their own merits and possess certain advantages over the web-based questionnaires chosen by us. For example, these advantages include the fact that interviews allow for more accurate data collection in cases when the topics are inherently sensitive or personal and a higher quality of the acquired data due to trust built with the interviewee (Stokes & Bergin, 2006). Moreover, interviews include a conscious time commitment from their target, which reduces the risk of the respondent starting and not finishing the data collection process, as is possible with self-administered questionnaires. However, they have not been chosen due to their disadvantages outweighing the benefits that are not provided by conventional web-based surveys for the purposes of this specific research. Namely, interviews

allow the acquisition of more specific and detailed data, which is somewhat unnecessary on account of the research strategy chosen. But ultimately, these alternative methods were not chosen for this research due to the fact that they require comparatively extensive expenditures of both time, volunteer personal effort or funding in order to receive data that would not necessarily provide a higher degree of accuracy or quality, especially considering the nature of this research design, requiring quantitative data as opposed to qualitative data. Moreover, physical (distributed both in person and via mail) and web-based questionnaires have been the method most often used in research into this field, seeing extensive utilization in order to collect data from a significant amount of sources as is common in remote work studies (Delanoetje et al., 2019; Moen et al., 2016; Anderson et al., 2014; Kelly et al., 2014; Ter Hoeven & Van Zoonen, 2015; Piszczek, 2016), and therefore, the choice was additionally based on past experiences derived from relevant literature.

The paths of distribution chosen for said survey are connections among family and friends, and professional working and social media networks (such as LinkedIn), emails, as well as university networks. Particularly in regards to university networks, the assistance of some universities was secured in order to additionally distribute the survey among the working alumni of said educational institutions. The universities that have agreed to provide assistance in this matter via access to their alumni associations were ADA University as well as the Azerbaijan University of Languages, both of which are located in Baku, Azerbaijan. Such a set of distribution paths was chosen to retain an overall balance within the selected sample in regards to the gender, age and working experiences in general, while also attempting to acquire as high a number of responses to the survey as was possible within the allotted time period. Distribution among working university students and alumni in particular allowed to achieve a relatively large number of respondents, while at the same time keeping their backgrounds diverse enough, unlike if, for example, specific organizations were exclusively chosen as points of contact for the distribution of the means of data collection.

However, there was a possibility of the alumni of these universities moving to other countries to conduct their work after finishing their education, without working in Baku in the timeframe that data collection is aiming at, and are therefore ineligible to participate. This could also be the case with other respondents who worked with local companies from abroad, especially if we consider the inherent focus of the data collection on remote workers in the first place. Additionally, it is understood that not all workers in the city of Baku necessarily worked in a remote manner during the pandemic, with some employees having special permissions to attend work on site (such as some government employees), others having their work being inherently

impossible to conduct in a remote mode (mainly manual labor and work requiring direct physical contact with other people, such as medical workers), and those who were unemployed due to compulsory furloughs for the lockdown periods. All of the mentioned categories of people would be ineligible to participate in the survey and provide responses. In order to address this and remove the possibility of ineligible responses being entered into the questionnaire, the participants were instructed in the description of the survey to only enter it if they were qualified in this regard. Moreover, the first question of the survey served as a filter of eligible respondents, ending the survey if the respondents chose “No” on the question asking if they worked remotely in a full-time manner in Baku in the last 2 years. As such ineligible people were not allowed to take the survey in order to minimize the possibility of their responses polluting the data collection done by the survey.

The respondents that received the survey were additionally be asked and encouraged to further share the given survey among their colleagues at the workplace in order to increase the reach of the survey as part of the aim to maximize the amount of data collected for the subsequent analysis. Considering the above, the questionnaire was sent only to potential respondents in specific city. In the interests of the precision of the sample, the survey will be sent out to a maximum number of possible respondents that is feasible within the population while suitable to the geographical limits outlined above, as studies with sample sizes significantly larger than the size planned for this research have not reported any issues arising due to it (Kelly, et al., 2014; Moen et al., 2016). Therefore, achieving a larger number of respondents than what was initially planned is not expected to be detrimental to the results of the research. No distinction of the jobs of respondents is planned to be implemented for the purposes of sending out the survey itself. However, the questionnaire did include a question asking the respondents about the industry they conduct work in, in the interest of possible further comparison between industries and workplace, with some of them possibly adapting to the remote working to a higher degree, or exerting a differing amount of stress on their employees within the framework of flexible working arrangements. As mentioned, the survey included a screening question to separate respondents who have jobs that are not compatible with remote working modes (such as fully manual and on-site jobs) and those of them who have not engaged in remote working during the period of interest to this research (since the start of the COVID-19 pandemic, with the first case in Azerbaijan confirmed on the 28th of February 2020).

The data collection was decided to be conducted within the single survey, establishing cross-section data collection as part of the research strategy for this study, with multi-wave data gathering not being selected due to the nature of the research not requiring to compare responses

collected over time, as the survey contains questions inquiring about the experiences of respondents while remote working during the COVID-19 period, and the respondents do not need to be observed for a period of time for this research.

Moreover, a longitudinal data collection strategy was not implemented for several other reasons. First of them, is the inherent time limitation of this research. The three month period for the conduct of this study makes conducting several waves of data collection on the same group somewhat unfeasible, as no significant changes to the respondents is expected to transpire in this interval is not expected. Extant research in remote work and flexible working arrangements has seen practices of longitudinal data collection with studies typically spanning at least 6 months, or with the three month point being only one of the intervals for the waves, as seen in Kelly et al. (2014) and Moen et al. (2016). Another case of longitudinal data collection with short intervals has been implemented in the study by Delanoeije & Verbruggen (2020), with daily observations being part of their research strategy. However, once again, said study has been designed with a different research strategy in mind, aiming at comparing an intervention group with a control group. And finally, another case of short interval multi-wave data collection was utilized by Becker et al. (2022), with a similar research design and strategy. Nonetheless, the goals and context of said study were different, as it was set at the very outset of the COVID-19 pandemic, and aimed specifically at collecting responses from employees that have just recently experienced the compulsory shift to remote work, while this research is set 2 years after the start of the pandemic.

This contributes to the second reason - the focus of the scope of this research on the context of remote working during the COVID-19 pandemic and the inherent instability of the situation caused by it. As such, considering the unpredictability of the virus conditions seen over the period of the pandemic, with several government ordered lockdowns having been induced on the territory of Baku in the past 2 years, and we cannot with absolute certainty tell if another quarantine is implemented, or on the contrary, if the pandemic will end, along with a significant amount of remote work conditions in the workplace. With the above in consideration, a single cross-sectional wave of data collection, focusing on the past 2 years instead of the current specific point in time was adopted as part of the research strategy for this study.

The main language for the survey is English. This is simply due to the fact that the predominant number of literature that the methodology of this research is based on, was written in that same language. Moreover, the questions which comprise the scales for the measurement of the variables were all also written in English. However, taking into consideration the circumstances and context of this research, namely its geographic focus on the country of Azerbaijan, with its relatively low level of penetration by the English language, the original plan

to conduct and disseminate the survey in English only was reconsidered. This was done due to concerns of possibly low response levels to the data collection, particularly among those potential respondents who do not know the language to a sufficient level to fully complete the survey, and those who would simply prefer to go through a questionnaire written in their native language. Moreover, additional concerns regarding the representativeness of were considered, in the sense that conducting a survey exclusively in a language that is not primary for the target population may have resulted in a much less representative sample. As such, it was decided to translate the original survey into two additional languages – Azerbaijani and Russian (as these are the most commonly spoken languages in the country along with English) and distribute them in tandem with the original version, allowing potential respondents to choose whichever option they are most comfortable with, in order to increase the probability of a full response and additionally maximize the reach of the survey. The content of all three versions of the survey is completely identical aside from the translation itself. The possibility of introducing errors and inconsistencies into the measurements as a result of translation errors or loss of meanings of some precise terms, however, it must also be noted that the questions themselves were not overly complex, nor did they require the understanding of any concepts unknown to the common person. Nonetheless, the translation was still conducted with utmost care, aiming to convey the exact same meanings of every question across all three versions of the survey, in order to retain the validity of the data collected in them, and the ability to use in combination the data from the English, Azerbaijani, and Russian versions of the questionnaire.

The data collection survey was decided to be made anonymous for various reasons. The first reason affecting this decision is the cross-sectional nature of the research, which removes the need to contact respondents after they have completed the initial survey, and therefore establishes a lack of need to retain their contact information. The second reason is the considerations regarding the introduction of common method bias into the survey, and the recommendations on the avoidance of such a situation by Podsakoff, MacKenzie, Lee, & Podsakoff, (2003), and Podsakoff, MacKenzie, & Podsakoff (2012), which include the implementation of anonymity into cross-sectional data collection methods. The third reason is the inherent risk that is posed by personal data collection and responsibility of its safeguarding, which is avoided in the case of anonymous data. The fourth reason for this decision is related to the inherently intimate nature of the questions asked in the questionnaire, which touches on the perceived mental health issues, family situations and other personal concerns of potential respondents, which is why they may be reluctant to engage with the survey, or, in the worst case, be prompted to lie if they knew that the answers could be tied to them personally, and polluting the collected data as a result.

As such, the data collection was set up in a way to not require the personal information of respondents such as their names, workplaces and specific positions they hold therein, and questions collecting this data were not contained in the survey, and neither were the emails of the respondents recorded. And while some information pertaining to the measured variables was collected (such as age, gender, presence of children), it was not linked to specific individuals due to the contact data not being collected.

Measures

Upon the consideration of the findings and the experiences from the reviewed literature, it was decided to implement the methodology and part of the research design used in the studies that were evaluated in the literature review. Namely, the variables chosen to be measured being Stress, Segmentation preferences, Insomnia, Depression and Work-life balance, with age, gender, children, and the time spent working remotely are being utilized in concert with them as control variables.

As such, Stress, Segmentation preferences, Insomnia, Depression and Work-life balance have of course been chosen due to being the main focus of the research and hypotheses. Each of these factors have seen use in previous studies in some forms, with various approaches to measuring them via questions and scales. After reviewing the relevant literature on the topic, it was decided to use a measuring methodology akin to the one used in the studies closest to this research in terms of chosen variables. The studies mentioned are the research by Delanoeije & Verbruggen (2020), Becker et al., (2022), as well as Moen et al., (2016).

The former two of the studies mentioned base their measurements of Work-life balance have been based on similar work – the former study used the scales developed by Carlson, Kacmar, & Williams (2000) while the latter utilized scales from Carlson, Grzywacz, & Zivnuska (2009). Therefore, the more recent version of these same scales has been used for this research. Named “Work-life balance”, the variable was measured using the former methodology, consisting of a six-item scale. The questions regarding work-life balance, stress, insomnia, as well as depression were additionally prefaced with “During full-time remote work periods,” in order to specify the period the respondents had to refer to in their answers, considering that some of them may have changed back to traditional working arrangements since. Responses to these questions were reported on a five-point Likert scale, which ranged from 1 (“Strongly disagree”) to 5 (“Strongly agree”). A sample item is “During full-time remote work periods, it was clear to me, based on feedback from co-workers and family members, that I was accomplishing both my work and family responsibilities.”

As for stress, the method used by Moen et al., (2016) – the four-item scale validated by Cohen, Kamarck & Mermelstein (1983) has been utilized for this research. Responses in this part of the survey ranged from 1 (“Never”) to 5 (“Very often”). It must also be mentioned that two of the four items on this scale include scoring in the reverse direction, in a sense that the questions asked were logically opposite to the others, but conformed to the aforementioned response range, and therefore need to be evaluated in a reverse manner when measurements are concerned. This is the only methodology utilized in this research that includes such a scoring difference. As such, in order to avoid any possible confusion among respondents reading the survey, the section pertaining to the stress variable measurement was moved towards the end of the questionnaire. A sample item was “During full-time remote work periods, how often have you felt difficulties were piling up so high that you could not overcome them?”. A sample item for the reverse scoring items was “During full-time remote work periods, how often have you felt confident about your ability to handle your personal problems?”.

To measure Insomnia, the method used by Becker et al. (2022), originating in a study Jenkins, Stanton, Niemcryk, & Rose (1988) was utilized within the survey. It consists of a four-item scale. Responses to these questions were reported on a five-point Likert scale, which ranged from 1 (“Not at all”) to 5 (“Nearly every day”), with the inclusion of day ranges as used in the original scale adapted to 5 points in accordance with the Becker et al. (2022) methodology. A sample question was “During full-time remote work periods, how often have you had trouble staying asleep?”.

Depression as a variable was once again measured in accordance with the methodology of Becker et al. (2022), involving the Patient Health Questionnaire depression scale (PHQ-8) that contains 8 items, developed and established by Kroenke et al., (2009). As with Insomnia, responses ranged from 1 (“Not at all”) to 5 (“Nearly every day”), with no specific mention of days considering their absence in the base research, again used in a 5-point form to conform with the used methodology. A sample question was “During full-time remote work periods, how often have you experienced moving or speaking so slowly that other people have noticed? Or the opposite - being so fidgety or restless that you have been moving around more than usual?”.

For Segmentation preferences, the four-item scale that was derived from the research by Kreiner (2006), utilized in the methodology of Becker et al. (2022), was implemented into the research survey. Responses in this section of the survey ranged from 1 (“Strongly disagree”) to 5 (“Strongly agree”). For this scale, the stem of “During full-time remote work periods,” was not used, due to the purpose of the section being to determine the general preferences of the

respondent, not involving targeting any specific time period. A sample item for Segmentation was “I don’t like to have to think about work while I’m at home”.

As for control variables, the four mentioned previously were utilized due to their prevalence in this role in reviewed relevant literature in the sphere of remote work. Age and Gender have been extensively used as control variables in the research of flexible work arrangements and remote work. They are used as the most common variables in order to assess the relationships between other chosen variables and have been present nearly universally in reviewed literature (Charalampous et al., 2018; Moen et al., 2016; Becker et al., 2022). Moreover, gender, while being a standard control variable, may have additional significance in the context of this research. This is due to the findings of some previous studies, showing that the shift to another mode of work can have a bigger effect on women than on men in the same conditions. Among the stated reasons for this phenomenon is the commonly observed increased value of schedule control among them, which is further confirmed by the elevated number of females preferring flexible working arrangements when given the choice between them and traditional working schedules and locations (Moen et al., 2016; Charalampous et al., 2018). Age was measured in the survey by offering respondents to choose from several 5-year intervals up to the age of 64, with the age below 25 being a single option and coded as 1. Gender of the respondents was asked directly with the option of “Male” coded a 1, and the option of “Female” coded as 0.

The presence of children under 18 years old in the family of the respondent is used as another control variable due to the fact that schools and specific classes are often either fully closed, or require attendance only on specific days, with education being partly or fully remote due to the ongoing COVID-19 pandemic. In such conditions, young children being home has been reported to have additional effects on both the stress levels and the work-home conflict of the employees, due to the increased possibility of work interruptions (Becker et al., 2022; Delanoije et al., 2019; Chadee, et al. 2021). Moreover, some other studies indicate that employees with children present at home saw an increased effect on their work-life balance caused by the implementation of remote working modes (Kelly et al., 2014; Moen et al., 2016). This further applies to female employees that have children at home. Additionally, the same research also found that women working within the format of traditional working arrangements, without any children within their household, have experienced an increased amount of psychological distress. These findings have been ascribed to the possibility of these women having more intensive workloads due to carrying the responsibilities of both doing paid work and home tasks, combined with their lower likelihood of having a spouse, which they could share the latter daily functions with (Kelly et al., 2014; Moen et al., 2016). The presence of children was named the “Children” variable, and

was coded as 0 if respondents reported having no children under 18 in their household and 1 in the opposite case.

The time that the employees spent doing remote work is used as an additional control variable in order to measure their experience in this mode of work as well as the degree of adaptation to it, as low experience can possibly lead to increased stress when shifting working modes. The 4 control variables mentioned above were all measured using separate, single questions in the survey.

Other control variables were considered; however, it was decided to stop at 4. An example of additional control variables were those used to control the intensity of the pandemic during the data collection period. A recent study in the field (Wang et al., 2021) additionally argued for using the severity of COVID-19 pandemic in the city of the respondent to control the differences between the circumstances in the working conditions of the respondents due to said study being conducted nationwide. Additionally, such a method could be used to control results in a research with a longitudinal design, in an effort to determine the effect of an increased number of cases of COVID-19 during at a point in time on the data collection results. However, such a variable would not apply to this specific research due to it being situated in a single city and the data collection strategy used being cross-sectional.

As such, the questionnaire included 33 questions in total, of which 30 were utilized in scales in order to measure 5 main variables (Stress, Insomnia, Depression, Segmentation preferences and Work-life balance) and 4 control variables were measured via separate questions (Age, Gender, Children, Time spent working remotely). Of the other 3 questions two were aimed at collecting additional information for the purposes of comparison with previous studies. Namely, said questions asked the respondents about the industry they and their organization work in, in order to acquire an industry breakdown of responses, as well as whether the organizations the respondents were employed at had any kind of remote work policies in place before the start of the COVID-19 pandemic in an effort to evaluate the proliferation of remote working initiatives at Azerbaijani workplaces in past years. The third of the mentioned questions was the first question by order in the survey, acting as a screening question. It asked whether the respondents worked at an organization in Baku that implemented full-time remote work at any point within the past 2 years in order to ascertain their eligibility to participate in the survey itself. In case of the “No” answer being chosen, the survey ended. The full list of questions with specifications on variables measured by them can be found in Appendix A.

Participants and sampling procedure

The research has been decided to be conducted within the country of Azerbaijan, in the city of Baku. The reasoning behind this decision is an effort to minimize the differences between respondents in the sample as well as the time spent on the collection of the data. Additionally, general time limits and the initially decided scope of this research were also factors that contributed to this decision. The time for this research was limited to three months, therefore, to have enough time to collect the data and analyze it, it was decided to proceed with the data collection within a period of one month. To answer the research question posed, the population considered in the proposed research is employees working for the government of Azerbaijan, as well as all types of businesses in the country that have implemented remote work within the last 2 years. Due to known widespread lockdowns across the country at various points in time since the start of the pandemic in early 2020, the absolute majority of workplaces were either completely closed or limited in the number of employees they could have on site at one time by orders of the Cabinet of Ministers of the Republic of Azerbaijan (2020). As such, all of the workplaces in the target city of Baku were affected by this shift.

Therefore, the population targeted by this research are the working population of Baku, Azerbaijan. And while we cannot with absolute certainty determine the degree in which each and every employee partook in remote work practices, if at all, that can be ascertained during the data collection process itself. In order to approximate the population size, we have made use of the official data on the number of people in the private and government sector workforce within the boundaries of the City of Baku (over 1.17 million as per the State Statistical Committee [SSC], 2020). As such, considering the above, a sample frame would include all of employees that are working or have worked full-time remotely in the businesses and the government sectors within Baku, Azerbaijan at some point during the years 2020, 2021, and 2022. However, compiling a comprehensive list for the sample frame is not feasible due to its size and lack of immediately obvious information regarding the working conditions of each individual worker. To determine whether an employee has actually engaged in remote work with certainty, either they or their workplace would have to be asked. To address this, the data collection required to be adapted in order to determine whether the respondents for the process are part of the sample frame, which was done via the addition of a screening question at the very start of the survey.

The sampling method used for this research a non-probability convenience sampling. While it is understood that such a methodology can result in lesser reliability compared to sampling which includes probability methods and randomization, the convenience sampling has been evaluated to be the more feasible method. There are several reasons which lead to this choice.

The first and main reason involves conforming to the experiences and practices described in the literature and research in the remote work field, in order to establish a more consistent methodology and allow, to some extent, better comparability to extant studies, and possibly further research. Non-probability sampling has seen use in a significant amount of past studies researching remote work specifically as well as those conducted during the COVID-19 pandemic, in a similar context to this research (Wang et al, 2021; Anderson et al., 2014; Biron & Van Veldhoven, 2016; Piszczek, 2016; Delanoeiye et al, 2019; Perry et al, 2018; Becker et al, 2022; Ter Hoeven & Van Zoonen, 2015;). Of these, the studies by Becker et al, (2020), Piszczek (2016), Delanoeiye et al, (2019) are particularly relevant due to use of quite similar methods of data collection and/or the similarity of their sample to the one used in this research. The second reason was the limitations regarding the timeframe of the research being conducted, as well as budgetary constraints. The third reason is the difficulty in establishing the sampling frame list due to lack of certain knowledge regarding whether the respondent is part of the sample frame or not prior to beginning the data collection without contacting them or their organization. Moreover, with the lower reliability of non-probability sampling results in mind, measures were taken in order to address this. As part of this sampling, efforts have been made to highlight the differentiation between respondents of the data collection in order to show the extent of the representativeness that the final sample has. These efforts include adding such demographic indicators such as the age and gender of the respondents to the data collection process.

Additionally, said process has been decided to include inquiries regarding the experiences of the members of the sample in regards to remote working in past years, prior to the time period within the scope of this research, in order to depict the possible presence of the past familiarity of the chosen sample with a virtual working mode. The extent of the time spent remote working has also been inquired about, via determining the number of months members of the sample have engaged in remote working during the time period within the scope of the research. Moreover, the industry to which the workplace of the member of the sample belongs has also been included into the data collection process, for the purpose of exhibiting the diversity within the sample in terms of workplaces, indicating whether the sample would be concentrated in a single industry, or diversified throughout various fields of the economy. The considerations regarding the representativeness of the sample were additionally involved in the determination of the size of the sample targeted in this research.

Considering the above, as well as the concerns and experiences regarding the size of the sample which were brought up in the literature and its review, with sample sizes of up to 80 being deemed insufficient for earlier studies in the same field, although in a different context and

research strategy (Delanoeije & Verbruggen, 2020), with the use of longitudinal data collection in several forms as well as the division of the already relatively small sample into intervention and observation control groups. Another study sharing some of the authors in this field (Delanoeije et al., 2019) again used a sample size of 81 respondents. Such small numbers of respondents have been noted by the researchers to cause issues in regards to the power of the observation and its validity, while studies with larger samples ranging from 200 to 1000 respondents have not reported any issues of this kind (Becker et al., 2022; Wang et al. 2021; Kelly et al., 2014, Ter Hoeven & van Zoonen). However, it must be noted that in the former case, a significant reason for the insufficiency of the given sample size was the inherent focus of said study withing a single company, which limited its scope and required a larger sample than was available. In contrast to that, this research, being focused on a rather large city, with employees that are the sources for data collection being part of various industries, may not encounter such a problem at the same sample size.

Nonetheless, in order to minimize the risk of such an issue arising and in the interests of acquiring results of higher validity, it was decided to take into account these experiences within extant research, as well as using sample calculators to narrow down on the required sample size, with regard to appropriate levels of significance and margin of error. Particularly the size of the population (roughly 1.2 million in this case), the confidence level of 95 per cent and a margin of error of 5 per cent were used for the calculation of the initial sample size. Therefore, the sample size that was aimed for before the beginning of the data collection was 385 respondents, considering the somewhat similar methodology used for said purposes, due to its prevalence within the relevant research into remote work, which has been mentioned in the reviewed literature, but also taking into account the circumstances and time limits to build a sample and collect responses.

As a result of the data collection process, 394 total responses were received. Of them, 250 had fully completed the survey, including the screening question, and were therefore eligible for their data to be used in the research. One of the responses was dropped on personal request with privacy reasons cited. All of the variables measured using several items have been tested for internal consistency. The resulting coefficient alpha reliabilities have been found to be above 0.80, which indicates their high reliability.

Out of all the final respondents, 73 (29%) reported to have experience with remote work in the workplace in some form prior to the shift caused by the pandemic. As for the time spent working remotely during the pandemic, the average reported time across all responses was 9 months. Moreover, 43% (106) of the respondents were female, while 57% (143) reported as male. The median age of the sample was in the range of 30-34 (SD = 1.95). Figure 2 shows the full distribution of the sample by age. 36% (89) of the respondents reported having a child under 18 years old.

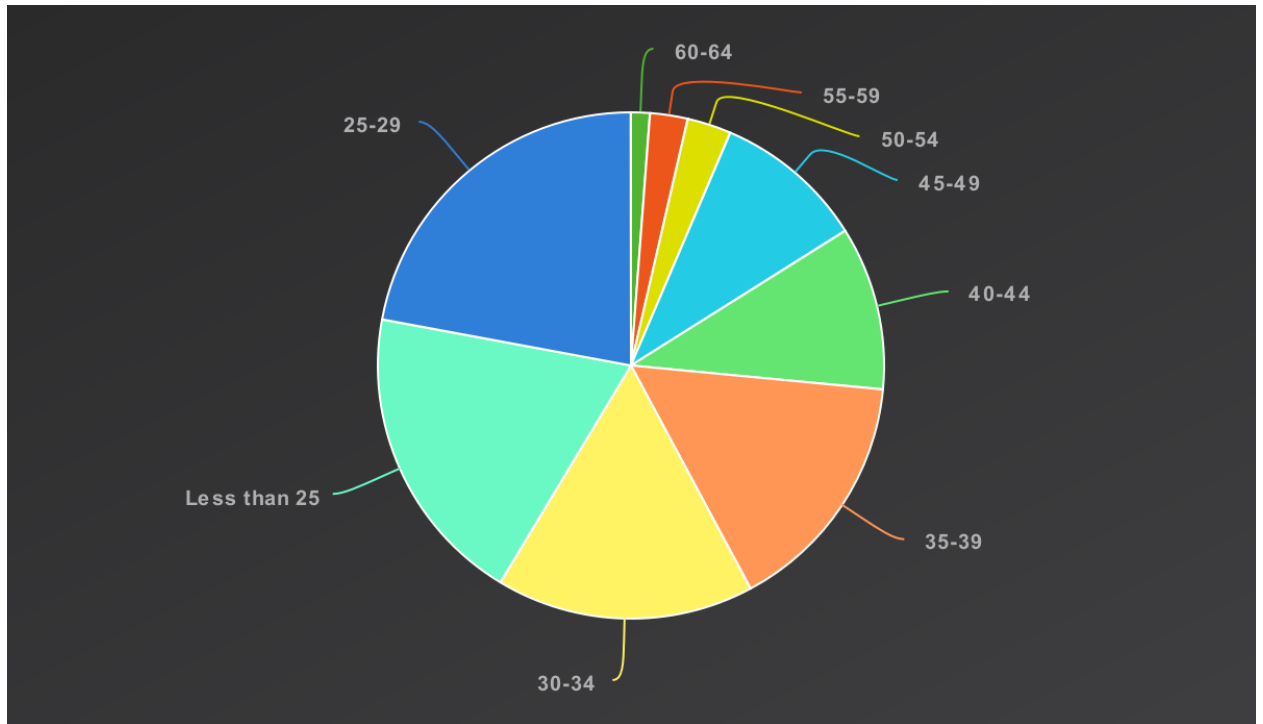


Figure 2. Distribution of respondents by age.

The responses additionally represent a significant variety of different backgrounds in terms of fields of work. With 16 various fields reported by respondents, the industry distribution of the sample is depicted on Figure 2, with the largest percentages were attributed to Education (18%), Finance and Banking (17%), Information Technology (11%), Government (9%) and International Organizations (6%). The high number of respondents working in education can be explained by the methods of distribution of the survey, in which university networks played a significant role.

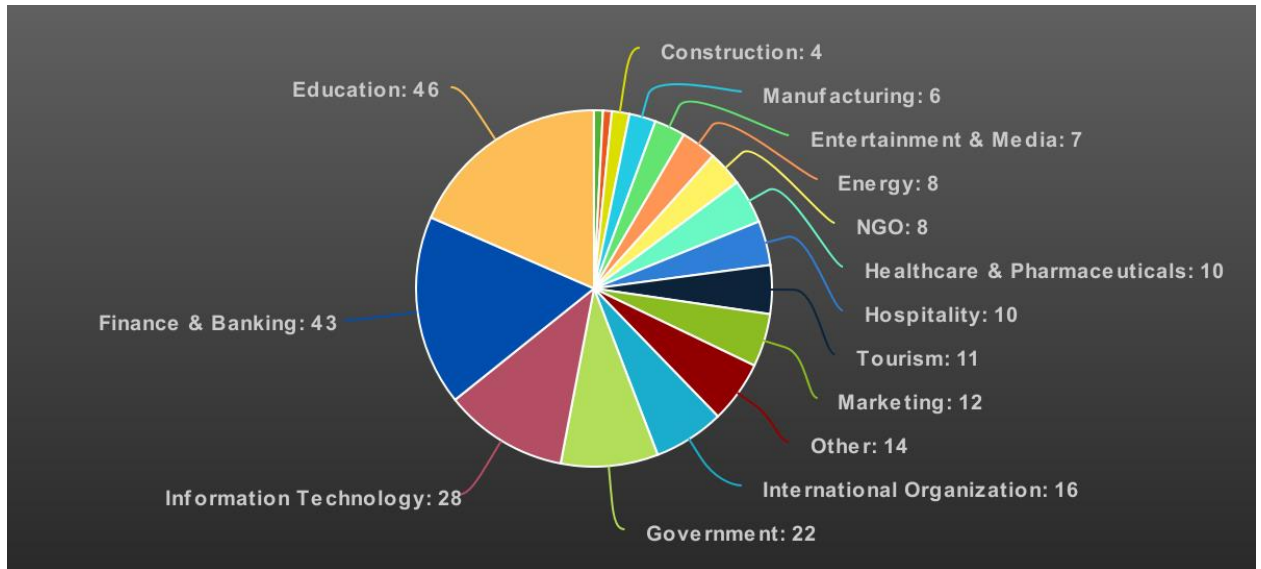


Figure 3. Distribution of respondent fields of work.

Findings

IBM SPSS has been used to structure and label the data as well as multicollinearity testing, which yielded acceptable results, and Mplus version 7.0 (1998-2012, Muthen & Muthen) was utilized for creating and testing path models. Confirmatory factor analysis of the collected responses was utilized in order to build a well-fitting model. A five-factor model proved a sufficiently good fit for the data (RMSEA = 0.66, Chi-square (379) = 784, CFI = 0.914, TLI = 0.902). All the items measuring latent variables showed high loadings, with two reverse-coded items relating for stress had comparatively lower loadings, but were still acceptable for use. Due to this and the high reliability of the items, no changes to the structure were deemed necessary.

Table 1 depicts the correlation matrix of the variables utilized in the model, featuring intercorrelations, their reliabilities, as well as the means and standard deviations. For the five latent variables, the mean of response scores was given.

Table 1. Means, SDs, and correlations for study variables

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Stress	2.27	0.88	(0.89)							
2. Segmentation	3.77	0.97	-0.48**	(0.92)						
3. Work-life balance	3.78	0.74	-0.73**	0.56**	(0.91)					
4. Insomnia	2.16	0.83	0.80**	-0.39**	-0.64**	(0.87)				
5. Depression	1.98	0.64	0.85**	-0.24**	-0.57**	0.86**	(0.85)			
6. Age	3.35	1.95	0.00	-0.14	-0.01	0.02	-0.05			
7. Gender	0.57	0.49	-0.33**	0.16*	0.16*	-0.19**	-0.30**	0.04		
8. Children	0.35	0.48	0.00	-0.02	0.04	0.01	0.01	0.29**	-0.05	
9. RWTime	9.87	5.95	-0.17*	0.02	0.26**	-0.10	-0.05	-0.08	-0.08	0.08

Note: N = 249. Coefficient alpha provided in brackets along the diagonal. *p<0.05, **p<0.01

Table 2 shows the results of the path modelling, including their beta coefficients, significance and R-square. In Hypothesis 1 it was predicted that there would be a negative relationship between stress and work-life balance. As is indicated on the Table, there was a

significant relationship between stress and work-life balance ($\beta = -0.48$, $p < 0.001$), which was negative as predicted. Therefore, Hypothesis 1 was supported.

Table 2. Model Results

Variable	WLB	INS	DEPR
Stress	-0.48**	0.69**	0.68**
Segmentation	0.23**	0.04	0.16**
Work-life Balance		-0.18	-0.03
Controls:			
Age	0.02	0.01	-0.01
Gender	-0.05	0.07	-0.10
Children	0.03	0.01	-0.02
RWTime	0.02**	0.01	0.01
R ²	0.62	0.67	0.77

Note: N = 249. WLB, Work-life Balance; INS, Insomnia; DEPR, Depression. * $p < 0.05$, ** $p < 0.01$

Hypothesis 2 predicted that there would be a positive effect of segmentation preferences on work-life balance. The model has indicated a significant positive relationship between these variables ($\beta = 0.23$, $p = 0.001$). As a result, Hypothesis 2 was supported.

Hypothesis 3 predicted the existence of indirect effects of stress through work-life balance on (a) depression and (b) insomnia. Bootstrapped tests showed no significant relations between stress and depression ($\beta = 0.08$, 95% CI = -0.03, 0.2). The cause of this is the lack of a significant effect of work-life balance on depression ($\beta = -0.03$, $p > 0.8$). However, as is shown on Table 2, during the analysis, a significant direct effect of stress on depression has been found ($\beta = 0.68$, $p > 0.001$). The findings related to Hypothesis 3b were analogous. No significant indirect effects from stress to insomnia were found during bootstrapped tests ($\beta = 0.08$, 95% CI = -0.01, 0.2) due to a lack of a relationship between work-life balance and insomnia ($\beta = -0.18$, $p > 0.8$). However, once again, the model showed a direct effect of stress on insomnia ($\beta = 0.68$, $p > 0.001$). As such, Hypothesis 3a and 3b were not supported.

Hypothesis 4 predicted that there would be negative effects of segmentation preferences on (a) depression and (b) insomnia. As shown on Table 2, the results of the modelling found a significant effect of segmentation preferences on depression ($\beta = 0.16$, $p < 0.01$), which was positive, unlike the prediction. Furthermore, no significant effect of segmentation on insomnia ($\beta = 0.04$, $p > 0.5$) was found. Therefore, both Hypothesis 4a and 4b were not supported.

The modelling resulted in additional findings aside from those originally set out to achieve during the hypothesis testing. Firstly, as mentioned, significant direct effects of stress on both depression and insomnia were found. Secondly, there was a significant relation between remote working time and work-life balance ($\beta = 0.02$, $p = 0.001$). Furthermore, as the survey asked for the presence of pre-pandemic experience with remote work, the responses were additionally correlated with the other variables and resulted in moderately strong correlations with age ($r = -0.28$, $p < 0.001$) and time spent working remotely ($r = 0.37$, $p < 0.001$), as well as weak correlations with stress ($r = -0.15$, $p < 0.05$), segmentation preferences ($r = 0.15$, $p < 0.05$), work-life balance ($r = 0.15$, $p < 0.05$), and insomnia ($r = -0.16$, $p < 0.05$).

Discussion

As stated several times, the sudden and mandatory shift to remote working due to the start of the COVID-19 pandemic has brought significant changes to the workplace. And it is important to evaluate and analyze these changes and especially how the non-voluntary manner of them has set up a new environment for traditionally significant aspects and factors within the remote working mode. As such, the purpose and goal of this study was to evaluate the relationships, direct and indirect effects related to the well-being and work-life balance of workers by their stress and preferences to segment work and non-work life within the context of non-voluntary remote work.

The results of the analysis conducted show that stress has had a direct relationship with the work-life balance of workers, in the sense of causing its deterioration during full-time remote work during the pandemic. Furthermore, while stress has been established to have adverse effects on well-being, and particularly depression and insomnia, in the past (Perry et al, 2018), this research further confirms the existence of this relationship during the mandatory shift to telework in the context of the pandemic. However, a direct effect in this case was not expected, as the relationship was predicted to be mediated by work-life balance. Nonetheless, despite the findings of recent research (Becker et al., 2022), as well as the strong correlation shown by the analysis of the data, work-life balance was not found to have any significant effect on either depression or insomnia. Due to that, there was also no indirect effect of stress on those variables, contrary to the hypothesis set out. This may be explained by the addition of stress into the model, which was absent in the aforementioned research. There is a possibility that stress was the initial source of the effects found in that study.

Additionally, the quite strong correlation observed between stress, depression and insomnia also needs noting. While the means for each of these aspects are fairly low, suggesting generally low levels of these issues among the sample, this kind of correlation among them suggests that these conditions were very often experienced by the respondents at the same time and further supports the findings regarding stress affecting depression and insomnia.

As for the second independent variable chosen for this research – segmentation, considering the extant literature (Lapierre et al., 2016; Delanoeije et al. 2019; Kerman et al., 2021) highlighting its moderating role, specifically in connection with work-life balance, it has conformed to the expectations set out during hypothesis development in that the preexisting preferences of workers towards stronger boundaries between work and home life has a positive effect on the balance between the job and the home. What was completely unexpected however, was the results of the model in establishing the relation between segmentation and the variables

representing well-being within this research – depression and insomnia. Despite the moderately strong negative correlation between these variables and segmentation as can be seen on Table 1, the regression modeling has shown no significant effect on insomnia. Furthermore, segmentation preferences have been found to have a positive effect on depression, in the sense that high segmentation preferences have caused an apparent increase in depression among the surveyed employees. The possible simple explanation for the former, considering the other results, is that segmentation only has an effect on the mental side of well-being, without the boundaries set out by the employees having any powerful relation to the time component of the work of employees, which may be causing the insomnia regardless of the preferences. Alternatively, location or the specifics of the sample may be the reason, with the respondents being relatively young on average, they may not be able to influence their work enough in a high power distance country such as Azerbaijan (Hofstede, 2022) to prevent insomnia, despite their preferences. However, such conclusions are outside the scope of this research, and would need to be investigated separately as part of possible future studies. Likewise, the reasons for segmentation increasing depression in respondents may need further inquiry. The possible explanation that can be offered at the moment is the lack of free choice within the context of these factors. Segmentation is inherently based on the personal choices and preferences of people (Ashforth et al., 2000; Hall & Richter, 1988), and it may be that forcibly contesting the boundaries of employees by mandating their stay at home, especially during lockdowns leads to depressive tendencies.

Moving on to control variables utilized within the research, the findings indicate that out of the 4 controls used on 3 latent variables, the sole significant direct effect that was shown by the model was of time spent remote working on work-life balance ($\beta = 0.02$, $p = 0.001$). Age and the presence of children additionally showed no significant correlations with any of the latent variables. However, there was a correlation between them with each other, which is logically sound. Additionally, despite the fact that gender was found to correlate with all of the measured latent variables, the findings did not indicate it exerting any significant effect on them. It should also be noted that time spent remote working had a significant negative correlation with stress, which may suggest that the longer employees conducted work in this mode, the less stress they experienced overall.

Furthermore, the additional findings of this study indicate a relation of prior remote work experience with the factors that have been the focus of this research. Overall, 29% of the respondents reported to have some sort of remote working policies existing in their workplace prior to the pandemic. A similar study by Becker et al. (2022) involving a similar question, reported only 8%. The higher amount in our sample may be explained by the specifics of our sample,

particularly the high number of education workers within the sample. As described in the findings, the answers of respondents regarding having experiences with remote working prior to the COVID-19 pandemic were correlated with other observed and latent variables and resulted in significant moderately strong correlations with age ($r = -0.28, p < 0.001$) and time spent working remotely ($r = 0.37, p < 0.001$) suggesting a higher likelihood of experience with remote work policies among younger employees, as well as longer periods of remote work during the pandemic among the workers that already had experience with it. Moreover, significant correlations of this factor with all the latent variables in the manner stated in the findings suggests that prior experience of remote work can contribute to the development of stronger segmentation preferences and less stress experienced while working remotely in the context of the shift induced by COVID-19. Furthermore, the correlations with work-life balance and insomnia, in line with the primary results of this research suggest that the aforementioned improvement of stress and segmentation may be the cause of higher work-life balance and a decrease in insomnia.

Additionally, taking into account the abovementioned found positive effect of time spent remote working with work-life balance, as well as the positive correlation of having past remote working experiences with both of the above suggests that having pre-existing practice with remote working may lead to a longer time in this working mode. This may consequently lead to an improvement of work-life balance. These assumptions are further supported by the found positive correlations of such experience with segmentation preferences and work-life balance, and negative correlations with stress and depression.

In general, this analysis has yielded a significant number of various findings, both expected and unexpected. Based on these findings, we can assume that they can be of use both in the academic field, as incentive for thought and further research both into the field of remote work as a whole, and into the highlighted aspects of it specifically. Moreover, these factors, being components of everyday lives of workers, as well as our findings associated with them can be directly utilized in the same space that was the focus for this research – the workplace. Using these and other related academic results, employers and decision-makers can make informed choices when developing procedures regarding remote work. The following sections will go into further detail on the implications of the findings made.

Theoretical implications

One of the possible significant contributions of this study to the field of research of remote work and flexible working arrangements in general and boundary theory, which introduced this factor in the first place, is the use of segmentation preferences as a separate independent variable,

with findings confirming the existence of direct causal relationships between them and other aspects commonly used in the area of remote work research such as work-life balance and well-being. Further use of this segmentation, which is commonly utilized in the field as a moderator, as a factor that exerts its own effects on the various facets that workers experience during remote work may contribute to a better understanding of this working mode in general, and specifically in the context of a worldwide virus pandemic. The effects found during this research can also become a topic of academic inquiry. As mentioned, the finding of a positive effect of segmentation on depression has been an unexpected development, and additional investigation of this causation might provide insight into the interaction of the work boundaries set by employees with their mental health. Moreover, with the establishment of impact of segmentation preferences on work-life balance, more common use of them in conjunction with other factors may contribute to fuller explanation of the causes of work-life balance. Furthermore, as the positive effect on work-life balance has been established, the causes of high segmentation preferences may also be of interest to researchers as to investigate the existence of possible indirect effects on WLB.

The other important aspect of this research was our overview of stress, and its effects on well-being and work-life balance. Unlike our other independent variable – segmentation preferences, stress has commonly been utilized in research of direct effects between factors pertaining to both work in general and remote work research specifically. However, the use it has seen was commonly alongside factors comprising well-being, such as depression, anxiety, insomnia (Henke et al., 2016; Sprung & Rogers, 2021; Mendonça et al., 2022). Therefore, the theoretical contribution of this study in the case of stress lies in the affirmation of it as a cause of poor work-life balance and an increase in issues with both mental and physical health in the form of the chosen variables. And although no indirect effect through WLB to well-being variables was found, the findings of direct effects can be utilized in future research of stress and well-being.

Moreover, touching upon the results regarding the experience with remote work and its connection with other explored variables, it must be noted that they show the possible viability of research into experience of remote work on other significant factors in this field, inquiring whether the existence of prior practice contributes to an overall better experience of virtual work in the context of a pandemic. An example of a research direction stemming from this finding would be a possible study into the effects of prior experience in a remote working mode on the well-being of employees shifting to it. The relations of other factors used in remote work research such as emotional exhaustion (Becker et al., 2022), performance on the job (Delanoëje & Verbruggen, 2020) and others with the existence or the extensiveness of remote work experience in the context

of telework may also be a fruitful topic for academic inquiry. This is further supported by the discovered correlation between time spent working remotely and stress.

Finally, while the circumstances of the research regarding the pandemic have already been mentioned, it must also be pointed out that the COVID-19 pandemic and its length are a cause of some uncertainty, which in turn affects the relevance of the findings. However, if the current pandemic induced situation mandating remote work to some extent does not change in the near future, or, alternatively, a similar situation arises, whether it is another pandemic or other cataclysmic events, such as political upheavals, climate change, natural disasters, etc., both of which are noted as a possibility in various academic studies (Marani, Katul, Pan & Parolari, 2021; Sauerborn & Ebi 2012; Coronese, Lamperti, Keller, Chiaromonte & Roventini, 2019), statements and reports by international organizations (World Meteorological Organization [WMO], 2021) and other articles (Corak, 2020; Nebhay, 2020), the findings of this research may be used as a reference in remote work research. Moreover, when this extraordinary situation comes to an end and if there is a return to the pre-pandemic state of traditional working arrangements, the findings of this research can be used as a point of comparison, to evaluate the significance of the chosen variables and found causal relationship in a traditional work environment.

Practical implications

The practical implications of this research can be considered to be mainly beneficial to those who's work is directly related to the factors observed in this study, such as human resource professionals, and those involved in the decision-making and evaluation of policies related to the implementation of remote work in the workplace, such as the management staff of all levels, including the employers. Moreover, it can be said that employees themselves may benefit from being informed of the findings of this research, to become aware of the impact their stress and boundary preferences are having on their life.

On a purely practical level, the findings of this research related to segmentation preferences show the importance of preferred boundaries of employees on their home life. This is of special significance in the circumstances during which this research has been conducted, with COVID-19 pandemic being a frequent reason of lockdowns in many parts of the world, forcing workers to physically remain home. Therefore, for employers, identifying the predispositions of their workers to set boundaries between work and non-work part of their lives may allow to highlight workers more fit for remote work. This is especially relevant in the situations where employers are faced with a choice, as was in the case of lockdowns, as some countries, such as Azerbaijan, have introduced limits on the number of staff on site in the workplace during lockdowns (Cabinet of

Ministers of the Republic of Azerbaijan, 2020). However, the other major finding of this research related to segmentation – the discovery of a positive effect on depression, must not be ignored or downplayed. With numerous academic studies and institutional reports showing an increase in the general levels of depression throughout the populace during the pandemic (Lodovici et al., 2021; UNRIC, 2020; Niu et al. 2021), the contribution of this causal effect should also be taken into account during decision-making and, if possible, addressed to contain the increase in depressive tendencies among employees.

The contributions of the findings related to stress and the factors affected by it made by this research may once again manifest practically in the use of this knowledge within the workplace. Knowing that stress is directly responsible for the deterioration of the well-being and work-life balance of employees may be used as a justification for employers and human resources professionals to implement measures to tackle the increase of stress in the working space, whether it be in the office, at home, or anywhere else. As such, activities directly aimed at reducing remote work-related stress of employees such as trainings, organized socialization, or a flexible schedule may be utilized. Furthermore, researching and executing methods to decrease the stressfulness of the work itself might also be a beneficial action for employers in order to improve the well-being of their workers.

Another finding that may be useful in the workplace was the found strong correlations between stress, depression and insomnia, suggesting that all three of these factors very often manifest together in the sample. This could be used as an early sign of issues with well-being if abnormally high stress among the employees is noticed, or, alternatively, a developed insomnia during a shift to remote work in this context could point to issues with depression as well. This information can be used by both human resources departments to spot issues that may be troubling their workers, as well as the employees themselves, which may consider acquiring a professional opinion if stress or insomnia are self-diagnosed.

As for the practical implications of the findings regarding remote working experience and time spent working remotely, it can be said that they allow both employees and employers to better strategize their shift to remote work. Knowing that work-life balance improves as one goes on in this working mode, it may increase the willingness of the former to accept such a change, and convince the latter to implement it. Furthermore, considering the correlations found between the above, as well as the negative correlation between stress and time spent working remotely, the results of this research may encourage both employers and workers to look into remote work training in order to directly provide the workers with experience in a remote working mode, as all of the findings point towards a general improvement in said factors with time and practice.

Limitations

The limitations caused by its design, may provide opportunities for further studies in this field. It should also be said that some of the named limitations are interconnected, with the impact of some of them being possibly reduced or negated if others are addressed beforehand.

First of all, the sampling method used in this research could be perceived as a limitation for it. While the use of a non-probability convenience sampling method has its merits, and could be used as a point of comparison for other, international studies, or as a reference for future research in the field of remote work and flexible working arrangements in Azerbaijan, it may not be considered the optimal choice when the validity and representativeness of the research results are concerned. It must be noted however, that as mentioned, the use of non-probability sampling has numerous precedents in extant research in the field of remote work (Anderson et al., 2014; Biron & Van Veldhoven, 2016; Piszczek, 2016; Delanoetje et al, 2019; Perry et al, 2018 etc.). Nonetheless, provided that a methodology capable of ensuring random sampling on the given population is developed, conducting a study in the future involving a probability sampling method would likely choose a more representative sample for the statistical analysis, which will in turn increase the validity and reliability of the results derived from it. Simple random sampling or systematic sampling would be the most appropriate options if a similar research design and goals were to be adopted, due to lack of need for stratification of the sample.

Another important limitation that requires mentioning is a geographic one. Particularly the fact that the research was conducted focusing and collecting responses from a single geographic source, and while this helps reduce the impact of environmental factors on the chosen sample, it also has the negative effect of reducing the external validity of the collected data, and consequently, also the interpretations derived from the analysis of said data, as this single source characteristic of the research may raise concerns regarding the generalizability of it. Considering this, using this research as a comparison point with future studies based in other countries may potentially provide insights into the possible differences between the impacts of remote work on the local populations. Moreover, future research could be directed towards solely the said differences between countries, to evaluate the effects of various factors that differ from one geographical location to another on the well-being and work-life balance of employees, within the external context of flexible working arrangements and remote work. Additionally, due to the very nature of virtual work being aimed at limiting the effect of geographical distances on the working process of employees, the cases when workers are located in one country while being employed at and conducting work tasks for an organization that is based and conducts its business in another. As mentioned previously, multitude of various external factors can have an impact on the

respondents should such research be conducted on a broader scale featuring international data collection, with variance in them possibly increasing. And through this impact, differences in the responses themselves and the subsequent measurement of the variables may arise. These external factors may be comprised of a wide range of factors of different natures affecting work on different levels, including such facets as the severity of the COVID-19 pandemic in the chosen environment, the established working practices (such as job autonomy given to employees, and the degree of control and monitoring exercised by management), working schedules, the prior experience with flexible working arrangements, the deployment, prevalence and quality of information and communication technologies, as well as computer literacy, general levels of education, cultural factors (e.g. power distance, uncertainty avoidance, individualism and collectivism, etc.) social conventions and traditions, and many others. Each of these may be potentially used to conduct further research into the field of remote work, conceivably used as additional variables, as has been done in past research with some of the named factors (Wang et al. 2021; Biron & Van Veldhoven, 2016; Bloom, Liang, Roberts, & Ying, 2013; Nurmi & Hinds, 2016; Kaur, Kremer, & Mullainathan 2015; Mas & Pallais, 2017).

Another important limitation that requires mentioning in a separate manner is an extremely important external factor existing during the time that the research is being conducted – the COVID-19 pandemic. While it is quite obviously an important circumstance in the contemporary workplace environment and a major modern contributing factor, being a catalyst the rapid deployment of non-voluntary remote work arrangements in the working areas around the globe in the last 2 years since the beginning and spread of the disease, its effect on other facets of life must not be ignored or underestimated. Particularly its impact on the aspects of work that are examined in this research – the well-being of employees and their work-life balance. Well-being in particular requires additional attention, due to the possibility that, aside from obvious consequences of catching the virus on the health, the presence of the virus and its proliferation in the cities where people live in, may result in additional adverse effects on the observed variables, such as stress, insomnia and depression, as well as other facets of mental and physical health of the population. Work-life balance, in turn, may be affected by the lockdowns imposed by governments induced by the spread of the virus as well as the danger posed by it, with these factors forcing parts of the population to stay at home, limiting their social interactions and ability to take time away from the workplace (which has moved to their home), which, in turn, can adversely affect their work-life balance, especially when considering the cases where the segmentation preferences of employees are low. Due to this, it would be advisable for future research to address this limitation.

Future Research

Future research into the field of remote work should address the issues raised and elaborated in the limitations of this study. Moreover, building on the findings of this research further exploration of the role of segmentation preferences as an influencing factor considering the established relations is a worthwhile possible research direction. As such, while this research assessed the relations between segmentation and well-being and work-life balance, its effects on factors related to workplace productivity and engagement may be a worthwhile topic of inquiry. Additionally, considering the fact that the analysis of the impact of segmentation preferences on well-being has yielded unexpected results, the reasons for these findings might be a worthwhile avenue for future research. Furthermore, confirmation of achieved results pertaining to segmentation as well as stress in a conventional remote working setting, not affected by the mandatory sudden shift caused by COVID-19 could be beneficial to developing a deeper understanding of their effects. And finally, the discoveries regarding the correlations of our chosen latent variables with time spent working remotely and prior teleworking experience suggest adaptation to this shift as another possible path for research.

Conclusion

As remote work becomes increasingly common in the everyday workplace, it is important to understand how an unexpected and non-voluntary shift to it affects the employees. Their well-being and ability to maintain a balance between their work and home lives are particularly important, in an environment of new stressors. Moreover, their predisposition to maintain said balance in the form of segmentation of work and non-work life is a major factor, the role of which in this relationship has to be further explored. As a result of this research, it was shown that the mentioned stressors are indeed contributing to the deterioration of work-life balance, and an increase in issues pertaining to well-being, specifically depression and insomnia. Furthermore, as expected, the preference of the worker to separate their work and home life is associated with a high work-life balance. However, as an unexpected development, these same preferences have been found to have an adverse effect on well-being in the form of increased indication of depression, while having no discernable effect on insomnia. The findings made by this study contribute to the research into the state of remote work changed by the sudden shift caused by the COVID-19 pandemic, and offer insight which can be utilized by professionals in spheres of human resources and management.

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Appendix A

Survey questions

Screening, control and general questions:

1. In the past 2 years, have you worked at an organization in Baku that has implemented full-time remote work at any point?
2. For how many months have you worked in a remote working mode full-time in the last 2 years? (1-24)
3. Have you had any kind of remote work policies at your workplace prior to the start of the shift caused by the COVID-19 pandemic?
4. How old are you?
5. What is your gender?
6. Do you have children under 18 years old?
7. What industry do you work in?

Segmentation:

8. I don't like to have to think about work while I'm at home.
9. I prefer to keep work life at work.
10. I don't like work issues creeping into my home life.
11. I like to be able to leave work behind when I go home.

Work-life Balance:

1. During full-time remote work periods, I was able to negotiate and accomplish what is expected of me at work and in my family.
2. During full-time remote work periods, I did a good job of meeting the role expectations of critical people in my work and family life.
3. During full-time remote work periods, people who are close to me would say that I did a good job of balancing work and family.
4. During full-time remote work periods, I was able to accomplish the expectations that my supervisors and my family had for me.
5. During full-time remote work periods, my co-workers and members of my family would say that I was meeting their expectations.
6. During full-time remote work periods, it was clear to me, based on feedback from co-workers and family members, that I was accomplishing both my work and family responsibilities.

Insomnia:

1. During full-time remote work periods, how often have you had trouble falling asleep?
2. During full-time remote work periods, how often have you had trouble staying asleep?
3. During full-time remote work periods, how often have you woken up tired?
4. During full-time remote work periods, how often have you felt little interest or pleasure in doing things?

Depression:

1. During full-time remote work periods, how often have you felt little interest or pleasure in doing things?
2. During full-time remote work periods, how often have you felt down, depressed or hopeless?
3. During full-time remote work periods, how often have you had trouble falling or staying asleep, or sleeping too much?
4. During full-time remote work periods, how often have you felt tired or having little energy?
5. During full-time remote work periods, how often have you experienced poor appetite or overeating?
6. During full-time remote work periods, how often have you felt bad about yourself - or that you are a failure or have let your family down?
7. During full-time remote work periods, how often have you had trouble concentrating on things, such as reading the news or watching TV?
8. During full-time remote work periods, how often have you experienced moving or speaking so slowly that other people have noticed? Or the opposite - being so fidgety or restless that you have been moving around more than usual?

Stress:

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