



POLITECNICO
MILANO 1863

School of Industrial and Information Engineering
Master of Science in Management Engineering

*The Impacts of Remote working on
employees' psychological wellbeing:
an Empirical Study of the Italian Public
Administration*

Supervisor: Prof. **Luca Gastaldi**
Co-supervisor: **Gabriele Boccoli**

Master Thesis of:
Laura Lombardo
941865

Academic Year 2020 / 2021

ACKNOWLEDGEMENTS

Grazie alle figure professionali ed affettive che mi hanno guidato, consigliato, supportato e sopportato, io guardo al mio percorso accademico con orgoglio. Questo orgoglio è dedicato a tutti voi che siete con me oggi.

Voglio riservare la primissima parte dei miei ringraziamenti al mio relatore, Prof. Luca Gastaldi, grazie al quale sono giunta fin qui. Il lavoro propostomi mi ha subito colpito per attualità, novità ed interesse, caratteristiche che si sono poi rivelate essere il fil rouge della mia tesi. La guida attenta del professor Gastaldi mi ha accompagnato durante questo anno di lavoro e mi ha permesso non solo di concludere i miei studi, ma soprattutto di farlo proponendo un elaborato di cui sono fiera.

Un ringraziamento particolare va a Gabriele Boccoli, che mi ha guidato in questo percorso, dimostrandomi che le grandi menti possono essere accompagnate anche da una grande umanità, aiutandomi con professionalità e gentilezza.

Ci tengo a ringraziare anche Rita Zampieri, Sina Lessanibahri, e tutti i membri dell'Osservatorio Smart Working del Politecnico di Milano con cui ho avuto il piacere di collaborare.

La mia carriera universitaria mi ha donato grandi soddisfazioni ma solo a seguito di grandi sacrifici, momenti che non ho mai affrontato da sola, ma sempre con il supporto e la forza dei miei genitori, Enzo e Maria Teresa, a cui dedico ogni mio sorriso e traguardo. Vivo ogni giorno con l'intento di rendervi orgogliosi di me.

Questo giorno lo dedico anche alla mia famiglia, con cui ho trascorso molti tra i momenti più belli della mia vita. A mia zia Camilla, che mi considera come una figlia, ed a mia nonna Pina, che mi ha trasmesso la sua voglia di conoscenza.

Voglio prendere un momento per ringraziare anche le persone speciali che ho conosciuto a Milano ed i miei amici di sempre. Mi avete sostenuto in ogni mia scelta, ricordandomi che è vero che nessuno è indispensabile, ma che è un piacere ed un onore avervi accanto.

La mia dedica più grande è a mia nonna Maria, che è stata al mio fianco fin quando ha potuto, dandomi la forza e tutto il suo amore. Spero di averti resa fiera della tua nipote "ngegnera".

INDEX

INDEX OF TABLES	9
INDEX OF FIGURES	10
ABSTRACT	11
SOMMARIO	12
EXECUTIVE SUMMARY	13
1 INTRODUCTION	23
1.1 COVID-19 PANDEMIC	26
1.1.1 Economic effects	26
1.1.2 Psychological effects	27
1.2 PURPOSE AND ARTICULATION OF THE RESEARCH	28
2 THEORETICAL BACKGROUND	30
2.1 METHODOLOGY	30
2.2 THE CONSTRUCTS	31
2.2.1 Antecedents	32
2.2.1.1 Temporal flexibility	32
2.2.1.2 Autonomy	36
2.2.2 Work-life balance	37
2.2.3 Outcomes	40
2.2.3.1 Job Satisfaction	41
2.2.3.2 Work engagement	42
2.3 THE CONTEXT	46
2.3.1 Public administration	46
2.3.1.1 Solution	49

2.3.1.2	Italian Public Administration	51
2.3.2	Remote working	54
2.3.2.1	Smart working vs teleworking	55
2.3.2.2	Effects of remote working on employees and organizations	58
2.3.2.3	Possible solutions	63
2.3.2.4	Remote working during COVID-19 pandemic	64
3	MODEL	66
3.1	STRUCTURE OF THE MODEL	66
3.1.1	Control variables	68
3.2	GENERAL GAPS FOUND IN THE CONTEXT	70
3.3	HYPOTHESES	71
3.3.1.	Flexibility and Work-Life Balance	72
3.3.2.	Autonomy and Work-Life Balance	73
3.3.3.	Work-Life Balance and Job Satisfaction	75
3.3.4.	Work-Life Balance and Work Engagement	76
4.	METHODOLOGY	79
4.1.	OBJECTIVE	80
4.2.	SURVEY	81
4.2.1.	Sample	82
4.2.1.1.	Composition	83
4.2.2.	Structure of the survey	84
4.2.3.	Measurement	85
4.3.	DATA ANALYSIS	89
4.3.1.	Cronbach's Alpha	90
4.3.2.	Zero-order correlation matrix	91

4.3.3.	Structural equation modeling (SEM)	91
4.3.3.1.	Confirmatory factor analysis	92
4.3.3.2.	Path analysis	94
4.3.3.3	Model fit indices	95
5.	RESULTS	97
5.1.	THE SAMPLE	97
5.1.1.	Age.....	97
5.1.2.	Gender & Unit.....	98
5.2.	RESULTS FROM THE QUESTIONNAIRE	100
5.2.1.	Contingency analysis.....	103
5.2.1.1	Age.....	103
5.2.1.2	Gender.....	105
5.2.1.3	Unit	105
5.2.1.4	Analysis of the most significant items.....	106
5.3.	MODEL.....	107
5.3.1.	Zero-order correlation analysis	108
5.3.2.	SEM analysis.....	109
5.3.2.1.	Confirmatory factor analysis.....	109
5.3.2.2.	Path analysis	110
5.3.2.3.	Control variables	113
6.	DISCUSSION	115
6.1.	THEORETICAL CONTRIBUTION.....	115
6.1.1.	Antecedents	117
6.1.1.1	Autonomy positively affects work life balance	117
6.1.1.2	Flexible hours positively affect work life balance	118

6.1.2.	Mediator.....	119
6.1.3.	Outcomes.....	120
6.1.3.1	Work life balance positively affects Job satisfaction.....	120
6.1.3.2	Work life balance positively affects work engagement.....	121
6.1.4.	Control variables	124
6.1.4.1.	Job satisfaction	125
6.1.4.2.	Work engagement	126
6.1.4.3.	Work-life balance.....	126
6.1.5.	General model.....	127
6.2.	PRACTICAL IMPLICATIONS	133
6.3.	LIMITS AND FURTHER RESEARCH	137
7.	CONCLUSION	139
	BIBLIOGRAPHY	143
	SITOGRAPHY	166
	APPENDIX	169

INDEX OF TABLES

Table 1: The hypotheses of the model and related findings	17
Table 2: The constructs' composition and referred scales.....	18
Table 4: The hypotheses	81
Table 5: The composition of the National Firefighters brigade (Canazza, n.d.).....	83
Table 6: The items of FH and comparison with the certified scale	86
Table 7: The items of JA and comparison with the certified scale	87
Table 8: The items of WLB and comparison with the certified scale.....	88
Table 9: The items of JS and comparison with the certified scale	88
Table 10: The items of WE and comparison with the certified scale	89
Table 11: Gender and Unit distribution	99
Table 12: Standard deviation example.....	101
Table 13: Number of observations, mean, std. dev., min., and max. of each item	102
Table 14: Number of observations, mean, std. dev., min., and max. of each construct	102
Table 15: Mean value of each construct analysed by age	103
Table 16: Mean value of each construct analysed by age - grouped	104
Table 17: Mean value of each construct analysed by gender	105
Table 18: Mean value of each construct analysed by Unit.....	105
Table 19: Deltas of the mean values of each construct by age, gender, and unit.....	106
Table 20: Zero-order correlation matrix	108
Table 21: Pearson coefficients of the relationships analysed in the hypotheses	108
Table 22: Confirmatory factor analysis with factor loading, AVE, and CR	109
Table 23: Fit indices for the CFA.....	110
Table 24: hypotheses validation.....	111
Table 25: Fit indices for the path analysis	111
Table 26: P-value of the control variables.....	113
Table 27: Path coefficient of the control variables	113

INDEX OF FIGURES

Figure 1: The model.....	17
Figure 2: The draft of the model-antecedents, mediator, and outcomes.....	68
Figure 3: The structure of the model.....	69
Figure 4: The relationships and the hypotheses	78
Figure 5: The steps	80
Figure 6: The confirmatory factor model	92
Figure 7: Age distribution.....	97
Figure 8: Gender and unit distribution.....	98
Figure 9: unit distribution divided by gender.....	99
Figure 10: Contingency analysis on the main items of interest (FH1, WE1, and JS3)	107
Figure 11: The model with path coefficient and standard error in the parentheses	112
Figure 12: The general model.....	130
Figure 13: Relationships' Path coefficients.....	132
Figure 14: The model with the hypotheses.....	140
Figure 15: the questions of the survey that compose the constructs.....	170

ABSTRACT

The changes in the labour force, the economic growth, and the digitalization process caused a shift towards the use of non-monetary compensations, such as flexibility, to attract and retain talents. One of the most adopted flexible practices has been remote working, fostered by the necessity of social distancing caused by the spread of SarsCov2 disease, that also had several negativities on employees' psychology. This reorganization has been more challenging for some sectors, because of their rigid structure, such as the Italian Public Administration. For this reason, it has been chosen as context of analysis. Motivated by these considerations, the purpose of this research is analysing the effects of remote working on employees' psychological wellbeing in the Italian public administration. Using a combination of qualitative -literature review- and quantitative investigations – statistical analyses based on a survey-, this thesis has been able to answer to the research question, finding that remote working has a positive impact on employees' psychological wellbeing. A point of analysis is the positive relationship between work-life balance and work engagement, since most of the scholars focused on the effects this outcome has on work-life balance but not the opposite. Moreover, the overall model represents a newness because the public administration sector is less analysed than the private one and the pandemic was born in the last years. The implementation of remote working also has practical implications, leading to a new public administration, more attractive, with younger workforce and a higher use of digital tools. The adoption of this flexible practice can be a steppingstone for the introduction of smart working. Moreover, it leads to the fulfilment of some sustainable goals of the *Agenda 2030*, such as the increment of innovation, growing economy, and the reduction of inequalities.

Keywords: remote working, Public Administration, Autonomy, Time flexibility, Work-life balance, Psychological wellbeing, Job satisfaction, Work engagement, COVID-19

SOMMARIO

I cambiamenti della forza lavoro, la crescita economica e il processo di digitalizzazione hanno causato uno spostamento verso l'uso di compensazioni non monetarie, come la flessibilità, per attrarre e trattenere i talenti. Una delle pratiche di flessibilità più adottate è stato il lavoro da remoto, favorito dalla necessità di distanziamento sociale causato dalla diffusione del morbo SarsCov2, che ha anche avuto diversi effetti negativi anche sulla salute psicologica dei dipendenti. Questa implementazione è stata più impegnativa per alcune organizzazioni, a causa della loro struttura rigida, come la Pubblica Amministrazione italiana. Per questo motivo, è stata scelta come contesto di analisi. Lo scopo di questa ricerca è quindi analizzare gli effetti che il lavoro da remoto ha sul benessere psicologico dei dipendenti nella pubblica amministrazione italiana. Utilizzando una combinazione di analisi qualitative - revisione della letteratura - e quantitative - analisi statistiche basate su un questionario -, questa tesi ha potuto rispondere alla domanda di ricerca, dimostrando che il lavoro a distanza ha un impatto positivo sul benessere psicologico dei dipendenti. Un importante contributo è dato dalla relazione positiva tra il work-life balance e il work engagement, dato che la maggior parte degli studiosi si è concentrata sugli effetti che questo risultato ha sul work-life balance ma non il contrario. Inoltre, il modello complessivo rappresenta una novità perché il settore della pubblica amministrazione è meno analizzato di quello privato e la pandemia è nata negli ultimi anni. L'implementazione del lavoro a distanza ha anche implicazioni pratiche, portando ad una pubblica amministrazione nuova, più attraente, con una forza lavoro più giovane e un maggiore uso di strumenti digitali. L'adozione di questo tipo di flessibilità può essere un trampolino di lancio per l'introduzione dello smart working. Inoltre, il lavoro da remoto porta al raggiungimento di alcuni obiettivi sostenibili dell'Agenda 2030, come l'aumento dell'innovazione, la crescita economica e la riduzione delle disuguaglianze.

EXECUTIVE SUMMARY

The last years have been signed by an element that changed the way of living and, consecutively, working in Italy. COVID-19 pandemic started at the beginning of December 2019 in China and arrived in Italy at the end of February 2020. The 9th of March 2020 the Italian Prime Minister declared the first national lockdown and the population has been forced to stay at home to avoid the spread of the virus. This provoked the necessity to adapt the way of working for most of the sectors. Companies decided to put in place remote working to overcome the lockdown, where possible.

The use of flexible practices already was an ongoing employees' request, sped up by the pandemic. In fact, the changes in the labour force, the economic growth, and the digitalization process caused a shift towards more *organic* organizations, in which employees have more responsibilities and are perceived as essential for the company. Organizations started a “war of talents” to increase productivity. To acquire the best workforce of the market they must leverage on the necessities of employees and the non-monetary compensations, like flexibility.

Remote working is the type of flexible work arrangement experienced by employees during the pandemic. It indicates the discretion over the working time and space achieved through digitalization. Remote working can increase autonomy and reduce commuting time and time pressure. This construct has also a dark side since some scholars found an increment of negative feelings such as isolation and the perception of being always at work. Moreover, most of the scholars agree on considering remote working negative affecting work-life balance, because the boundaries between work and family are more blended.

The implementation of remote working during the difficult period of lockdown primarily has a psychological impact on employees. The combination of anxiety and fear caused by the pandemic and the perception of always being at work can disrupt well-being, defined as the quality of the employees' experience at work (Warr, 1987), especially on

the psychological side, resulting in “unhappy” employees. This has also consequences on organizations since wellbeing has a direct impact on employees’ productivity.

The purpose of this research is, therefore, analysing the effects of remote working on employees’ psychological wellbeing in the Italian Public Administration, to understand if the relationship is positive or negative.

This specific environment of the public administration has been taken into consideration because the introduction of remote working implies a challenge for the organization. In fact, the Italian public administration is based on the Napoleon bureaucracy, with a rigid hierarchical structure. In this context, flexibility and autonomy are at their minimum. Some measures have been introduced to make the public administration less rigid. For example, the European Union introduced the eGovernment Action Plan to implement best practices and *Agenda 2030*, the sustainable plan for a growth based on the SDGs, the goals aiming at increasing environmental, social, and economic sustainability. In 2017, *direttiva Madia* set the basis to the implementation of remote and smart working with the purpose of increasing work-life balance.

To acquire the information needed, a literature review has been conducted. This passage has been vital to understand the context and the elements that characterize the research question. This is the starting point of the qualitative section of this thesis. The research has been conducted majorly on Scopus, using research keys. The papers have been then catalogued and carefully analysed.

First, the research question has been decomposed to find which constructs add to the model.

Remote working is defined as working from anywhere at any time (Kurland and Bailey, 1999). This definition directly encloses the concepts of time and spatial flexibility. Flexibility is defined as “*the discretion over where and when work is completed*” (Allen et al., 2013, pp.349), indicating respectively spatial and temporal flexibility. This definition introduces the concept of “discretion”, the freedom of choice, autonomy. It is then possible to add autonomy as element of remote working since employees must have autonomy to experience flexibility. Spatial flexibility has been excluded from the analysis

since employees were forced at home because of the lockdown, therefore they did not have the possibility to experience this construct. In conclusion, in this thesis remote working has been considered as the combination of temporal flexibility and autonomy.

The benefits of flexibility and autonomy for employees are majorly due to the possibility of balance personal and professional lives. In fact, thanks to the increment of work-life balance caused by these two constructs, employees can experience job satisfaction and work engagement.

Due to this consideration, the effects of remote working on psychological wellbeing are mediated by work-life balance. Work-life balance is the combination of the satisfaction maximization and the minimization of the conflicts that may arise managing different life spheres. Employees able to balance their lives perceive themselves as more stable, fulfilled, and gratified. Overall, work-life balance is able to increase work-related outcomes, such as job satisfaction, nonwork-related outcomes, such as family satisfaction, and to reduce stress-related outcomes, like exhaustion. Who experience work-life balance is satisfied by life, increasing their performances in all the areas of their life.

Psychological wellbeing is composed by two elements. The first is *hedonic* and indicates the subjective experience of pleasure. The latter is the *eudaimonic* and defines employees' fulfilment and realizations. These two components are represented, respectively, by job satisfaction and work engagement. Now on, the constructs will be considered as the representation of psychological wellbeing and will constitute the outcomes of the research. The concepts of work engagement and job satisfaction are mutually influenced by each other. This means that employees that experience work engagement are likely to experience job satisfaction and vice-versa.

Work engagement and job satisfaction, through flexibility and autonomy, have impacts on organizations' health. Thanks to the ability of better managing time and resources, employees are more satisfied and engaged at work. Companies experience an increment of profitability because employees are able to work better, with higher levels of effectiveness and efficiency. This reduces the risk of having employees that start working

late, with low effort and develop an antisocial behaviour. Moreover, companies become more attractive since they have seen as supportive of employees' personal needs.

After the description of the constructs of the model, it is possible to have a look on the relationships between the variables. The majority of them have been widely studied in the private area but constitute an element of novelty in the public sector. The research aims at filling the gaps found identifying, for example, the perception of work engagement and job satisfaction in the public administration. The relationship between work-life balance and work engagement, instead, has not been studied neither in the private sector. This is one of the main contributions that this thesis gives.

The relationships proposed represent the hypotheses of the model, summarized in the table below with the reasoning that brought to the formulation of the hypothesis.

HYPOTHESIS	FINDINGS
<i>H1: time flexibility positively affects work-life balance</i>	Work-life balance is one of the major outcomes of time flexibility. Employees can better manage time allocation and reduce conflicts. It might create a bend of boundaries, reducing work-life balance. Some scholars consider this relationship only indirect, mediated by autonomy.
<i>H2: autonomy positively affects work-life balance</i>	Autonomy is the main antecedent of work-life balance. Employees have the freedom to organize their work, giving them the possibility to efficiently manage their work and non-work life.
<i>H3: work-life balance positively affects the job satisfaction</i>	Trough work life balance, companies are seen as supportive and family friendly, increasing employees' satisfaction. Work life balance must be pursued to avoid that work-to-family reduces job satisfaction.

<p><i>H4: Work-life balance positively affects work engagement.</i></p>	<p>Scholars consider work engagement affecting work-life balance but not the opposite. This hypothesis arises from an Aristotelian syllogism: “WLB and JS are positively related” (H3), “JS and WE are positively related” (as explained before) then “WLB and WE are positively related”.</p>
--	--

Table 1: The hypotheses of the model and related findings

The first two hypotheses represent the inner hypothesis of positive relationship between remote working and work-life balance. This point is another contribution apported by this thesis since differs from the negative relationship proposed by most of scholars, as explained before.

The other two hypotheses indicate the effects of work-life balance on psychological wellbeing, both in its hedonic and eudaimonic terms. The effects of work-life balance on psychological wellbeing are little-studied and constitute another gap that this thesis fulfil. Since work-life balance has life satisfaction as ultimate outcome and life satisfaction encloses the concept of happiness- that is psychological wellbeing- it is possible to consider the hypothesis of positive relationship supported by the literature.

Some control variables have been added to the model to understand if the constructs have an external influence besides the relationships proposed.

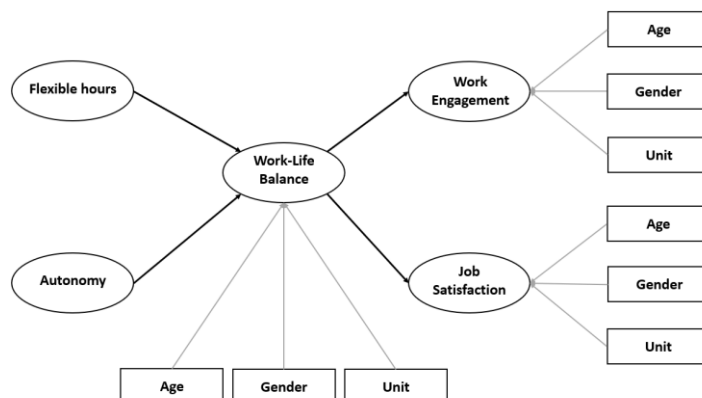


Figure 1: The model

Building the model has been the starting point of the quantitative section of this research. The hypotheses proposed have been tested according to statistical analyses performed using the software STATA14. The numerical information needed have been taken proposing a survey to a data sample composed by employees of the National Firefighters' Brigade. The main purpose of the association is the public rescue and the fire prevention and extinction.

The survey gave two main information: the generalities of the respondents, such age and gender, and the answers to the items constituting the constructs. Since the purpose of this research is analysing the effects of remote working, only employees that had the chance to experience it have been included in the final sample. This kind of employees are associable to standard office workers of the Public Administration. The big size of the sample -1550 respondents after the skimming- gives solidity to the statistical results.

All the items are based on 1-5 Likert scale and, for this reason, the results are comparable.

The questions related to the constructs have been selected and analysed according to certificate scales, to give a theoretical consistency. This validation makes the results more reliable since the items are attributed by the literature to the specific constructs that are under analysis. The table below indicates the number of items of each construct and the scale associated.

CONSTRUCT	N° OF ITEMS	SCALE
FH	3	Work culture scale (Campbell Clark, 2001),
JA	3	Work design questionnaire (Morgeson and Humphrey, 2006)
WLB	4	<i>satisfaction with Work-life-balance and work interference with personal life scales</i> (Banu and Duraipandian, 2014)
JS	4	Michigan organizational assessment Package (Berg et al., 1975)
WE	3	Utrecht Work Engagement scale (Schaufeli et al., 2002).

Table 2: The constructs' composition and referred scales

The constructs have been evaluated with some statistical instruments. The Cronbach's Alpha analyses the statistical reliability of the construct. The structural equation modeling (SEM) tests the hypotheses based on the relationships of the model with the Path analysis, and the fitting of the model with the Confirmatory factor analysis. Moreover, some descriptive statistics have been added to the analysis to have a better look on the generalities of the respondents. This allowed us to interpret the numbers depending on the characteristics of the respondents.

The level of Cronbach's Alphas and the SEM led to the acceptance of the model and the items that constitute the constructs. In addition, the mean values of the constructs show that all of them are over the sufficiency level (3), demonstrating that employees experience all the constructs proposed.

The confirmatory analysis shows that, overall, the constructs represent the reality, even if the values of job autonomy and job satisfaction might be improved.

In addition, some fit indices have been included, to understand if the model fits with the data or not. The indices are in the range of acceptance, leading to the conclusion that the model is a good representation of the reality. Despite this, the results are not totally optimal, showing that there is room for improvement.

The p-value indicates whether it is possible to accept the relationship or not. It is the indicator of the null hypothesis – that express no relationship between the variables. If this value is low enough to refuse the null hypothesis, the relationship is confirmed.

The path coefficient represents the correlation between the independent variable – the one that is manipulated to identify the effects it has on another variable- and the dependent variable – the one whose variations are studied. The sign of this value indicates if the relationship is positive or negative.

The acceptance of the hypothesis followed a two-steps approach. The p-value has been used to confirm the relationships while the path coefficient indicates the positivity of the relationships. Since the p-values are all 0 and the path coefficient is positive in each relationship, all the hypotheses are confirmed.

The results show that time flexibility and autonomy have a positive impact on work-life balance also in the public sector. In particular, the relationship between work-life balance and autonomy is the strongest among the antecedents, as suggested by the value of the path coefficient. This result is in line with the findings in the private sector, since many scholars consider work-life balance a direct consequence of autonomy. Time flexibility has an impact slightly lower than autonomy. Despite this, the direct relationship is confirmed, contrasting with the idea that flexibility influences work-life balance only through autonomy. It is important to underline that temporal flexibility is the construct with the lowest mean value and the highest standard deviation, indicating that employees had some difficulties in experiencing the flexibility expected. Therefore, this may have twisted the final result, giving autonomy a higher impact on work-life balance than flexibility.

Overall, work-life balance is positively influenced by remote working. This finding is contrasting with most of the scholars, that highlighted the negative impact it has on balance. Employees did not experience an increment of work-family conflict, as it is possible to see from the high mean value of the item that indicates this feeling (WLB3).

It is also true that work-life balance has an impact on psychological wellbeing, both in terms of job satisfaction and work engagement.

The relationship between job satisfaction and work-life balance in the public sector is in line with the findings on the private one.

Due to its newness, one of the main contributions is given by the verification of the hypothesized relationship between work-life balance and work engagement. The hypothesis is strong since it has the highest value of path coefficient. The only negativity encountered is on the item of work engagement representing vigor. This might be a symptom of burnout, probably caused by the pandemic.

Overall work-life balance has been able to contrast and overcome the negative psychological implication of the pandemic - such as fear, anxiety, loneliness – bringing a positive contribute to employees' psychological wellbeing.

In conclusion, the findings are consistent with prior research done in the private sector but, in addition, they give further contributions to the literature, analysing the constructs in the context of the public administration. The implementation of remote working in this field is not well-studied, mainly due to the newness of the topic. Moreover, it represents a challenge since this practice is in contrast with the rigid and hierarchical structure of the public administration.

The results show that public administration employees perceived a good level of remote working since the mean value of the antecedents are over the sufficiency level. Moreover, they also took advantage of the implications of this practice, as suggested by the high mean values of the outcomes and the mediator. Flexibility and autonomy increase the perception of being valuable and reduce red tape, increasing, overall, employees' psychological wellbeing also in the public administration.

In light of all the consideration done it is possible to state that the research question has been verified: remote working has a positive impact on psychological well-being. The initial hypothesis of negative relationship is then denied, proving that remote working's positive implications are higher than the strain caused during the pandemic.

Even if this relationship is not studied, it is possible to extrapolate some supportive considerations from the literature. The Job Demand Resource model indicates flexibility and autonomy as two key resources able to contrast the strain caused by job demands, increasing employees' psychological wellbeing. Moreover, autonomy is recognized as essential need in the Self Determination theory, able to influence both the hedonic and the heudaimonic meanings of psychological wellbeing.

The relationship is then confirmed also by the literature, even if indirectly. This element is another point of newness since it solves the biggest gap encountered, indicating some possible psychological effects of the pandemic and also a key to solve them.

This research has some practical implications too. The analysis of the descriptive statistics highlighted some negativities experienced by the youngest workforce, probably because of the inconsistencies between their expectations and the old-style management typical of the public administration.

The implementation of flexible practices will lead to a change of the public administration structure. Other than increasing their productivity, the organization will be seen as more effective, efficient, and dynamic. The care of the non-monetary compensations will attract new young talent, reducing the average age of workers of the organization, that nowadays is an “old PA”, compared with other Countries. The increment of young workforce will have a positive impact also in the implementation of new digital practices since they are more used to digital tools.

The contribution is given also in terms of useful leverages to thwart phenomena that might lead to negative consequences, like the pandemic. In fact, the high value of work life balance indicates that the positive feelings provoked by the balance between work and non-work life have been able to overcome the negativities caused by the pandemic.

This test on remote working might be seen as a starting gate for the introduction of real smart working practices, not experienced during the pandemic because of the absence of some leverages, such as spatial flexibility, physical layout, and – most important – a change of leadership style.

Lastly, it leads to the fulfilment of some SDGs of the *sustainability Agenda 2030*, reducing inequalities, fostering economic growth and the innovation.

This research has some limits, mainly derived from endogenous and exogenous factors. The analysis of the model during COVID-19 pandemic might have twisted some results, and the pre-constructed survey reduced the possibility to analyse some elements, such as the managerial style adopted.

The limits of the thesis arise other important questions to be analysed in further research, such as the leadership style adopted by PA managers or if employees experienced low levels of vigor due to the pandemic or other factors. Moreover, the organizations point of view might be adopted, analysing more in deep the monetary and non-monetary effects remote working has.

1 INTRODUCTION

During the last decades employees increasingly asked for tailored working conditions, distant from standardized duration-location and hierarchical corporations (Beers, 2000). This change is mainly requested to better fit their personal necessities, balancing work and private life (Rousseau et al., 2006). The necessity of new working conditions is caused by, for example, an increment of women in the labour force, dual-earner families, increment in employees' education or seeking of personal interests (Cahill et al., 2014). These kinds of employees have significant responsibilities both at work and with private life (Campbell Clark, 2001) and require a job that can give them a balance in their lives.

This necessity shown by employees is fulfilled with the implementation of flexible work arrangement practices, incrementing autonomy, satisfaction, and sense of belonging.

Moreover, from the company point of view, continuing in keeping the classic working conditions is reducing productivity and innovation and it is promoting undesirable behaviours (Digital Leaders 2014), increasing employees' disengagement and dissatisfaction. The trend of shifting from a mechanic into an organic vision of the companies¹ is lifting up the figure of professional employees, with unique capabilities and knowledge. The "war for talent" has become a key challenge for organizations (Pfeffer, 2001). For this reason, organizations decided to improve their attraction (Lievens et al., 2001), giving "the envisioned benefits that a potential employee sees in working for a specific organization" (Berthon et al., 2005, p. 156). A company that takes care of the needs of its employees is more able to attract high-level workers, that increases the profitability and creates a competitive advantage for the company itself. In fact, possible future employees do not only consider the monetary compensation, but also other non-monetary factors, such as work conditions and a balance between work and private life (Boswell et al., 2003).

¹ In the organic company employees are perceived as an active part of the organization, an organ, not just a mere gear of the company-machine like in the case of the mechanic view.

For these reasons, companies have incentives in satisfying what demanded by employees. Organizations are becoming leaner and more agile with less hierarchical structure, less authoritative, and continually reorganizing (Lee, 2016).

Nowadays, this shift towards new work conditions and flexible practices have been possible primarily thanks to the rise of digitalization.

Digitalization is the usage of digital technologies to innovate a business model, providing new opportunities (Parida et al., 2019).

The adoption of digital technologies to follow the changing environment is leading to radical changes in the business (Lyytinen and Rose, 2003). For example, ICT availability is changing work and employment. It allows employees to choose where and when to work, as well as how to work, giving the possibility to exploit flexibility and autonomy (Lee, 2016). Moreover, new patterns of communication are emerging, and hierarchical structures are being reduced (Burke and Cooper, 2006).

Information and communication technologies change the nature of work, allowing a wide range of possibilities to move away from the strict and preconstructed work standards (such as work 5 days a week, 8 hours per day) and move towards a flexible and employee-oriented environment.

The processes have been innovated, employees have been empowered, knowledge shared, and the management has become more human-centred (Lee, 2016).

Human centricity and the shift toward flexible practices have been fostered by the arising awareness on the sustainability issue. Sustainability is often associated with the environment, as impact of society on the planet and possible solutions. Nevertheless, sustainability can be divided in three main pillars: environment, social and economic. Environmental and economic are related to the usage and consumption of resources, in an ecologic way for the former, and controlled and efficient way for the latter, to ensure an operational profit that sustain the company in the long run. Social sustainability, instead, refers to social wellbeing, overcoming barriers and transforming the society in

human-centred. This last type of sustainability is the one more in line with the trends analysed before and helps in achieving the cultural shift caused by the changing environment. The focus on sustainability is important not only for the creation of a new idea of working in people's mindsets, but also because institutions have been directly involved, introducing plans and laws on sustainability. For example, the European Union has drawn up a sustainable development plan (Agenda 2030), based on Sustainable Goals (SDGs)². The three pillars are taken into account, giving to each EU Nation the achievement of these goal as objective for 2030. The social goals related to this change in the work environment are, for example, gender equality and decent work conditions, ensuring the good balance between the work and non-work life.

In conclusion, the requests of new work practices have been satisfied thanks to the joint influence of different trends, such as the increment of consciousness of human centricity and the social sustainability.

These two trends have been supported by the technological innovation, that offers a solution to adopt the new practices. Thanks to these trends, employees' well-being has been central for organizations.

This shift towards human centred practices has been facilitated and fostered by a new global challenge, the COVID-19 pandemic. The adoption of containment measures drastically modified the lives of all. Organization has been forced to change the way of working and introduce some flexible practices, such as homeworking. It has not been possible to implement all the flexible practices available, like spatial flexibility since people were forced to stay at home.

For this reason, an explanation of this phenomenon will be provided to better understand the environment of analysis. After a general overview of the topic, the economic and

² The SDG are 17 goals, to be fulfilled within 2030. In detail, they are: No Poverty, Zero Hunger, Good Health and Well-being, Quality Education, Gender Equality, Clean Water and Sanitation, Affordable and Clean Energy, Decent Work and Economic Growth, Industry, Innovation and Infrastructure, Reduced Inequality, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water, Life on Land, Peace and Justice Strong Institutions, Partnerships to achieve the Goal

psychological effects of COVID-19 pandemic on people will be analysed since they affect employees' well-being.

1.1 COVID-19 PANDEMIC

The severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) is one of the most severe worldwide pandemics in recent history.

Covid started at the beginning of December 2019 in China, and rapidly spread all over the world.

Italy has been one of the most affected countries in Europe -4,26 mln (Dong et al., 2020)- and the second for number of deaths -127.000 (Onder et al., 2020).

At the beginning of March 2020, the World Health Organization (WHO) officially declared the COVID-19 outbreak a pandemic. All the Governments have progressively adopted restrictive measures. The 9th of March 2020, the Italian Prime minister Giuseppe Conte announced the beginning of a national lockdown in Italy to contrast the advancement of the virus. During the period of lockdown, the population has not been allowed to go outside without a necessity. Most of the companies have been forced to set home-working practices to respect the lockdown. Privates have been forced to stay at home, the use of the mask has become mandatory, and all the non-essential businesses have been suspended in the entire Nation, including schools.

1.1.1 Economic effects

Pandemics have severe economic consequences. COVID-19, for example, caused a global economic contraction of 5% in 2020 (International Monetary Fund, 2020).

Carlsson-Szlezak et al. (2020a), Carlsson-Szlezak et al. (2020b) and Jonas (2013) identified three main impacts. The first is the direct impact, consisting in hospitalization, medical costs, and sanitization measures. The second one is the indirect impact, related to the supply chain. The indirect cost is related with loss of labour and production as major effect, but also to the disruption of services as cascading effect. Pandemics led to prolonged periods of lay-offs and rose unemployment. The third one is the avoidance

reaction, which is the reduced consumption of goods and services. During the pandemic there has been a reduction of consumption that can become a change in the citizens' habits, keeping the consumption low even after the pandemic.

Some measures have been taken by the Italian government as economic support. One of the most important is "*cura Italia*" with, for example, payroll subsidies, financial aid, and freezing of mortgages (Bassan et al., 2021).

1.1.2 Psychological effects

Italy has been one of the first countries starting the fight against the pandemic. The restrictions taken were based on previous knowledge but with a certain degree of uncertainty of results. During the first tide, hospitals were saturated since the number of hospital patient requiring incubation was higher than the number of machineries available (Tundo, 2020). This caused anxiety, a sense of unprotection and the fear of losing the loved ones, especially the elderly, the most vulnerable. One of the most important symbols of the scars that the pandemic will leave in Italians' mind is the parade of military vehicles moving the coffins from the Bergamo cemetery since there were no space left there (Bassan et al., 2021).

The pandemic is not finished yet. This means that it is very difficult to have a clear vision of the psychological diseases that it is causing. People may experience an increased sense of efficacy, adapting to the situational needs and remaining effective in their work and families (Marjanovic et al., 2007). However, others may experience adverse mental states, worsening pre-existing psychopathology or developing psychiatric symptoms, especially depression, anxiety, post-traumatic stress disorder (PTSD) and suicidal ideation (Marjanovic et al., 2007), fostered by the economic- state uncertainty and the fear of be infected or lose the loved ones.

To have a more detailed information, it is possible to analyse the psychological effects on people starting from the past pandemics. For example, the SARS outbreak in 2003 reported an increment of anger, emotional exhaustion, low mood, and irritability. In these conditions, people may report fear, nervousness, sadness, guilt, frustration, and boredom due to confinement, loss of usual routine (Marjanovic et al., 2007).

Despite the considerations that it is possible to take from the evidence of the past, very few research indagate the effects of COVID-19 pandemic on the psychology of employees (Castellini et al., 2021).

1.2 PURPOSE AND ARTICULATION OF THE RESEARCH

This research aims at understanding the effects of remote working on employees' psychological wellbeing during the difficult period of COVID-19 pandemic in the context of public administration. In fact, during this period, negative feelings and fear can disrupt their well-being in both private and professional employees' lives, reducing satisfaction, engagement and, then productivity for companies. Giving employees time flexibility and autonomy might be a possible solution to mitigate the negative effects and foster the positive ones. In this way, the balance between the different life spheres can be re-established and employees can find stronger incentives to have positive feelings towards their job.

In order to answer to this research question, different steps will be performed.

First, a literature review will be conducted to understand the theoretical background. The conceptual evolution of each variable will be investigated, and the related effects on employees and organizations will be analysed.

After the definition of the theoretical background, the focus will be put on the context: remote working in public administration. Public Administration works differently from a private company since the primary purpose is not to maximize profit. Moreover, it is affected by over bureaucracy, strong hierarchies, and low employee-orientation. After the analysis of the sector, remote working practices will be introduced, with a focus on the effects it has on employees and organizations.

The second chapter concerns the explanation of the model created to answer to the research question, with the definition of the main elements that compose the model, the relationships, and the control variables. In this chapter the hypotheses and other general gaps found will be presented.

The third chapter is the starting point of the empirical section of this thesis. In fact, the method used to perform the quantitative analysis will be described in this section. The analyses will be performed using STATA14. In detail, the explanation of the referring sample, the survey and the classification, and the type of statistical analysis done on the survey will be introduced.

After the definition of the model and the methods used, the results have been presented in the chapter four, including the descriptive analysis, the validation of the hypotheses, the control variables and the model as a whole.

The results have then been discussed in the fifth chapter, comparing the findings of the literature with the empirical evidence obtained from the statistical analysis performed on the survey. In particular, the theoretical contribution that this research provide will be presented as well as the practical implications of the research question. This chapter also includes the limits of this thesis and a cue for future analyses related to the topic.

The last chapter concern the conclusion of the thesis, with a summary of the steps performed to solve the research question. The main contributions will be highlighted.

2 THEORETICAL BACKGROUND

In this chapter an analysis of the theoretical background is conducted, with a focus on the variables of examen and the referring context.

It represents the first explanation of model. In particular, remote working is defined in the meanings of time flexibility and autonomy, while psychological wellbeing is articulated in work engagement and job satisfaction.

The literature has been reviewed following a procedure, as presented in the paragraph below.

2.1 METHODOLOGY

The literature review has been carried out in order to deeply understand the effects of remote working on public administration employees' wellbeing in the Italian public administration during the pandemic. An analysis of the constructs of the model has been executed (see 2.2 The constructs), with a focus on the definitions provided and the effects that each construct has on employees and organizations. The analysis of the context has been fundamental, since it is a peculiar and new field of study.

Moreover, the constructs have been compared to each other in order to find the most relevant relationships for the model (see section 3.3 Hypotheses). In this way it has been possible to highlight the effects of the combination and some eventual lacks in the literature.

This review has been performed analysing books and scientific papers. The research of the documents has been mainly conducted on Scopus and partially on ResearchGate and Google Scholar, depending on the availability of the paper of interest. Additional papers have been selected directly from other papers' bibliography, when the authors cited other papers as cornerstone of literature in some topics.

Generic knowledge, such as the Italian history or the theory related to the statistical analyses, has been researched also on encyclopaedias, books and online articles.

First, the definition of the variables and the context has been performed. After this step, the relationship between the variables has been explained, to give a theoretical validity and find some gaps in the literature.

To perform the first part of analysis, the papers have been found with the use of keywords such as “work-life balance”, “job satisfaction”, “flexible work arrangement”, “autonomy”, “work engagement”.

After this analysis, articles related to the context have been searched using words such as “public administration” and “public sector”. For what concern remote working, the number of keywords is higher, since the concept has different and equivalent names (see 2.3.2 Remote working), such as “remote working”, “teleworking”, “telecommuting”, “home working”. A small analysis on smart working has been carried out to explain why this leverage has not been used for the analysis.

Moreover, the section related to the relationships has been developed searching for a combination of keywords, such as “work engagement AND work-life balance”.

The approach during the analysis has been always the same. The general research has been executed in order to have a first look on the variables and on the macro elements of the thesis. After this phase, a specific analysis has been performed, to find reliable articles. Then, the articles have been selected depending on the abstract proposed. A bookshelf of articles has been created, ordered in an excel file with title, authors, publication year, abstract and important elements arisen during the lecture. The important information have been taken from the articles, quoted directly and indirectly and reported in the bibliography chapter.

2.2 THE CONSTRUCTS

A literature review has been conducted in order to build the necessary body of knowledge to better understand the phenomenon studied. In this part, all the constructs that will be empirical tested are analysed.

After the definition of the practices given by organizations, their effects on employees and companies are analysed. Work-life balance is one of the biggest benefits that workers

experience, connected to work engagement and job satisfaction as ulterior positive consequences.

It is important to underline that the implications that the construct has on employees have a reflection on companies and vice-versa. For example, the implementation of autonomy and flexible practices is positive for employees because they feel part of the company and recognized as specialists. This sense of empowerment and attachment is translated in improved performances, that is beneficial for the company (Chen and Fulmer, 2018).

2.2.1 Antecedents

Remote working is the most experienced flexible practice of the last years. The pandemic forced companies to adopt abrupt decisions to keep working despite the lockdown.

Remote working is defined as working from anywhere at any time (Kurland and Bailey, 1999). This directly implies the concepts of spatial and temporal flexibility. It is possible to add another hidden element to the definition because flexibility is allowed by the freedom in choosing when or where to work, in other words the autonomy of choice.

Spatial flexibility has been excluded by the analysis since the lockdown forced most of employees to homeworking, cancelling this type of flexibility.

For this reason, the focus has been directed only on autonomy and time flexibility, that have been the remote working practices most applied during COVID-19 pandemic. These two variables are allowed thanks to the use of digital platforms, providing the possibility to perform a wide variety of tasks online. Digital platforms, such as Teams, Zoom, etc., enhance the sense of flexibility and autonomy enabling to work from anywhere and at any time (Rani and Furrer, 2020).

Further research on remote working has been conducted in the section 2.3.2 Remote working.

2.2.1.1 Temporal flexibility

The raising of information and communication technologies (Rani and Furrer, 2020), the increasing attention on employees' wellbeing (Montano, Hoven, and Siegrist, 2014), the

necessity of a fast adaptation of a changing environment and dramatic changes in workforce demographics (Chen and Fulmer, 2018) have contributed to the raising of *flexible practices*.

In literature, the concept of flexibility is a macro element composed by different aspects and it is known as *Flexible Work Arrangements*. Flexible work arrangements refer to “*work options that permit flexibility in terms of where work is completed (often referred to as telecommuting or flexplace) and/or when work is completed (often referred to as flextime or scheduling flexibility)*” (Allen et al., 2013, pp.345). “Where” and “when” indicate respectively time flexibility and space flexibility. From the definition given by Allen et al. (2013), the connection with teleworking, considered a flexible practice, appears clear.

One of the major benefits of flexibility is an increment of work-life balance, since FWA enables employees to decide how and where to allocate time, attention, and energy resources, reducing the strain of balancing the different life roles (Allen et al., 2013). Moreover, Scandura and Lankau (1997, pp. 379) consider flexibility as “*psychological contract between employer and employee*”. When companies offer flexible practices, employees feel the need to respond by offering, in return, higher commitment, loyalty, and job performance.

There are also individual benefits from the introduction of FWA practices, such as improved employees’ health and well-being. This influences work-life balance, job satisfaction and work engagement because the positive attitude is spread in all the social role of the individual (Rudolph and Baltes, 2016).

Space flexibility allows employees “*to perform tasks at places other than their primary workplace during their normal work schedule.*” (Chen and Fulmer, 2018, pp.384). This means have “*discretion over [...] where work is completed*”, according to the necessities (Allen et al., 2013, pp.349).

However, during the COVID-19 pandemic individuals could not have chosen where to work because forced to stay at home. Thus, it is not possible to analyse the space flexibility of workers during the pandemic. In light of this restriction, a further limitation

in the concept of flexibility must be made, not considering the whole set of flexible option given, but focusing only on flexible hours.

Working time, which for many decades was kept under control by regulation, is becoming very heterogeneous (Seifert, 2001).

Introduced in the 1960s, “*flexible working hours*” means that employees have the “*discretion over when [...] work is completed, enabling employees to determine the best way to allocate time, attention, and energy resources*” (Allen et al., 2013, pp.349).

The term flexible working hours includes a series of sub-concepts, such as schedule flexibility, flextime, telecommuting, and shift work (Michel et al., 2011), depending on where the control is. For example, flextime provides the freedom to manage working hours in relation to the personal needs of employees (Baltes et al., 1999). Schedule flexibility, instead, is more based on day-off and working days. In other words, flextime refers to the management of the own time during the week, whereas schedule flexibility refers to schedule of the working week.

Effects on employees and companies

Flexible working hours allow employees to vary the time of start and finish during the day and choose when doing overtime and when having a day off. Both companies and employees can benefit from this practice.

Companies have the possibility of saving money and increasing profitability -an employee that works better is more efficient and effective-. For example, this flexibility reduces overtime bonuses and the costs of recruiting and training temporary workers (Burdin and Pérotin, 2019). Offering temporal flexibility may signal that the organization is supportive of employees’ personal needs (Casper & Buffardi, 2004). This creates more attractiveness and increases employees’ well-being. In fact, organizations that provide temporal flexibility result more attractive than organization that does not (Schmoll and Süß, 2019). Summarizing, such practices are important for organizations since attract, motivate, and retain key talent (Hill et al., 2008).

Moreover, workers able to decide when to work are more likely to choose only productive hours. In this way to job will not be affected by malaise or non-work-related distress, helping in minimizing lost working hours, reducing sick leave and absenteeism (Perlow, 1997) and limits human error arising from overwork (Gonsalves, 2020). This generates benefits for both, employees and companies, enhancing the level of job satisfaction and the performances of the employees.

From the employee's perspective, flexible working-time arrangements increase job security (Kossek et al., 2006). Moreover, flextime policies are likely to provide employees a higher sense of control (Kossek et al., 2006). This promotes a better work-life balance by allowing employees to vary their working times according to personal needs (Seifert, 2001). Time flexibility also increases work engagement, productivity (Baltes et al., 1999), job satisfaction and organizational commitment by fostering work-life balance and helping the worker to feel more autonomous and valued (MacEachen et al., 2008).

Even if it is true that FWAs have a positive impact on work-life balance, it is necessary to isolate the various components, to better estimates this relationship. Allen et al., (2013) highlighted that temporal flexibility is most strongly related to the achievement of work-life balance than other types of flexibilities (Allen et al., 2013). In fact, flexible working hours permit employees to adjust their schedule to better manage their other spheres of interest, to reduce time spent commuting to and from the workplace, and to increase personal productivity. (Allen et al., 2013). Nevertheless, some scholars do not consider this kind of flexibility as a direct mean to achieve work-life balance but more an indirect one. For them, employees' work life balance is achieved thanks to the autonomy derived from the ability to choose when to work, does not lie in the time flexibility itself. Moreover, the relationship between temporal flexibility and work/family balance is moderated by additional work and family characteristics that determine when flexibility is functional. (Campbell Clark, 2001; Bohlen and Viveros-Long, 1981).

The concept of time flexibility may also lead to negative consequences, such as an intensification and extensification of work, caused by a fear of appearing not committed,

or the willingness to demonstrate more presence (Perlow 1997). This contributes to increase stress and reduce job satisfaction (Burchell, 2006), negatively effecting security and health (MacEachen et al., 2008).

2.2.1.2 Autonomy

Autonomy is one of the five core job characteristics -skill variety, task identity, task significance, autonomy, and feedback- (Job characteristic model; Hackman and Oldham, 2007³), a form of work enrichment (Hackman & Oldham, 1975).

It is characterized by the two following aspects:

- The level of autonomy that workers use to control the conditions of their own work, also called *Operational Flexibility* (Sue Campbell Clark, 2001). This includes having the autonomy to decide how the work is to be done without unnecessary monitoring or restrictions (Bailyn, 1997).
- The level of autonomy that the company provides to the worker. *Autonomy Availability* refers to “*the degree to which the job provides substantial freedom, independence, and discretion to the employee in scheduling the work and in determining the procedures to be used in carrying it out*” (Hackman and Oldham 1975, pp. 162).

In this research, the latter is taken into consideration as definition of autonomy, because it is more in line with the purpose of this study which aims at investigating the effects of flexibility and autonomy given by the companies.

³The five core characteristics of the Job characteristic model developed by Hackman and Oldham (1976) are: skill variety, task identity, task significance, autonomy, and feedback. The model provides indications on keep and increase employees' motivation and engagement at work.

Effects on employees and companies

Autonomy has been recognized as one of the basic human needs and an important driver of intrinsic motivation and well-being (Ryan & Deci, 2000).

It plays a fundamental role on the individual scale with perception of importance, sense of belonging and personal satisfaction of the worker. “*As a core job characteristic, autonomy causes individuals to feel responsible for achievements and failures. If followers have a high level of autonomy, they tend to believe that job outcomes are a result of their personal efforts, not the leader’s instructions or adherence to standardized rules. In this regard, autonomy provides followers with more satisfaction and motivation as they seek to develop as individuals.*” (Gözükara & Şimsek, 2016, pp.74).

The term autonomy, thus, encloses a wide range of concepts, such as freedom and independence, sense of belonging and importance. These are important highlighters of a cultural shift from a *mechanic* (Baase, 1997) into a more *organic* point of view, empowering the *job enrichment* and *enlargement* (see 1. Introduction).

With greater autonomy, individuals are better able to conduct work activities according to their own preferences, which can reduce exhaustion by alleviating strain and mitigating energy depletion and thus exhaustion (Bakker and Demerouti, 2007).

In this way the professionalism is enhanced, leading the worker to feel satisfied by his job and engaged in it (May et al., 2004). Jobs with strong core job characteristics provide individuals with the incentive to bring more of themselves into their work or to be more engaged (Kahn, 1992). This is positive also for companies, since satisfaction and engagement help in increasing profitability (see 2.2.3 Outcomes).

2.2.2 Work-life balance

Work- life balance is an important area of research in *organizational behaviour, human resource management, and quality-of-life studies* (Sirgy & Lee, 2018, pp. 230). The issue

of work-life balance was earlier raised by the working women during the 1960s and 1970s in the UK (Anuradha and Pandey, 2016).

Work-life balance has a double definition, one in terms of enriching satisfaction and the other in reducing conflicts. Enrichment is defined as “*achieving satisfying experiences in all life domains, and to do so requires personal resources such as energy, time, and commitment to be well distributed across domains*” (Kirchmeyer, 2000, pp. 81). A person domain is composed by several spheres that might create conflicts if not managed properly. As stated by Clark (2000), work-life balance is “*satisfaction and good functioning at work and at home with a minimum of role conflict*” (pp. 349)

Sirgy and Lee (2018) propose an integrative conceptualization of work-life balance. The authors defined work-life balance as “*a high level of engagement in work life as well as nonwork life with minimal conflict between social roles in work and nonwork life*” (pp. 232).

The fact that this construct has a double facet leads to considering the enrichment of the maximization of engagement and the minimization of conflicts as major requisites to achieve work-life balance.

The positive effects of one domain are transferred to the others, as well as the skills and experiences, that improves role performance in other life domains. High level of engagement in work life contributes to positive personal outcomes (Sirgy and Lee, 2018). Being engaged in work life is not enough, there must be an equal engagement in nonwork life (Voydanoff, 2005), Work-life balance is achieved when people are fully committed in their various social roles in work and nonwork life (Sirgy and Lee, 2018).

On the other hand, role conflict reflects the degree to which role responsibilities in one life domain and another life domain are incompatible (Greenhaus and Beutell, 1985) and the resources are used to meet the demand of one role at the expense of another (Sirgy and Lee, 2018).

Effects on employees and organizations

Individuals with a high engagement in different life domains experience augmentation of power, prestige, resources, and emotional gratification from their multiple roles (Sieber 1974). These roles give a sense of role privileges, overall status security, resources for status enhancement, and enrichment of the personality and ego gratification (Sieber 1974). Thus, individuals highly engaged both in nonwork and work life have access to resources not otherwise available to those who are focused mostly on work life (Rozario et al. 2004).

According to Allen et al. (2000) the effects generated by this construct can be divided in three categories:

- work-related outcomes: work-life balance of employees increases job performance, job satisfaction, organizational commitment, career, development and success. It reduces job malfunction, job burnout and alienation, absenteeism, and turn over intention.
- nonwork-related outcomes: increment of employee's life satisfaction, marital satisfaction, family performance, family satisfaction, parental satisfaction, and leisure satisfaction. Reduction of poor health condition, cognitive problems, and conflicts with family members.
- stress-related outcomes: work-life conflict increases stress such as anxiety, irritability, exhaustion etc., and manifestation of illness symptoms like somatic complaints, high blood pressure and cholesterol, and alcohol abuse.

The three outcomes are interrelated: the reduction of work-life conflicts lowers the stress level, increasing both job and life satisfaction (Netemeyre et al. 1996).

The work-related outcomes have a bigger impact on organizations, increasing performances and reducing absenteeism. Stress and nonwork related outcomes, instead, impact more on the personal sphere. As stated in the introduction of the chapter, the two areas are connected. For example, if an employee experiences stress, such as anxiety or

exhaustion, they will have lower performances, that has a big repercussion on the well-being of the company. On the opposite, if the employee experience satisfaction and commitment, they will be more productive.

The ultimate outcome of work-life balance, however, can be considered life satisfaction. To understand the reasoning behind this statement, a definition is given: “*life satisfaction is determined by cumulative satisfaction experienced in important life domains such as satisfaction in work life, family life, social life, leisure life, spiritual life., community life, etc.*” (Sirgy and Lee, 2018, pp. 243). It appears clear that this concept encloses all the aspects cited before. In conclusion, the more the employee is committed and engaged across various social roles in multiple life domains, the more likely that they would experience positive behavioural outcomes such as life satisfaction (Sirgy and Lee, 2018).

Work-life balance has positive effects also for companies, majorly indirect. According to Sirgy and Lee (2018), work engagement is a fundamental requisite for achieving work-life balance. High levels of engagement make the employee successful in work and non-work goal attainment, improving performances. Poelmans et al. (2008) have shown that highly engaged employees transfer their knowledge, skills, and experience in all the domains of their lives, increasing performances.

2.2.3 Outcomes

The overall outcome of the research is constituted by employees’ psychological wellbeing.

Well-being is the quality of the employees’ experience at work (Warr, 1987) and consist of “*a person’s psychological, physical, and social functioning*” (Grant et al., 2007; pp.52).

In particular, the psychological sphere is about “*happiness*” (Grant et al., 2007; pp.52). This sphere has two main components: hedonic and eudaimonic (Ryan & Deci, 2001). The first is a subjective experience of pleasure and is represented by job satisfaction, defined as the employees’ subjective judgements about their work (Locke, 1976). The

eudaimonic area regards employees' fulfilment and realization and is expressed through work engagement, considered as feeling of purpose in employees' efforts and fulfillment (Wrzesniewski et al., 2003).

Overall, the balance between work and life gives employees the possibility to experience more power, gratification, security, and sense of fulfilment (Sieber 1974), leading to life satisfaction. According to Diener et al. (1999), life satisfaction can be described as happiness. Since this term is used to characterize also psychological wellbeing (Grant et al., 2007) it is possible to assume that work-life balance leads to psychological wellbeing too (Haider et al., 2018)

The increment of well-being is translated into positive outcomes for organizations. In fact, it fosters effort and productivity in employees, that are happier with their job (Fisher, 2003). This makes companies more appealing since workers perceive the organization as a desirable place to work in. Moreover, it has an impact on costs since employees experience a reduction of absenteeism and turnover (Spector, 1997).

2.2.3.1 Job Satisfaction

Job satisfaction is one of the main subjects in management literature. It is a cross-disciplinary concept faced by psychology, social sciences, economics, management, and health sciences.

It refers to “*how an individual feels about his or her job and various aspects of it usually in the sense of how favourable—how positive or negative—those feelings are*” (Rainey, 2009, pp. 298). According to Locke (1976), it is a self-reported emotional state, derived by how the individual needs are fulfilled by the work environment.

Satisfaction depends on several factors such as personality, the influence of society, the situation in the workplace and values, that differ from one individual to another (George and Jones, 1999). This means that something that satisfy one employee may not affect another, or even dissatisfy them. However, Johnson (2012) points out that job task characteristics -skill variety, task identity, task significance, autonomy, and feedback- are the principal source of an employee satisfaction.

Effects on employees and companies

Employee satisfaction is vital for ensuring the long-term efficiency and effectiveness of organizations in both the public and private sectors (Tomažević et al., 2014).

Job satisfaction is positively connected to organizational productivity, reducing absenteeism and turnover (Spector, 1997). A satisfied person is a more successful individual able to perform more efficiently, achieving the goals of the organization and contributing to its effectiveness (Gorenak and Pagon, 2006). In addition, employees show a better work effort, are more effective, and more to the point when companies offer benefits. The most recognized benefits are better opportunities for employees to participate in decisions, greater emphasis on higher skills, more opportunities for training, greater autonomy and a structure that gives workers inducements, such as performance-related payments (Appelbaum et al., 2000).

Job satisfaction is related to various performance indicators. Satisfied workers come to work on time, are more productive, are happier in their lives and are healthier, whereas dissatisfied workers come in late, intend to leave and develop antisocial behaviour (Vigan & Giauque, 2016). Therefore, job satisfaction leads to a competitive advantage (Luo et al., 2016). When the majority of employees experience satisfaction the advantage is maximised (McShane and Von Glinov, 2007). For this reason, companies have strong incentives in pursuing job satisfaction at its maximum level and the as spread as possible.

Moreover, job satisfaction has a positive impact on work engagement. According to what stated by Guglielmi et Al. (2016), there is a mutual influence between job satisfaction and work engagement. This means that not only job satisfaction may be an outcome of work engagement, but also *vice-versa*. It is also possible that satisfied employees could identify themselves more easily with their job and be strongly committed to their tasks (Guglielmi et al., 2016).

2.2.3.2 Work engagement

Engagement is a positive work-related state of mind, defined by Kahn (1990, pp. 694) as “*the behaviour by which people bring in or leave out their personal selves during work*”

role performances". Engagement in work let employees express physically, cognitively, and emotionally during work (Kahn, 1990).

Work engagement is characterized by vigor, dedication, and absorption (Bakker and Schaufeli, 2008):

- Vigor means that the individual experiences a high level of energy during work and is mentally resilient.
- Dedication refers to the employees' high work involvement and sense of importance, enthusiasm, and challenge.
- Absorption means that the individual is completely immersed in the work with minimal mistakes.

Work engagement is therefore a relatively permanent state of mind that refers to the simultaneous investment of personal energy in work experience or success (Žnidaršič, Bernik, 2021).

The feeling of engagement depends on the psychological experience of work (Hackman and Oldham, 1980), influenced by the interpersonal roles in the organization.

The main psychological sources of influence on work engagement are (Kahn, 1990):

- Psychological meaningfulness, that is a sort of *return of investment* (pp. 703) of the energy and effort put at work. Employees experiencing meaningfulness feel worthwhile and valuable.
- Psychological safety, that means to act not being afraid of repercussions on their status, image, or career. Safety is experienced when employees feel trusted. This sphere is highly connected with the interpersonal roles within the organization and the supportive and resilient managerial style. One of the most important aspects of safety are the norms, since the performances in which the employee feels safe must be inside the boundaries decided by the organization.
- Psychological availability, that means to have the physical and psychological resources to engage. Availability depends on physical and emotional energy, that means being physically and emotionally able and ready to perform a task. Availability is also negatively influenced by insecurity. People secure of their job

and status are more willing to be available to engagement. On the other hand, anxiety derived from insecurity consume energies that would not been used for engagement.

Moreover, following the Demands-Resources (JD-R) model⁴, developed by Demerouti et al. (2001), it is possible to understand the factors that cause betterment (engagement) and, in the other direction, job strain (burnout). Burnout is usually defined as a syndrome of exhaustion, cynicism, and lack of professional efficacy. Engagement, instead, is characterized by energy, involvement, and efficacy, the direct opposite of the three burnout dimensions (Maslach, Schaufeli, & Leiter, 2001). The authors (Demerouti et al., 2001) state that there are two main sets of work conditions:

- Job demands, called “the things that have to be done”. *“They refer to those physical, social, or organizational aspects of the job that require effort and are therefore associated with certain physiological and psychological costs (e.g., exhaustion).”* (Demerouti et al., 2001, pp. 501). These elements may enter in contrast with the employees’ private life and then become a source of stress. When the job demand is too high, burnout may arise, also causing absenteeism as a form of escaping from negative work conditions.
- Job resources offered by the job to the employees. They *“refer to those physical, psychological, social, and organizational aspects of the job that may be functional in achieving work goals, reduce job demands at the associated psychological and physiological costs, stimulate personal growth and development.”* (Demerouti et al., 2001, pp. 501) Thanks to a motivational process, job resources foster work engagement and increase the working goals achievement, since they satisfy the need of autonomy, competence, and relatedness.

Employees will exhibit higher levels of work engagement if they perceive to possess the necessary job resources to successfully tackle the demand (Bakker and Schaufeli, 2008).

⁴ The model identifies the relationships between the inputs and the positive – wellbeing – and negative – burnout – outcomes that work produces.

Effects on employees and companies

There is a double benefit in pursuing work engagement practices for companies. As proposed by Kahn (1992), engagement leads to both individual and organizational level outcomes.

From the organizational point of view, engagement fosters growth and increases productivity. The level of engagement and the positive emotions experienced by the workers lead to efficiency, proficiency in performing tasks and committed. An engaged employee is aware of business context and works to improve their performances for the benefit of the organization (Patro, 2013). This is translatable in positive work outcomes and positive monetary consequences for the organization (Saks, 2006), such as the increment of profit.

In addition, as supported by several scholars, such as Saks (2006) and Shaufeli (2009), the relationship between job satisfaction and work engagement has been verified as a strong mean to increase the profitability.

The individual benefits are mostly related to quality of work and job satisfaction. In fact, employees who are generally highly engaged in their work most probably experience higher levels of job satisfaction (Guglielmi et. al, 2016). This leads to better psychological conditions for employees (Saks, 2006). Employees benefit also from the leverage put in place by organizations to increase engagement, with the purpose to have better profitability. For example, employees will have more responsibilities and control and will be more included in the decisional process of the organization, feeling valuable and worthwhile (Patro, 2013). The benefits may be also monetary, because companies can increase compensations. In this way employees will have the feeling of being recognized for their work and feel more attached to the organization (Patro, 2013).

Moreover, one of the main outcomes of work engagement is the reduction of *Job Burnout*. In fact, if a company does not persecute engagement, there is not only a missing opportunity to exploit the positive effects, but, often, even a collateral effect, burnout (see 2.2.3.2. Work engagement).

2.3 THE CONTEXT

The purpose of this paragraph is to analyse in depth the context of Public Sector in which the research has been carried out.

According to the NACE classification, the statistical classification of economic activities in the European Community, the public sector can be divided in:

- public administration, like ministries, federal bodies, local authorities.
- welfare state public organizations focus on health, social work, and education.
- other categories such as state-owned transport or energy companies.

The focus of the thesis is on a particular kind of federal body (the Italian national fire brigade). First, an initial analysis of the referred context has been carried out, with an explanation of the characteristics of the public administration system. A possible solution has been presented to increment the level of the constructs considered, in line with the New Public Management. After a general overview, the attention has been directed on the Italian Public administration, that represents the specific context of analysis.

The cultural changes and the trend of implementing digital practices in the Public Administration leads to the adoption of flexible arrangements based on technology. One example is the remote working (de Vries et al., 2017), that will be introduced and explained in the next section. This practice will be explained in its definitions and in the effect that it has on organizations and employees, generating both positive and negative outcomes. After that, the adoption of teleworking practices during COVID-19 pandemic will be analysed.

2.3.1 Public administration

The Public Administration is a detailed and systematic application of laws (Wilson, 1887), consisting in a set of actions act at the fulfilment or enforcement of public policy (White, 1926).

The Public Administration sector is a set of “*establishments of federal, state, and local government agencies that administer, oversee, and manage public programs and have*

executive, legislative, or judicial authority over other institutions within a given area. These agencies also set policy, create laws, adjudicate civil and criminal legal cases, provide for public safety and for national defense” (Naics, 2012)

The public sector is well known to be a non-flexible environment (Di Francesco and Alford, 2016), mostly directed to organize and provide standardized services (Palmi et al., 2020). In fact, the model used in Public Administration is bureaucracy-based, a rigid “mechanic organism”, with high levels of efficiency, rationality, and stability of own organizational processes, based on standardization and formalization (Levinthal and March, 1993). Public employees are typically stereotyped as demotivated (Osborne and Gaebler, 1992). The level of autonomy perceived in the Public Administration, and, in particular, in federal agencies, is very low (Lægheid and Verhoest, 2010).

Several scholars found out that public servants present higher levels of dissatisfaction with their job (Baldwin and Farley, 2001; Rainey, 1989; Steel and Warner, 1990) compared to private employees.

One of the causes of low level of flexibility, autonomy and dissatisfaction is attributable to the high bureaucracy system of the public administration. This hampers autonomy and creativity, and potentially jeopardizes and limits employees’ realization (Thompson, 2000).

According to De Simone et al. (2016), the level of job satisfaction may be increased thanks to the Public Service Motivation (PSM), making the relationship positive. PSM is defined by Perry and Wise (1990) as “*an individual’s predisposition to respond to motives grounded primarily or uniquely in public institutions and organizations*” (Wise, 1990, pp. 368). It can increase job satisfaction through the civil service, that provides ample opportunities to serve the public interest, matching between personal values and interests, and the nature of the work (Tang and Baumeister, 1984).

The positive effects of PSM are defined through Relational Job characteristics⁵, attaining a higher degree of impact on and contact with the beneficiaries of their work (Taylor, 2014). Employees with high PSM levels have a higher job satisfaction when they are convinced that their jobs allow them to have a positive impact on and/or contact with citizens (the relational job characteristic of Taylor, 2014) or when their tasks satisfy their basic psychological needs (Deci and Ryan, 2008).

Lavigna (2013, 2015) argued that the complex bureaucratic organizational structures in public organizations, the frequent changes of political leadership, and specific motivations to work as a public servant might influence work engagement.

Borst et Al. (2017) adapted the JD-R model⁶ to the Public Administration, adding some peculiar elements:

- A key job demand called *Red Tape*. It is the perceived unmanageable paperwork by public servants. When public servants encounter rules, regulations, or procedures that seem pointless yet burdensome, they become alienated of their work, less creative, and less productive (DeHart-Davis & Pandey, 2005). Red tape has a significant negative impact on work engagement in this sector (Bozeman, 1993). The red tape also affects the relationship between PSM and job satisfaction, limiting employees' ability to deliver effective public services (Bozeman, 1993).
- A clustering of the job resources in work-related resources such as teamwork and autonomy, and organization-related resources like supervisory support, developmental opportunities, and performance measurement. Several studies have shown that public servants are more motivated by work characteristics than by organization-related characteristic (Buelens and Van den Broeck, 2007). A good exploitation of work-related resources has a strong positive impact on work engagement of PA employees.

⁵ Relational job characteristics are some peculiar characteristics, mainly present in the public sector, and contribute to the cultivation of prosocial motivation.

⁶ The one developed by Demerouti et al. (2001)

Borst et Al. (2017) discovery is that high level of red tape can be mitigated by high level of work-related resources.

2.3.1.1 Solution

The 21st century has decreed the end of the bureaucracy era, seen as inefficient, fastidious, and devoid of charm since its beginning (Palmi et al., 2020). The necessity to adhere to new social challenges and the arise of technology created the basis to a radical change in this sector. Thanks to the development of the “*Sustainable Development Goals (SDG)*” (United Nations, 2015) by the European Union, the focus on wellbeing and decent work conditions of the workers has been a booster for the development of new practices, also in the Public Sector (Palmi et al., 2020).

Work–life policies have been introduced to support employees in combining work and personal/family life, such as flexible work arrangements, care arrangements -including financial support-, referral services, and domestic services (den Dulk and Groeneveld, 2012). In most countries, public sector organizations are taking the lead regarding the introduction of workplace work–life policies that supplement existing legislation, such as leave arrangements and flexible working hours that support the integration of paid work and personal life (den Dulk and Groeneveld, 2012).

Even though the lack of market pressures leads to a relatively high degree of WLB support in public sector organizations (Organization for Economic Cooperation and Development [OECD], 2001), the positive trend in enriching work-life balance lies in the institutional pressure. This pressure is based on government standards and norms that are more than economic reasonings since the latter are more powerful for the private sector. The more public sector organizations are subject to political pressure the more they will take policy measures in this direction (Appelbaum et al., 2005). According to the sub-categorization of the public sector proposed by NACE -Statistical Classification of Economic Activities in the European Community, public administration is the sector with stronger political authority and is expected to put more emphasis on public values. For this reason, it is the sub-categories more involved in the support of the WLB of their employees (Antonsen and Jørgensen, 1997).

One of the most important theories that can constitute a solution to the bureaucracy and hierarchy problems is the New Public Management.

New public management (NPM) theories rose in the 1980s and 1990s to advance a need for flexibility, innovation, managerialism, and responsiveness in the public sector, which challenged the basic tenets of bureaucratic/mechanistic organizational forms (Miles et al., 1997). The New Public Management “*comprehends a cluster of theories and studies regarding the modernization of PAs through the introduction of specific management logics belonging to the private sector*” (Iacovino et al., 2017, pp. 64). Summarizing, through New public management, the public administrations try to internalize the culture and the mindset of the private sector. The reforms that introduced NPM’s principles have been carried out in different ways from country to country.

Thanks to the advent of New public management, autonomy in public organizations has been emphasized (Olsen, 2015). The high levels of originated autonomy contribute to increase performance and desirable results (Verhoest et al., 2010). An organization with a high level of autonomy has a “*primacy of managerial practices over bureaucracy*” (Lægreid and Verhoest, 2010, pp.90).

Thanks to the practices of New Public Management, in which there is a tendency to act like the private sector, public job has perceived as more appealing, with more growth possibilities. This leads to an increment of engagement and job satisfaction, that foster work-life balance (den Dulk and Groeneveld, 2012). Moreover, also the opposite is true, considering work-life balance as a mean to make the public industry more appealing. In fact, the support originated by the balance in the different life spheres may serve as one of many instruments to attract and retain talents in the public sector (den Dulk and Groeneveld, 2012).

Institutional pressure is the most important driver for public organizations to offer a support over work-life balance. For the public administration, this type of pressure is larger than for other public subsectors.

Nowadays, the triggering event for a radical change is represented by the pandemic due to COVID-19. Technology has been used extensively to allow remote working and social distancing, and the governments are putting in place financial measures to support families and businesses. As a result of this last point, the public sector pursues the objective of reducing costs by maximizing utility, rethinking, and redesigning work structures, and processes (Palmi et al., 2020). Flexible practices have been highlighted, since are a mean to increase service effectiveness (Powell and Cortis, 2017), also in terms of accountability for achieving results (Di Francesco and Alford, 2016).

A shift from a mechanic to an organic perspective of organizations has reduced the formalization and standardization characterizing mechanic model and has increased freedom of decision and creativity (Levinthal and March, 1993).

2.3.1.2 Italian Public Administration

To better understand the heterogeneity of this sector, it is important to shortly present the Italian history regarding the born of the Nation. Italy, as institution, is relatively new. It has been unified in 1861, merging the different reigns present in the country at that moment. In fact, Italy was a politically fragmented conglomeration of states. During the French invasion, the bureaucratic Napoleonic traditions have been adopted, suffering the influence of the French State model. Before the unification, Italy was divided into:

- Lombardy and Venetia kingdom, with an Austro-Hungarian derived administration.
- the Piedmont-Sardinia kingdom, with bureaucratic Napoleonic traditions.
- the Vatican State and the kingdom of the Two Sicilies (south Italy).

After the unification, the royal family of Piedmont-Sardinia has been the new ruling monarchs of Italy (Salvadori, 2018)⁷.

After this excursus, it is possible to understand the roots on which the Italian administration is based. The Italian public administration is composed by a mix of these

⁷ All the Italian historical excursus has been taken from Salvadori (2018).

different administrative cultures with the major influence of the Napoleonic bureaucracy, since the rulers at that time were based on that tradition. Local government in Italy rank with the ‘Franco group’ of local government systems since they are characterized by few functional responsibilities and a predominance of the state in matters of local administration.

The Italian system is then based on the Weberian model of “*a classic bureaucratic organization characterized by hierarchies, highly specialized and rigid institutional structures, and low employees’ responsibility. Administrative procedures are primarily rule bound and legally oriented; performance management systems and economic incentives (performance-related pay and so on) are largely lacking*” (Kuhlmann, 2010, pp. 118).

This system adopted in Italy produces high bureaucracy inertia -*red tape*-, reducing the implementation of innovative practices (Merlicco, 2008).

Nevertheless, during the last decade in the 20th century, also Italy faced severe pressures coming from public expenditure rationalization and citizens’ demand for better services, efficiency, and accountability (Pollitt and Bouckaert, 2017). For this reason, it entered a phase of intense transformation and profound change.

A primary initiative in the reformulation of regulations has been introduced by Bosetti e Gatti Law (no. 241/1990). It relates to administrative procedures, in terms of better information, access to services and transparency. The public administration is then defined with a specific purpose: “*the administrative activity shall pursue the purposes determined by law and shall be governed by criteria of economy, effectiveness, impartiality, publicity and transparency, in accordance with the provisions of this Law and other provisions governing individual proceedings, and the principles of Community law.*” (Bosetti and Gatti, 1990; art. 1- translated from Italian).

The fragmentation of the Italian Public administration system is added to existing PA inefficiencies. This system is composed of a complex hierarchy of intertwined bodies and at times has unclear and overlapping competences. As a result, services for citizens are sometimes based on processes not fully integrated and supported by automation, and

personal data are replicated in several, frequently inconsistent, databases (Pratim et al., 2020).

Fostering a digital transformation in the Italian public administration appears the only way to solve the continuing and upcoming doldrums (Pratim et al., 2020).

In the 1990s, the implementation of New public management practices started with the privatization of most of the public banks, followed by the institutional decentralization from the state administration (Bassanini laws from 1997 to 2001). This last is the core of the implementation of NPM in Italy. The introduction of the New public management system aimed at shifting from a bureaucratic model based on norms to a managerial model based on performance (Marino, 2010). The NPM adopted in Italy has been called “New public amangement through law”, since Italian NPM’s reforms have been dictated by national and regional legislation, providing legal prescriptions and formal rules that precisely defined the instruments and reform measures that were to be implemented by local governments (Kuhlmann, 2010).

To reduce inefficiencies and promote transparency, the European Union stepped in. In 2010 the EU proposed a digital transformation across all the states members. The results are the “EU 2011–2015 eGovernment Action Plan” to implement best practices and increase public service access, and “Europe 2030 Agenda”, based on smart, sustainable, inclusive growth, by raising employment, R&D, energy efficiency, education, and income (Pratim et al., 2020).

One of the best digital practices arose in the last decade and boosted by COVID-19 pandemic is remote working.

In 2017, *Direttiva Madia* implemented the law⁸ “*Deleghe al Governo in materia di riorganizzazione delle amministrazioni pubbliche*”. The Italian Prime Minister (Presidente del consiglio dei Ministri), enacts the law on the usage of practices to promote work-life balance in Public Administration.

⁸ Law of the 7 August 2015, n.124, article 14, comma 3

In 2015 the Italian Prime Minister (Presidente del consiglio dei Ministri), enacts the law of the 7 August 2015, n.124, article 14, comma 3 “*Deleghe al Governo in materia di riorganizzazione delle amministrazioni pubbliche*”, implemented by *Direttiva Madia* in 2017 (Madia, 2017).

It defines the guidelines for the usage of practices to promote work-life balance in Public Administration. Teleworking practices have been defined in the Public Administration and the smart working has been proposed. It aims at increasing job flexibility and digitalization, to foster work-life balance in the sector.

2.3.2 Remote working

Telework (Gray et al., 1993), also known as distance work, telecommuting (Nilles, 1994), or remote work (Hamblin, 1995), is a type of flexible work arrangement (Nilles et al., 1976).

It started to be a studied topic in the 1970s as “work away from the office”, and became one of the most prevalent bases of flexibility programs in the 1990s (WorldatWork, 2015).

Thanks to this practice, “*employees perform all, or a substantial part of their work physically separated from the location of their employer, using IT for operation and communication*” (Baruch, 2001, pp. 114).

Nevertheless, teleworking is also defined by Kurland and Bailey (1999) as working from anywhere at any time, and Sardeshmukh et al. stated that it “*alters the time and space of traditional office work*” (2012, pp.194). These definitions differ from the first since not only spatial flexibility is considered, but also the temporal one. This component is part of the teleworking practices, but it is often hidden, overshadowed by the spatial flexibility. Telework allows flexibility in both spatial -where work is conducted- and temporal -when work is conducted- boundaries (Rau and Hyland, 2002). In addition, another variable can be added to the concept of remote working, even if only indirectly since it is not included in the exact definition. If remote working is possible thanks spatial and temporal flexibility, it is the true that it must require autonomy in order to be performed. Flexibility, in fact, is defined by Allen et al., (2013, pp. 349) as the “*discretion*” over the place and/or

the time of working. This word has been used by Hackman and Oldham (1975, pp. 162) to define autonomy (see 2.2.1.2, Autonomy). It is then possible to consider flexibility and autonomy strictly interrelated since flexibility is reachable thanks autonomy, and a way to perform autonomy to is through flexibility.

In conclusion, it is possible to consider this construct as an updated version of the classic remote working experienced by employees, a remote working 2.0.

Teleworking is based on the use of digital instrument, such as computers and smartphones (Bailey and Kurland, 2002). The changes in the society and the technological evolution generated a shift from industrial-based national economies to an information-based global economy. Telecommunications and computing costs have plummeted, increasing their power. These trends generate the employees' power of choice in where, when, and how work is accomplished and changed the managerial style (Useem & Harrington, 2000).

There are different types of teleworking (Daniels et al., 2001):

- home-based telework, in which work is carried out at home.
- teleworking from remote offices, that means that work is done at offices that are different from the main one.
- mobile telework, in which work usually involves travel and/ or spending time on customers' premises and for this reason the work-location is not the office.

The most common and used is the home-based teleworking (de Vries et al., 2018). This will be the form studied in this research since it is the only possible due to COVID-19 restrictions.

2.3.2.1 Smart working vs teleworking

Teleworking is often used erroneously as a synonymous of "Smart Working".

To understand why it is not possible to talk about Smart Working practices in this contest of analysis, a definition and explanation of the SW practice will be provided. Moreover, an analysis of all the aspects that constitute SW will be performed, highlighting the SW elements that have not been fulfilled in teleworking practices.

Smart working is defined as “*non-conventional organisational models that are characterized by higher flexibility and autonomy in the choice of working spaces, time and tools, and that provides all employees of an organisation with the best working conditions to accomplish their tasks*” (Gastaldi et al., 2014, pp. 338). The adoption of SW practices mostly aims at increase employees’ productivity and their work-life balance.

SW is constituted by four levers (Smart Working observatory, 2020):

1. the usage of technology, about competences and the way to communicate.
2. the innovations in the organisational model, regarding working time, space, and tool choice flexibility.
3. the reconfiguration of the workplace, that affects the workers’ psychology. In this regard, the 4C model has been developed, to create a workplace that can respond to the needs of the employees:
 - a. **Collaboration**, for brainstorming
 - b. **Communication**, for face-face and acoustic isolation
 - c. **Concentration**, calm place in which it is possible to be focused
 - d. **Contemplation**, creating an inspiring, cosy and relaxing environment
4. a change in the leadership style, one of the most important levers, since only a good leadership can create the right environment to let the SW to be adopted and absorbed. The leader is in charge of guiding employees towards the shift required to adopt SW.

The leadership needed must lead to:

- a. **Sense of community**, that is represented by the Sense of belonging and trust among people.
- b. **Empowerment**, in the meanings of collaboration and engagement.
- c. **Flexibility**, as total flexibility in planning and choosing how to work. This kind of flexibility is called “border-free work”, that differs from the mere flexibility in time (when to work) or workspace (where to work).
- d. **Virtuality**, that is the ability in choosing the right mix of physical and digital technology and channels.

The shift toward Smart working practices is very important, since Smart working has several interconnected benefits, both for employees and the organizations (Smart working observatory, 2020). In fact, flexibility and autonomy increase employees' work life balance, giving the possibility to optimize the life-resources management. Moreover, SW promotes meritocracy. In this way workers perceive to be an active part of the process, valuable and trusted. This implies an increment of work engagement and job satisfaction. All these positive effects on employees make the companies more attractive, giving them the possibility to add competent and worth personnel to their workforce. These employees ensure a higher quality of work, increasing the productivity and the welfare of the organization.

Thanks to this analysis, it is now possible to highlight the differences between real SW practices and the flexible arrangement adopted during COVID-19 pandemic.

The absence of the third lever (physical layout) seems clear in the case of teleworking. Teleworking practices do not involve an optimization of the working layout, but only the choice in where to work. Moreover, during COVID-19 pandemic, most of the workers have been forced to work from home, excluding the possibility to have a layout draft according to the 4C model. Many workers do not have suitable workstations at home and may have family-work conflicts due to the constraint of being all at home (Palumbo, 2020). This imply the impossibility to have a place in which it is easy to be focused, relaxed and with a good acoustic isolation. Moreover, employees perceive a loss in communication activities since they are isolated from supervisors and colleagues. All of these aspects result in an increment of stress and a reduction of work-life balance (Kniffin et al., 2020).

A hidden difference resided in the adoption of the correct leadership style. Teleworking practices imply a small change in the management style, to enable the right level of flexibility, very different from the change requested by SW, that implies a change from a hierarchical to a relationship leadership style. In the specific case of flexibility, the "border-free work" is not achieved practicing remote working, reaching only a forced homeworking.

2.3.2.2 Effects of remote working on employees and organizations

In this section, an analysis has been performed regarding all the effects that teleworking has both on the private and on the organizational sphere. These causes are usually interconnected and may create both positive and negative outcomes. The effects depend on how this practice is implemented, managed, and perceived: a good leadership structure and managerial support must be considered as the basis to achieve the positive results, mitigating the negative ones (Choi, 2017).

First of all, the effects on employees have been detected, both in terms of positive and negative implications.

Barack Obama stated that “*attracting and retaining employees who are more productive and engaged through flexible workplace policies is not just good for business or for our economy—it’s good for our families and our future*” (The White House, 2010).

Teleworking practices have positive effects on:

Autonomy. Employees experiencing teleworking have greater autonomy in comparison to their in-office colleagues. The formers are psychologically and spatially away from direct supervision, and they have spatiotemporal flexibility (Sardeshmukh et al., 2012). Scholars expect teleworking to increase employees’ autonomy as they are not in the direct supervision of their managers and supervisors, gaining a sense of increased freedom over their work tasks (Nakrošienė et al., 2019) and reducing exhaustion (Dolce et al., 2020). Thanks to the increment of autonomy during teleworking, it is also possible to increase employees’ work-life balance (Perry et al., 2018).

Commuting time. Teleworking saves the stress and strain of lengthy commutes that otherwise contribute to exhaustion. By reducing travel to and from the office, telework also conserves time. This offers the opportunity to apply saved time to other work or personal tasks, easing time pressures. Telework is associated also to a reduction of the “be on time” pressure (Sardeshmukh et al., 2012).

Time pressure. Time pressure is reduced by the adoption of flexible practices, and the saved commuting time. In fact, even if teleworkers work longer hours (Baruch, 2000), the flexibility offered by teleworking to manage the task demands during the time available can reduce the time pressure (Mann and Holdsworth, 2003), easing mental fatigue and decreasing exhaustion (Bakker et al., 2004).

Communication. Digital networks may offer employees better communication lines with management and with co-workers. A good communication may help in feeling part of the decision-making process, since it is easier to reach manager and influence them. Moreover, employees experience an increment on the information level about relevant facts in their jobs and in the organization. A better level of knowledge empowers employees and give them autonomy.

Work-life balance. The effects of teleworking on work-life balance are not shared between all the scholars, and they may depend on the personal characteristics of the individuals (Palumbo, 2020). WLB can be considered positively affected by teleworking only indirectly. In fact, as stated before, the autonomy achieved thanks remote working increases WLB.

Telecommuting may also have negative outcomes:

Isolation. Employees can suffer of isolation both from a professional and social point of view. Professionally, employees fear that working at another place than the office may reduce their possibilities for promotion and organizational rewards (Choi, 2017). Socially, employees highlight the lack of informal interaction with colleagues (de Vries, 2019). Teleworkers may experience psychological problems such as insecurity about their job, and perceived deprivation of job opportunities due to the isolation (Baruch, 2001). Social isolation leads to lack of career opportunities and depression, causing the feeling of work monotonicity (Tavares, 2017). As the employees are away from the workplace, their inability to control and affect work content and practices often limit their engagement with work.

Physical presence. Cooper & Kurland's analysis (2002) highlighted that telecommuter miss three types of developmental activities that occur frequently in a conventional workplace:

- interpersonal networking with others in the organization.
- informal learning that enhances work-related skills and information distribution.
- mentoring from colleagues and superiors.

Nevertheless, they observed differences in the private and public sectors: private organizational employees appeared much more concerned about telecommuters missing employee development opportunities than did public organizational employees (Cooper & Kurland, 2002). Therefore, the article considers the public sector less likely to have these negative effects.

Role stressors. Teleworking increases role ambiguity because of the constrained communication associated with telework, creating an overall reduction of satisfaction and performances. This can be solved increasing clarity in job design and communication (Sardeshmukh, 2012).

Work- life balance. Teleworking has also negative effects on work-life balance. For example, those who have a family experienced a great difficulty in dealing both with working and parent lives and create a big strain. Personal and professional lives are affected by each other. This increases work-family conflict with the perception of “no stop” working that increase the sense of stress takes time away from family activities. Moreover, family-work conflict is boosted too since taking care of the children distracts the worker, who is continuously interrupted or work at less productive times of the day (Pirzadeh and Lingard, 2021). Telecommuting nullifies temporal and spatial boundaries. This creates a blurring of roles, caused by the absence of specific setting or time for work and, particularly, the difficulty to find symbolic markers delineating the roles (Rau and Hyland, 2002). Blurring of roles may also cause interruptions “out of role”, distractions that increase the work-family conflict and lower productivity. Nevertheless, remote working may determine an extensification of work, as well as an overlapping between private life and work commitments (Hyman and Baldry, 2011). This creates greater

contamination between private life and work, which generates life-to-work conflicts (Palumbo, 2020), reducing work–life balance and mental well-being (Kniffin et al., 2020). For example, workers experienced:

- a difficulty in shifting from the “house” mode into the “work mode”.
- difficulty in “shut off” work, because of a constant thought about work and the connection also outside standard working hours.
- overwork, since they may invest part of their non-working time to finish their job, subtracting into the other life activities (Baruch, 2000).
- Emotional overlapping: thoughts and emotions from the work sphere are spilled over into the household domain (Mirchandani, 2000).

In conclusion, it is possible to state that literature considers teleworking as negatively affecting Work-life balance, since the majority of authors proved this connection and analysed the effects. Despite this, Literature is not consistent in discussing the implications of working from home on work-life balance in the public sector (Palumbo, 2020). For this reason, one of the purposes of this research will be understanding the correlation between home-working and work-life balance in the Public Administration sector.

Communication. Teleworking has also a negative effect on communication. The online communication is perceived less effective than the face-to-face one. Difficulties in communication increase role ambiguity, that is uncertainty about the expectations involved in performing a task or carrying out activities in one’s role. This negative effect leads also to isolation, due to the feeling of being “cut off” and increase uncertainties about how to react to events in the office.

Standardization. Technology enhances the creation of pre-constructed tasks, reducing the autonomy of the employee. When the standardization and the pre-construction are at the maximum level, may happen that machines perform the entire task, reducing the need of a specialized employee, that will become only a third parties (Brey, 1999). When

autonomy is reduced, workers perceive to be treated as machines -the mechanic view that brings alienation- and not an important part of the organization (Baase, 1997).

Teleworking may also cause some favourable and unfavourable outcomes on companies.

The most evident outcome is the increment of profitability. In fact, teleworking may increment productivity, caused by a better environment in which the employees will work, by the feeling of being an active part of the organization and the overall satisfaction they have (Breugh and Farabee, 2012). Nevertheless, teleworking induces more overtime (Peters and Van der Lippe, 2007), that is positive connected to productivity and then profitability. This is true only in case of a correct implementation of teleworking and a good management of this practice.

Employees who perceive benefits are more likely to demonstrate higher satisfaction with their organization and lower intention to leave it (Choi, 2017). It results in overall costs' reduction, since the costs sustained to implement teleworking practices are lower than the benefit taken from the reduction of turnovers, that counts as 150% on an annual salary (Stavrou, 2005).

Moreover, the autonomy given to employees not only increase the profitability but works also from a psychological point of view. In fact, autonomy may also be a symbol of the trust that employers have in employees. This leads to a greater motivation in doing the job well. Increasing job motivation is seen as a strategic priority, since it is linked with organizational success (Hill and Weiner, 2003). If the employee is motivated, they will likely use individual talents and discretionary time to achieve organizational objectives (Hill et al., 2003) and put extra effort to help the company succeed.

Masuda et al.'s research (2017) shows that employees who had the opportunity to work from home were more engaged at the end of the work year, contrasting with the common thought of teleworkers are less motivated and effective. The authors also suggest that the benefits are not only direct, but also indirect, such as the reduction of work-family conflict, even if they have a smaller impact. Despite this, very few authors examined how telecommuting relates to work engagement (such as Masuda et al., 2017; Sardeshmukh et al., 2012; Vries et al., 2019).

This flexible practice is used by organizations also to attract and retain talented employees (Saltzstein et al., 2001). The conditions offered are in favour of the employees and give them the possibility to manage both private and professional life at the same time. For example, telework gives organization the benefit of recruiting and retaining the best employees even though they may live far away or are unable or unwilling to commute (DiMartino and Wirth, 1990; Kelly, 1988; Kossek, 2001; Neal et al., 1993)

However, teleworking also present a dark side. For example, managers fear a loss of control when workers are outside the office. This can lead to employees' lower performance evaluations, which in turn can influence their chances of promotion and upward career mobility (Masuda et al., 2017). As a consequence, digital networks may be used to reinforce the monitoring system put in place by the organization in terms of performances, time spent at work, location etc. This reduces both the control, autonomy, and the moral autonomy (van den Hoven, 1995). Moral autonomy is a self-concept, a psychological perception of autonomy. It may happen that managers continue to monitor and control employees, practicing a direct supervision (Sewell and Taskin, 2015), or that employees who have a well-developed sense of self-determination at work are likely to perceive telework as a loss of autonomy (Singh and Verma, 2020). This reduction of autonomy can cause monotonicity and routineness (Loukidou et al. 2009). Moreover, telework can create an employees' physical and psychological separation from their workplace. Therefore, employees are apt to identify less strongly with the work organisation, viewing themselves as more independent, reducing their belonging to the organisation (Wiesenfeldt et al., 1999). In this research, the opposite will be verified, considering a positive connection between teleworking and work engagement, despite the isolation created by the pandemic situation.

2.3.2.3 Possible solutions

Some solutions can be detected. For example, it has found that a good level of communication can increase autonomy given by the workers. The organization does not perceive a loss of control over employee (Quoquab and Malik, 2013) and does not introduce initiatives that reinforce the dependency to the supervisor and additional

monitoring and reporting mechanisms (de Vries et al., 2019). Despite the reduction of communication caused by the implementation of week teleworking practices, a focused study to improve this tool is essential to foster positive effect and mitigate the negative ones, both from a personal and organizational point of view.

Communication is one of the most important and contemplate elements of Smart Working. Therefore, the shift from remote working to real smart working practices will solve the main problem of this flexible arrangement.

2.3.2.4 Remote working during COVID-19 pandemic

The COVID-19 pandemic accelerated the trend of the use of teleworking practices. A key difference is that during the pandemic it has not been possible to let employees choose depending on their preferences, forcing them into mandatory home working (Kniffin, 2020). The negativities behind teleworking are then accentuated. Especially who does not live alone experienced drastic reduction of work-life balance. For example, rather than giving employees a better balance between professional and private life, home based telecommuting involves an intensification of work (Kelliher and Anderson, 2010), that means a reduction of resources for the private sphere.

One of the most important negative effects caused by Covid-19 pandemic is the psychological implication. This causes negative outcomes for the individuals, that are then reflected in negativities for the organization, such as with losses of productivity and poor-quality work. In fact, it has proved that high-quality social interactions are essential for mental and physical health (Mogilner et al., 2018), element that is missing during the pandemic. The ultimate outcome of the loss of communication quality generates “loneliness”, a psychologically painful emotion that results from people’s feelings that their intimate and social needs are not adequately met (Cacioppo et al., 2006). Research shows that requiring people to isolate themselves to eliminate the risk of infection was damaging to mental health in previous pandemic scenarios (Brooks et al., 2020).

Most employees reported elevated psychological distress, depression, and anxiety, which was attributed to feelings of uncertainty about the future and financial concerns. The psychological strains and feelings of social isolation can lead to deteriorating work

conditions (Pirzadeh et Lingard, 2021) commitment and performance (Ozcelik & Barsade, 2018). Psychology affects both the private and the organizational side. These factors can increase the risk of job burnout—a chronic stress syndrome that causes permanent feelings of exhaustion and a distant attitude toward work (Demerouti et al., 2010)

Despite this, employees identified some benefits of home-based teleworking. For example, some workers prefer working from home. Reasons for this preference may be the ability to save time associated with getting ready for work and commuting, feeling safer at home and less exposed to the risk of infection, being able to work flexibly and having more time available for family and other nonwork activities (Pirzadeh et Lingard, 2021).

Moreover, one possible result of COVID-19 measures is that it will permanently lead to an increment in the incidence of working from home and considerably accelerate and maintain the greater use of the internet (Tisdell, 2020). The use of digital tools has been fostered during the pandemic. This provides a window of opportunity for the permanent integration of these tools since it has been proved that can substitute many physical work interactions adequately.

3 MODEL

This chapter aims at introducing the model that has been used to answer to the research question. In particular, the elements that constitute the model has been identified starting from the cause-effect relationships found in the literature. The structure of the model will be then presented with its main sections, the newness it has, and the control variables.

The hypotheses are presented in this section, with a detailed analysis of each relationship proposed to give a theoretical robustness to the proposals.

3.1 STRUCTURE OF THE MODEL

As emerged from the analysis of the theoretical background, there is the need of studying the effects of remote working since COVID-19 pandemic has made necessary the implementation of this practice. The context of public administration has been chosen because its rigid structure made the introduction of flexible practices more challenging than in private companies.

Time flexibility and autonomy have been the expressions of remote working during the pandemic. The first block is then constituted by these two constructs, defined as *antecedents*. Temporal flexibility has been recognized by Kurland and Bailey (1999) and Sardeshmukh et al. (2012) as a direct element of remote working, together with spatial flexibility. Autonomy, instead, is an indirect element, since it is flexibility and remote working's most important consequence (Sardeshmukh et al., 2012). Temporal flexibility and autonomy are strictly related, since choosing when or where to work is an autonomous decision (Campbell Clark, 2001). It has not been possible to include spatial flexibility in the analysis (see 2.3.2 Remote working), even if it is one of the most important aspects of remote working. Despite this, research showed that spatial flexibility is less beneficial than temporal flexibility in terms of conflict reduction (Allen et al., 2013). Spatial flexibility, in fact, blurred boundaries and may reduce the perception of autonomy and control. Moreover, there is the fear of social and professional isolation (Cooper & Kurland, 2002). For these reasons, the absence of spatial flexibility in this

research is justified and does not represent a missing point since this construct has a weaker leverage effect.

Remote working and the pandemic had a strong impact on the psychology of employees. This led to the interest in analysing the effects remote working had specifically on the type of well-being related to feeling, the psychological one, that represent the *outcomes* of the model. According to Gant et al., (2007), job satisfaction and work engagement are, respectively, the hedonic and eudaimonic meanings of employees' psychological well-being. Some managers only consider job satisfaction when they analyse well-being. Despite this, achieving it is more complex than that and it must include engagement (Gant et al., 2007). The consequences are not only related to the individual, but also with the well-being of the organization. Work engagement, for example, is characterized by elements such as vigor, absorption, and dedication. These characteristics impact the productivity of the employee, having a direct and strong effects on the organizations (Saks, 2006). Examining both satisfaction and engagement, it is possible to have an overall view of the effects of remote working both on individual and organizational basis, even without measuring the profitability and other financial KPIs.

From the analysis of the literature has emerged that the main effect of autonomy and flexibility is the betterment of the balance between work and non-work life, that mediate the impacts they have on employees' psychological wellbeing. For this reason, a *mediator* has been added to the model. *Work-life balance* is the pivotal point of the model, mediating the relationship between the antecedents and the outcomes. When employees perceive the given flexibility and autonomy, they are more able to balance all the aspects of their lives (Seifert, 2001; MacEachen et al., 2008). Thanks to a good work-life balance, employees are more engaged and satisfied with their job (MacEachen et al., 2008). Therefore, the outcomes generated by the antecedents are majorly thanks to the action of the mediator. For example, the positive impact of telecommuting on job satisfaction is primarily due to a greater possibility to meet a balance between work and non-work tasks (Virick et al., 2010). Another example is the effect of flexibility, that acts on job satisfaction and work engagement balancing professional and personal life (Perlow, 1997). This has positive consequences also on the well-being of the organization, since

employees are more productive and increase the profitability of the company (Burdin and Pérotin, 2019; Gonsalves, 2020; see 2.2.1.1 Flexibility). For this reason, companies are incentivized in allowing these practices.

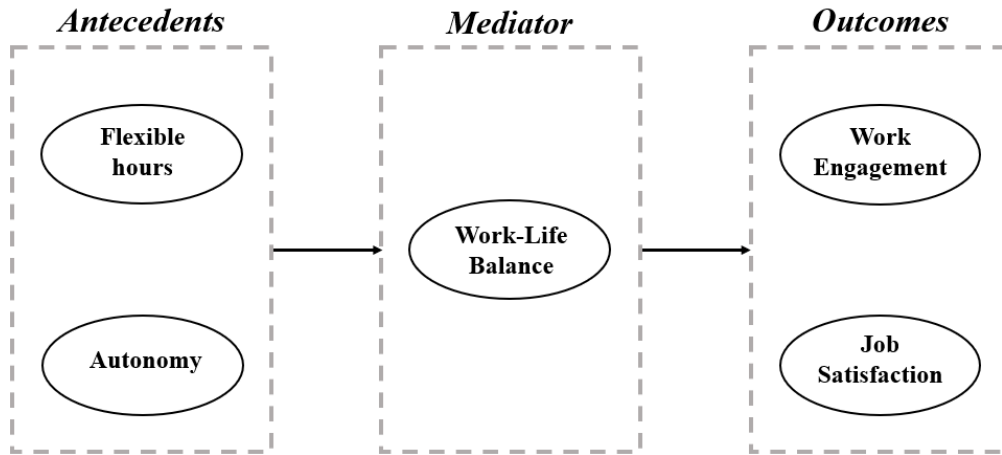


Figure 2: The draft of the model-antecedents, mediator, and outcomes

3.1.1 Control variables

Control variables have been included in the model.

“Control variables provide an important means of controlling for endogeneity in econometric models with non-separable and/or multidimensional heterogeneity” (Newey and Stouli, 2021, pp. 73). To say in other words, control variables are important to rule out other explanations for the observed relationships (Klarmann and Feurer, 2018).

If the relationship hypothesized is still verified after adding control variables, it means that it does not depend on them. At the opposite, if the relationship varies introducing the control variables, it means that it suffers of endogeneity and does not represent the entire sample but just a part of it (Klarmann and Feurer, 2018).

The control variables have been introduced in the model thanks to the SEM analysis performed in STATA 14.

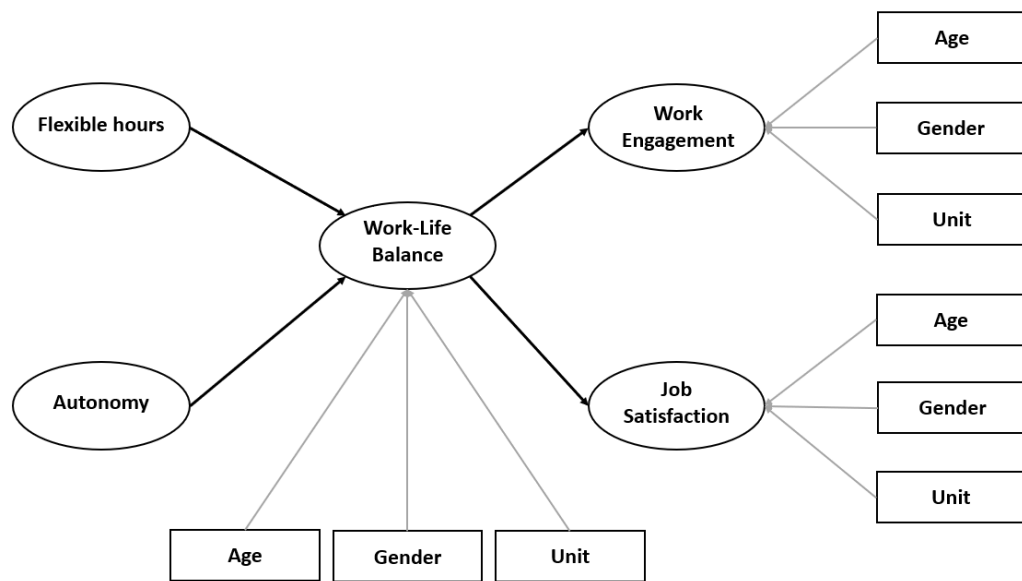


Figure 3: The structure of the model

The first control variable is age. Some authors (such as Hayes et al., 2019) developed surveys to understand if the effects of the constructs are stronger on younger or older people or are independent. especially in the context of remote working, some doubts may arise considering the difficulties that older people may have in dealing with technology (Morris et al., 2005).

The second control variable is gender. It is interesting to check if there are differences in perceiving work-life balance, job satisfaction and work engagement depending on the gender, since women are still more connected to family duties. Some authors consider women more affected by work-life balance because are more able to manage children and family (Greenhaus et al., 2003), instead men are more satisfied at work (Lindorff, 2011).

The last control variable is connected to the Unit of the firefighter’s brigade. The operative roles have been excluded, as explained in section 4.2.1 Sample, so they are not part of the analysis. The units took into considerations are then “logistico/gestionale” and “tecnico/informatico”. The purpose is to understand if some units are more sensitive than others.

3.2 GENERAL GAPS FOUND IN THE CONTEXT

Some general gaps have been identified during the analysis of the literature. These elements represent a support to the hypotheses and together constitute the contribution of this thesis.

Remote working and psychological wellbeing: this relationship represent the main research question of this thesis. No significative analyses have been found on this topic. The reason of this lack may lie in the radical increment of the implementation of remote working due to COVID-19. Since the pandemic has several psychological repercussions, it is fundamental to analyse the effects this practice has on employees' psychological wellbeing and if it is able to overcome the negativities of the pandemic.

Remote working in PA: even if it is an already known practice, remote working has been implemented majorly during the pandemic. The newness of the context creates a lack of studies in this field.

Autonomy & flexibility in PA: the majority of the articles found do not give an explanation of the effects of employees' autonomy and flexibility in the Public Administration. They are more focused on the managerial autonomy and on the decentralization of autonomous organs of the PA (e.g., Bernier and Deschamps, 2020; Verschuere and Barbieri, 2009). In this research, the effects of given autonomy and hours flexibility on public administration employees will be tested.

Engagement in PA: despite the attention for work engagement in public organizations across the world, there is a dearth of research examining work engagement in the public administration literature (Borst et al., 2017).

Job Satisfaction in PA: some authors, such as Cantarelli et al. (2015) or Steijn (2004), argued that there is a lack of analysis of job satisfaction in the Public Administration field, with few notable exceptions.

Work life balance and remote working in PA: most of the scholars contrast in finding the effects of remote working on work-life balance, snice some of them consider a

positive relationships, while others found a negative consequences on this construct (see 2.3.2. Remote working).

Job satisfaction and remote working: the effects of remote working on job satisfaction are controversial. There are scholars, such as Baruch (2000), that sustain that the relationship is positive. Others, instead, claim the opposite. In fact, the feeling of isolation (Cooper and Kurland, 2002), possible new sources of stress (Scott and Falcone, 1998), or mental ill health (Mann and Holdsworth, 2003) given by this practice can lead to a lower level of satisfaction.

Work-life balance and psychological wellbeing: some authors consider work-life balance as predictor of psychological wellbeing (Gröpel and Kuhl, 2009) and others, such as Ryff (1989) defined wellbeing as “achieving a state of balance which was affected by both challenging and rewarding life events” (pp. 581). Nevertheless, the relationship is not well studied, as also sustained by scholars such as Gröpel and Kuhl (2009), or Kossek et al. (2014).

These gaps found are important to justify the choice of the public administration as context of analysis. One of the biggest contributions, in fact, is given by analysing the model in this particular field.

The findings will not be translated into hypotheses. Despite this, the considerations that can fill them will be done in the Discussion section, analysing what are the effects of the constructs on PA employees.

3.3 HYPOTHESES

The purpose of this research is investigating how remote working could impact the well-being of employees through job satisfaction and work engagement.

The model proposed to solve the research question encloses several newness.

The literature analysis has been conducted to understand the existing connections between the presented constructs and possible lacks or contradictions.

The relationship between flexibility and autonomy with work-life balance has been studied by several scholars, as well as the effects of work life balance on job satisfaction (e.g., Sirgy and Lee, 2018; Carlson et al., 2009). One of the major points of this research is the analysis of the effects of work-life balance on work engagement since a lack of research has been encountered. Moreover, even if the connections between these constructs are well known, the environment of study -public administration employees in a pandemic context- is unique and actual. This element makes the research innovative and give a strong contribution to the literature. First, few scholars demonstrate the effects of these constructs in public administration employees. Moreover, COVID-19 pandemic drastically changed the work-world, affecting companies, employees, and legislators. Because of the newness of the topic, the studies on this field are scarce. In addition, there are no research on this field that consider well-being in both its meanings⁹. Overall, the model presented is unique and represent a consistent contribution to the literature, giving

After the explanation of the theoretical findings, a hypothesis has been formulated regarding each relationship taken into account by this study.

3.3.1. Flexibility and Work-Life Balance

Time flexibility is the sub-category of Flexible work arrangements that effects the most work-life balance (Possenriede and Plantenga, 2014), thanks to the possibility to choose when dedicating time to work and when using it to other personal interests. The ability of balancing work and non-work life is one of the major outcomes of time flexibility. In this way employees are more able to manage all the aspects of their lives in an efficient way. In fact, employees can choose to work at times most convenient to them, which serve to minimize roles' conflict and increase engagement in all the domains (Sirgy and Lee, 2018)¹⁰.

⁹ The hedonic and the eudaimonic meanings.

¹⁰ For example, they can choose to go to the gym or the supermarket when there are less people, reducing the time used for these activities and the stress related.

Moreover, employees that seek out working hours that fit their private needs are more likely to invest their capabilities fully at work, since it gives them more energy and makes them more productive. This result in a greater work-life balance (Wessels et al., 2019).

This practice creates positive outcomes especially in employees that have a family and children, since the level of engagement in the family-sphere is higher and the constraints are more incisive (Kersley et al., 2005). An analysis on families shows that, thanks to temporal flexibility, employees have more time for the family and this decrease individuals' perceptions of work/family interference (Christensen & Staines, 1990). For example, employees can spend more time with their children, and manage the work time to take them to and from school (Perrakis & Martinez, 2012).

Time flexibility may have negative consequences for employees' work-life balance and lead to more work-related stress in employees' private lives. Flexibility may bend boundaries, reducing freedom and reducing the time dedicated to other life spheres. In fact, time flexibility might make it easier to work overtime or to ponder over work during family or leisure time (Mirchandani, 2000).

Some authors (Bohen and Viveros-Long's, 1981; Campbell Clark, 2001) consider the relationship between time flexibility and work-life balance only indirect. According to them, time flexibility gives autonomy to the employees, and this autonomy give them the possibility to better balance their work and non-work life. For example, Campbell Clark (2001) did not find a relationship between time flexibility and WLB in the quantitative study conducted for the article. According to the author, the reasoning lies in the fact that the impact of temporal flexibility is primarily reflected in the freedom and autonomy it gives employees.

H1: time flexibility positively affects work-life balance

3.3.2. Autonomy and Work-Life Balance

Work-life balance is influenced by the five core job characteristics -skill variety, task identity, task significance, autonomy, and feedback (*Hackman and Oldham, 2007*).

Employees' work-life balance can be influenced by the amount of control they received at work (Ng et al., 2017). According to Campbell Clark (2001), autonomy is the dimension most often associated with work-life balance since it influences both work satisfaction and family well-being.

Well-being, for example, is obtained also thanks to the mediation of the feeling of self-control (Gerdenitsch et al., 2015; Karasek, 1979), derived from the given autonomy.

Mas-Machuca et al., (2016) consider individual autonomy as an antecedent of work-life balance. Autonomy, in fact, reproduces the extent to which a job permits an employee's self-determination, freedom to organize his/her own work or make decisions (Hackman and Oldham, 1975), giving them the possibility to efficiently manage their work and non-work life.

Autonomy affects WLB in both its exceptions, increasing work-life enrichment and reducing work-life conflicts (Badri and Panatik, 2020). According to the author, job autonomy acts as an important resource for employees to efficiently manage varying demands from work and family responsibilities, improving their overall condition of work-life balance. Job autonomy does not only foster a good balance between work and family domains but also reduce the inter-roles conflict between work and family (Badri and Panatik, 2020).

Sirgy and Lee (2018) found out that the fulfilment of the need of autonomy is not enough to achieve work-life balance, since it must be completed by the satisfaction derived from the achievement of this need.

Moreover, Bailyn (1993) claimed that fostering WLB through autonomy creates positive outcomes also to the organizations. Allowing autonomy, organizations will have more satisfied and productive employees. Moreover, these employees will have the freedom to manage their family life in ways that will lead to higher family functioning and satisfaction with family life. Since the work and family lives are strictly connected and influence each other, this implies also better work performances.

H2: autonomy positively affects work-life balance

3.3.3. Work-Life Balance and Job Satisfaction

Work-life balance (WLB) positively affects job satisfaction (Haar et al., 2014; Carlson et al., 2009). Companies in which work–life balance programs are available may be perceived by employees as more supportive and family-friendly. Those perceptions, in conjunction with leadership practices, affect job satisfaction (Jang et al., 2011).

The definition of Work-life balance given by Campbell Clark (2001) is: “*Work/family balance is defined here as satisfaction and good functioning at work and at home with a minimum of role conflict*” (pp. 349). It is possible to notice that a satisfaction both in job and personal life is included in the meaning of the concept.

From this statement, it is possible to also notice the presence of another concept: the role conflict. It has been proved that conflict reduces the level of employees’ job satisfaction (Campbell Clark, 2001). In fact, the relation between work and life can have a positive exception, enrichment, and a negative one, conflict. The conflict can be “work to family” and “family to work”. It has been highlighted that the category that negatively effects Job satisfaction the most is the second, since family may create negative interferences with work (Carlson et al., 2000).

According to Mas-Machuca et al. (2016), the relationship between work-life balance and job satisfaction is indirect and mediated by organizational pride, that consist in high appreciation for and a strong emotional attachment to the organization. Perceiving balance between work and non-work life can cause strong pride emotions to employees. Organizational pride enhances commitment to customer service, enthusiasm, or creativity. Employees who are identified and proud to work within the own company are also satisfied in their jobs (Van Dick et al., 2004).

Pattusamy and Jacob (2015) highlighted that the relation work life balance-Job Satisfaction is reversable. That means that high levels of job satisfaction led to a balance between work and non-work life, improving life satisfaction. According to the authors, both job and life satisfaction must be accomplished to have work life balance: “*career and family focused individuals feel balanced when they are highly satisfied and effective*

in their job and family roles. Any inconsistencies in the dual roles may lead to imbalance” (Pattusamy and Jacob, 2015, pp. 4).

H3: work-life balance positively affects the job satisfaction

3.3.4. Work-Life Balance and Work Engagement

Sirgy and Lee (2018) consider engagement as fundamental prerequisite to achieve work-life balance. The purpose of this analysis, instead, is to evaluate the reversed association, the effect of Work life balance on work engagement.

According to Žnidaršič and Bernik (2021), there is a lack of research on the direct effects of work-family balance on work engagement. The authors suggested a positive relationship between these two constructs based on related studies, since the direct effects have not been tested yet. For example, Žnidaršič and Bernik took into consideration that family friendly organizational measures, that have a direct impact on work-life balance, can increase employees' work engagement. In conclusion, the authors stated that the perception of work-family balance is related to the individual's feeling of being supported by the organization, that leads to work engagement.

The relationship between work life balance and work engagement is not supported by the literature. In order to give a justification to the relationship hypothesized, some theoretical considerations can be done.

Work-life balance is the reflection of work wellbeing in the private sphere, deriving from a general sense of physical and mental health (Ferreira, 2020). Since work well-being majorly depends on work engagement and job satisfaction (Rothmann, 2008) and work-life balance depends on work wellbeing, it is possible to state that these three variables are strictly connected to each other. However, even if this relationship seems intuitive, the understanding of the relation between work-related and nonwork-related feeling and attitudes remains unclear (Ferreira, 2020).

In light of this last consideration, the relationship between job satisfaction and work engagement can be considered in order to understand if work-life balance and work engagement are related. If the two variables are connected, and considering job

satisfaction as positively affected by work life balance, then it will be possible to suggest that work engagement is positively affected by work life balance.

H4: Work-life balance positively affects work engagement.

To give an easier understanding, it is possible to connect work-life balance, work engagement and job satisfaction, using an Aristotelian syllogism:

WLB and JS are positively related

JS and WE are positively related

Then

WLB and WE are positively related

This suggestion of positive relationship follows a two-steps approach:

- a. Evaluate the relationship between job satisfaction and work engagement and *vice-versa*.
- b. Confirm the connection between WLB and job satisfaction.

The link between job satisfaction and work engagement, and *vice-versa*, has been explored through various studies. Since it has been widely studied and proved, this relationship will only be considered theoretically. In fact, it is needed only to give an understanding of the hypothesis formulated between WLB and WE, it is not a part of the model.

Saks et al. (2006), Schaufeli et al. (2008), and Bakker et al. (2008), for example, showed that work engagement has a significant positive relation with organizational outcomes such as job satisfaction.

JS → WE Firstly, Job satisfaction will be considered as an antecedent of work engagement. Employees that experience job satisfaction are likely to be more energetic, dedicated and absorbed in their job. The satisfaction drives them into a motivational state,

that lead them into a engage state. In synthesis, when employees are satisfied of their job, they experience increased levels of work engagement (Yalabik et al., 2016).

WE → JS The relationship is also reversable, considering Job satisfaction as an outcome of work engagement. Engaged employees enter an interactive mode of challenges, inspirations, and pride. This increases their job satisfaction. Employees who are strongly and positively engaged with their work with energy and dedication, perceive satisfaction from their job consequently (Garg et al., 2018).

Since the bilateral relation is strong and well supported by the literature, it is possible to conclude that when job Satisfaction is achieved, employees will experience also work engagement and vice-versa.

The second step is already supported by previous literature (see 3.3.3. Work-life balance and Job satisfaction) and proposed as a hypothesis to be tested (H3; see section above).

The formulation of this hypothesis completes the framework between work-life balance and work engagement. The combination of the two hypotheses leads to an inner hypothesis of positive relationship between work-life balance and wellbeing, filling the gap encountered by Ferreira (2020).

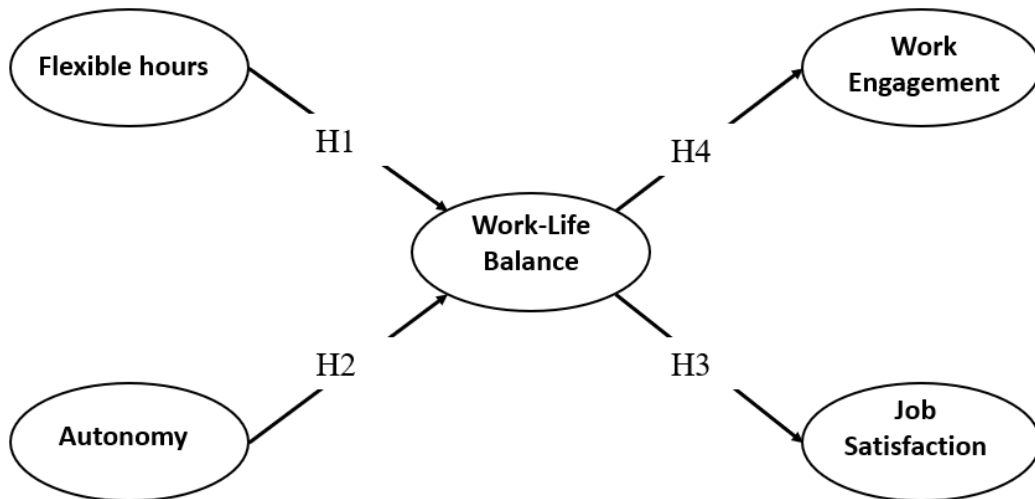


Figure 4: The relationships and the hypotheses

4. METHODOLOGY

The methodology approach adopted for this research is explained in this chapter. The aim is providing a clear vision of the objective and the steps encompasses to reach the goal of this thesis.

The approach chosen is a combination of qualitative and quantitative analyses, in order to have both a theoretical and empirical validation of the hypotheses. This thesis can be divided into two parts. The first is the literature review, that is the qualitative analysis, in which the description of the context and the main variables has been conducted theoretically. The second section is the analysis of the survey, to give statistical consistency to the model and evaluate the hypothesis on a numerical base. The choice of using a quantitative approach is justified by the willingness of testing and validating the formulated hypotheses thanks to the use of the mathematical support and an objective analysis.

The definition of the objective and the general steps is the starting point of the chapter. The most consistent section of the chapter is the presentation of the survey, with the referring sample, how it has been developed and the manipulation done. For example, two skims have been performed: on the sample, to consider only the actors that fit the model, and on the questions, inserting only the ones that are related to the constructs or useful general information.

A section is dedicated to the explanation of the measures used to create the constructs starting from the questions of the survey. The items have been created starting from certificate scales, to give theoretical solidity to this analysis.

All the statistical analyses have been performed using STATA 14¹¹.

¹¹ Stata is a complete, integrated software package that provides all your data science needs—data manipulation, visualization, statistics, and automated reporting (Stata, n.d.)

4.1. OBJECTIVE

The steps performed during this research are reported in *Figure 5*, in which the methodology adopted is summarized. More information will be given in the chapter.

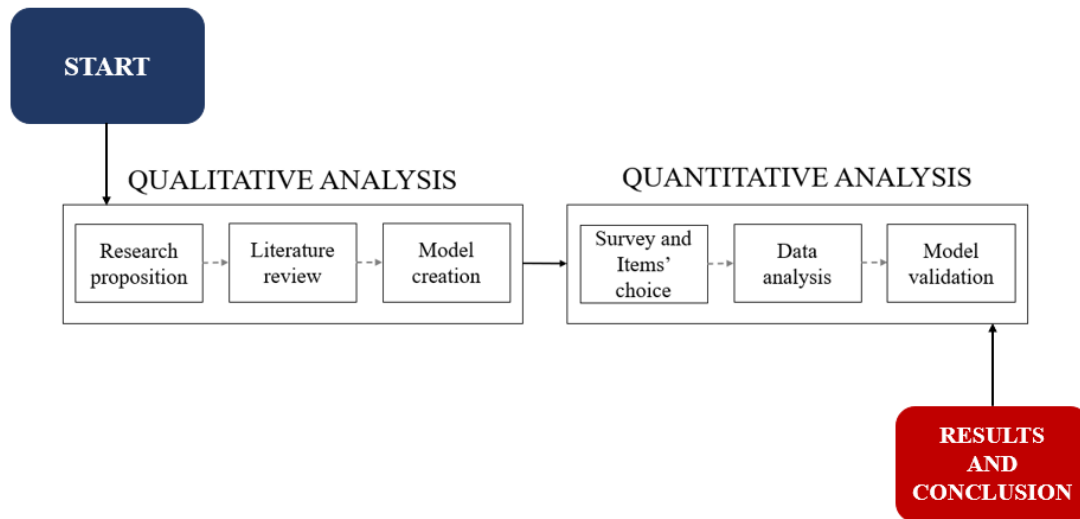


Figure 5: The steps

The literature review has been essential in creating a solid theoretical foundation. It has been the starting point of the understanding of the main elements that influence workers attitude towards personal and professional lives. Moreover, it helped in the finding of lacks in literature, to make the research innovative and contribute to the development of this topic.

The objective is to test the hypotheses defined during the explanation of the model (see 3.3. Hypotheses).

HYPOTHESIS
<i>H1: time flexibility positively affects work-life balance</i>
<i>H2: autonomy positively affects work-life balance</i>

H3: work-life balance positively affects the job satisfaction

H4: Work-life balance positively affects work engagement.

Table 3: The hypotheses

Even if some relationships proposed in the model are well-known in literature, they have not been studied in the referring context¹². Because of this lack, the interest has been focused on the analysis of these relationships within the public administration.

Because of the newness of the referring context, the found lack is consistent, giving a large room of choice. This room has been partially reduced by two elements. First, COVID-19 drastically reduced the possibility to apply real smart working practices. For this reason, the shift from Smart Working to remote working has been proposed. Secondly, the availability of a preconstructed questionnaire reduced the possibility of investigating interesting areas that have not been covered by the questions, such as the leadership style.

4.2. SURVEY

The survey has the purpose of testing the hypotheses empirically. It is used as a detection tool because it gives the possibility to statistically validate the hypotheses developed in this thesis.

The questions of the survey have been classified to identify the constructs of the model. Therefore, each construct is composed by a set of items, used in literature to represent it. In addition, an analysis on the reliability of the constructs has been performed using the statistical software *STATA 14*, analysing the Cronbach's alphas.

In this way the model has both theoretical and statistical consistency.

¹² remote working practices in public administrations.

Moreover, the survey is widely used in social studies, such as in the economic or psychology fields. It gives the possibility to collect information with a standardized method and reach a big sample on which build a matrix to analyse.

It is important to highlight that all the data have been collected during a pandemic situation, in which people have been particularly susceptible to feelings of loneliness, uncertainty, fear of infection, and financial concerns and then are more likely to exacerbate all the negative effects related to the situation (Newby et al., 2020).

4.2.1. Sample

The National Fire Brigade is a civil state structure born in 1939 with the *Regio decreto legge* of 27 February 1939. The purpose of the brigade is "*public rescue and fire prevention and extinction services throughout the national territory, as well as other activities assigned to the National Corps by laws and regulations, as provided for in this legislative decree.*" (The national fire corps, n.d., pp. 5374)

The Department is composed by eight central directorates, eighteen regional offices and one hundred provincial commands, with around eight hundred stations throughout the country. National Fire Corps is one of the four Department that depends on the Ministry of the Interiors.

The central organization is divided into *Central Directorates and Department Offices* (Canazza, n.d.).

The peripheric structure is articulated in:

- **Regional Directorates** of Public Rescue and Civil Defence Fire Brigades, aimed at performing regional implementation of institutional functions.
- **Provincial commands**, to perform in the provincial sphere of institutional functions.
- **Districts**, permanent and voluntary secondments and supervisory posts under the provincial headquarters.
- **Special units** and departments, to perform activities requiring the use of trained personnel, with the possible aid of special equipment or animals.

The brigade can be generally divided in (Governo sul territorio: le Prefetture, 2021):

- Operational staff, the emergency teams that work through the country. It is the first line, the front end, in direct contact with the emergencies.
- The head of the department of Firefighters. This figure is a *prefetto*, the peripheral administrative body that oversees the security apparatus and the economic and social life of the province.
- The administrative staff (Computer Technician Administrative Service): the back end, that supports the operational staff in all administrative and accounting tasks.

STRUCTURE OF THE NATIONAL FIREFIGHTERS BRIGADE

Operatives -----	31.634
Administrative and IT Section -----	26.425
Volunteers -----	6.511

DEPARTEMENTS

Central directions -----	8
Inspective central office -----	1
Regional directions -----	18
Provincial commands -----	102
Detachments -----	334

Table 4: The composition of the National Firefighters brigade (Canazza, n.d.)

During the pandemic in Italy, emergency workers, such as firefighters, have been in first line, with gruelling work shifts that were long and full of tension, facing both objective and emotional difficulties. This can cause anxiety and exhaustion, with the possibility of leading to the development of secondary trauma (Maiorano et al., 2020).

4.2.1.1.Composition

The sample was initially composed by 8325 respondents. Including only the workers who had worked remotely and who have answered entirely to the questionnaire we have obtained a final sample composed by 1550 respondents.

Only some kind of organs have been included in the analysis. This is due to the fact that the operative section of firefighters is facing emergencies, the flexibility is intrinsic in the job and not decided by workers. For this reason, this category cannot experience remote working and flexible practices, more in line with office jobs.

Instead, the other sections act as general employees of the public administration, with the office job that better fits with the remote working, not different from the other members of PA, such as who works in municipalities and so on.

4.2.2. Structure of the survey

The survey analysed has been developed by a research project conducted by the Smart Working observatory of Politecnico di Milano. The survey has been spread in October 2020 remotely through e-mails and it requires 10minutes to be completed.

The survey is divided in two parts.

The first part of the survey is dedicated to the generalities, such as age of workers, gender, job position, and region of origin.

Some questions of this section have not been included in the analysis, since are not considered relevant. In particular, the generalities analysed are age, gender and unit. Such information will be used to compose the control variables.

The second part of the questionnaire is the biggest and consist in 63 questions related to Smart Working during COVID-19 pandemic. Thanks to this slot of questions, it has been possible to select the items that compose the constructs of the model that will be analysed statistically, that have been reported in the table below.

Not all the employees that answered have done remote working. For this reason, a gate question to divide the answers has been proposed:

“In the last months, have you worked in Smart Working modality?”

Only the employees that answered “Yes” to this question have been took into consideration.

A clarification must be done. In the survey, the construct is called Smart working by the developers. However, in the section 2.3.2. has been clarified that it is incorrect to refer to SW in this context. For this reason, during the explanation the construct will be called teleworking or remote working, even if in the questions it will remain SW.

A manipulation has been necessary to work on the dataset.

From a starting dataset of 147 questions, only 43 have been selected, 9 of generalities and 34 referring to the variables of the model.

The big delta between before and after is majorly determined by two main reasons:

- there were questions not attributable to specific constructs. In fact, the constructs considered relevant from the literature analysis have been included in the model. The questions to detect them have been selected from the one available in the survey and the others have been discarded.
- a part of the questions was directed to who answers “no” to the gate question. Since the focus of the analysis is teleworking, that questions have been excluded.

In order to allow a statistical analysis with particular software, questions have been renamed. In this way the questions related to the same construct have the same initial code. This passage helped also in rearranging the order of the questions in the dataset and it allowed a first look analysis on excel.

4.2.3. Measurement

The questions extrapolated from the questionnaire refer to a specific construct in the literature. The questions have been chosen basing on certificate scales¹³. This gives a theoretical robustness to the analysis since in this way it is more likely to have a better interpretation of the constructs.

¹³ It means that some authors defined specific questions to ask in order to detect that particular construct. The classification is then recognized in the literature.

The method used is the same of the literature review, searching for documents in which there were present the constructs to investigate. The documents containing the cited scales have been searched separately, mostly on Google scholar and ResearchGate.

All the measures were assessed using a five-point Likert scale¹⁴, from 1 (strongly disagree) to 5 (strongly agree).

The items have been compared with the ones of the survey of analysis and then attributed to a scale. The components of the construct have been summed to represent the final index. The Cronbach's alphas will be indicated in the details of each scale.

Flexible Hours was measured with the five-item Work culture scale (Campbell Clark, 2001), majorly using the exceptions of flexitime and schedule flexibility.

Cronbach's alpha= 0.8211

N° Item	Survey's questions	Scale's questions
FH1	Sono libero/a di scegliere in quale fascia oraria dover lavorare	I am free to work the hours that are best for my schedule
FH2	Mi sento più responsabilizzato senza un controllo preciso dell'orario e del lavoro svolto	I would easily take a day off or work, if I wanted to.
FH3	Posso stabilire con una certa autonomia l'orario di inizio e di termine dell'attività lavorativa, garantisco il risultato più che l'orario	I am able to arrive and depart from work when I want.

Table 5: The items of FH and comparison with the certified scale

Job Autonomy has been measured using the Work design questionnaire (Morgeson and Humphrey, 2006), based on “*Work Methods Autonomy*” and “*Decision-Making Autonomy*”, as defined by the authors.

Cronbach's alpha= 0.6856

¹⁴ This scale is mainly used to identify how much the respondent agree or disagree with the question proposed. Using different sizes of the scale gives the possibility to go further than a simple yes/no answer.

N° Item	Survey's questions	Scale's questions
JA1	Posso scegliere in modo autonomo come raggiungere gli obiettivi che mi vengono assegnati dai miei superiori	The job gives me considerable opportunity for independence and freedom in how I do the work.
JA2	Mi sento a mio agio nel prendere decisioni autonome all'interno delle mie responsabilità	The job allows me to make a lot of decisions on my own.
JA3	Posso distribuire i miei compiti e il mio carico di lavoro, nell'arco di una giornata lavorativa, in maniera autonoma	The job allows me to make my own decisions about how to schedule my work

Table 6: The items of JA and comparison with the certified scale

Work-life balance is assessed by the SWLB (*satisfaction with Work-life-balance*) and WIPL (*work interference with personal life*) scales, developed by Banu and Duraipandian (2014). The use of two different scales is due to the WLB double nature. In fact, this construct measures both enrichment and work-family conflict, classified thanks to SWLB and WIPL respectively.

Cronbach's alpha=0.8048

N° Item	Survey's questions	Scale's questions	Dimension (Banu and Duraipandian 2014)
WLB1	Attualmente sento di riuscire a dedicare sufficiente tempo sia al lavoro che alla famiglia	I am successful in managing my home and work demands	SWLB
WLB2	Sono soddisfatto di come il tempo a mia disposizione mi consenta un corretto equilibrio tra vita provata e professionale	I am satisfied with the way I divide my time between work and personal life	SWLB
WLB3	Sento di non riuscire a gestire e concludere gli impegni familiari nell'arco della mia giornata	as I have to spend more time in my work domain, I often fail to fulfil my family responsibilities	WIPL

WLB4	Il lavoro da casa è uno strumento che aumenta la flessibilità del lavoro e la possibilità di mettere d'accordo esigenze di servizio e personali	I am satisfied with my ability to meet the needs of my job with those of my personal life	SWLB
-------------	---	---	------

Table 7: The items of WLB and comparison with the certified scale

Job Satisfaction is measured by the MOAQ scale (Michigan organizational assessment Package) developed by Berg et al. (1975). This scale has been developed to create a package of instruments designed to assess planned change in organizations (Berg et al., 1975). The sections took into consideration are *general job satisfaction*, *Experienced Skill Adequacy*, and *internal turnover*.

Cronbach's alpha=0.7814

N° Item	Survey's questions	Scale's questions
JS1	Sono soddisfatto del ruolo che occupo attualmente all'interno dell'Organizzazione, non vorrei appartenere ad un'altra	in general, I like working here + " I am proud on the work that I do"
JS2	Il mio ruolo all'interno del Corpo Nazionale dei VVF risponde bene ai miei bisogni e capacità	I have all the skills I need in order to do my job.
JS3	Il lavoro che faccio ha una grande importanza	The work I do on my job is meaningful to me
JS4	Nonostante il periodo difficile, il mio lavoro mi piace molto	I am enthusiastic about my job

Table 8: The items of JS and comparison with the certified scale

Work Engagement is represented by the UWES (Utrecht Work Engagement scale) developed by Schaufeli et al. (2002). This scale encloses the three dimensions of work engagement identified by Bakker and Schaufeli (2002; see 2.2.3.2 Work engagement)¹⁵.

Cronbach's alpha=0.7445

N° Item	Survey's questions	Scale's questions	WE dimensions (Schaufeli et al., 2002)
WE1	Al lavoro mi sento frequentemente pieno di energia	At my work, I feel bursting with energy	vigor
WE2	Sono appagato dal lavoro che sto svolgendo	I feel happy when I am working intensely	absorption
WE3	Sono entusiasta del mio lavoro e mi ci dedico con passione	I am enthusiastic about my job	dedication

Table 9: The items of WE and comparison with the certified scale

4.3. DATA ANALYSIS

This section is developed to give a theoretical explanation of the techniques used for the analysis of the information obtainable from the survey.

The Cronbach's alpha, in section 4.2.3, and the SEM, in section 5.3.2., have been the methods used to statistically validate the model.

All the questions and answers have been imported in an Excel file. In order to allow a statistical analysis with particular software, questions have been renamed. In this way the questions related to the same construct have the same initial code. This passage helped also in rearranging the order of the questions in the dataset and it allowed a first look analysis on excel.

¹⁵ vigor, dedication, and absorption.

All the empty cells have been cleaned in order to allow the software to work properly. Some answers have been inverted since the question was negative.

The answers that were not in numbers have been translated in order to be analysed by the software.

The theoretical information of this section has been taken from McClave et al., 2005, excluding where otherwise indicated.

4.3.1. Cronbach's Alpha

Define some relationships and verify hypothesis is possible thanks to scales. These scales must have some validity characteristics, such as *reliability*. Reliability is an “indicator of consistency of measurement values repeated under same circumstances” (Ercan et al., 2007, pp.291). This indicator can be measured by the Alpha coefficient method (Cronbach, 1951), especially for Likert scale items.

Cronbach's alpha is a statistical method used to measure reliability of unobservable items, for example to give internal consistency to surveys (Christmann and Van Aelst, 2006). The robustness of the model is given by the correlation level between items of the same construct.

Cronbach's alpha is a weighted mean based on standard deviation. It is obtained dividing the K items in the scale to the general variance.

$$\alpha = \frac{n}{(n - 1)} \left[1 - \frac{\sum_{i=1}^n \sigma_{Y_i}^2}{\sigma_x^2} \right]$$

n: number of items

$\sigma_{Y_i}^2$: ith item's standard deviation

σ_x : general standard deviation

The values can be between 1 and 0. The more the value is close to 1, the more the items are correlated. This means that the construct is supported by statistical evidence. *Vice-versa* happens for values close to 0, that means a low correlation between items. If low values are detected, the construct must be reformulated (Cho and Kim, 2015).

In this analysis, the Cronbach's alpha has been measured for each construct to give it robustness. The software used is STATA 14.

4.3.2. Zero-order correlation matrix

The correlation between two variables indicates the relationship between them. In particular, the zero-order correlation is the correlation between two variables without the influence of other variables.

The table represented in 5.3.1. is a correlation matrix, that indicates the relationships between the variables using the Pearson coefficient. The diagonal is empty since the correlation among the same variable is always 1.

The coefficient presents in the zero-order correlation analysis is called Pearson Correlation Coefficient. It measures the linear relationship between the variables. The value of the coefficient can be between -1 and 1. In particular, $|1|$ indicates a perfect linear correlation – negative in case of -1-, while 0 indicates no linear correlation. The closer the value is to $|1|$, the stronger is the relationship between the variables.

4.3.3. Structural equation modeling (SEM)

The structural equation modelling (SEM) is a comprehensive statistical approach for testing hypotheses about relationships between observed and latent variables (Ying et al., 2013).

SEM is composed by a measurement and a structural part. The measurement model is a multivariate regression, describing the relationship between the dependent variables observed and the continuous latent variables. It indicates how the constructs are related to the measurable variables. The structural model, instead, is described by a set of linear regression equations of the dependent variables and identifies the relations between constructs (Muthén & Muthén, 1998-2012).

It includes various multivariate procedures, such as factor analysis and regression analysis (Hox and Bechger, 1998).

This model is commonly described by path diagrams, to give a visual view of the model. Thanks to these diagrams, it is possible to understand the relationships among the variables. A path diagram is composed by squares and circles connected by arrows.

The purpose of this analysis is to prove that the model represents a good approximation of the real world. If the validity is not verified, the model must be changed to eliminate the errors.

The section analysed in this research is the structural part, to understand the relationships between the constructs of the model, independently from the control variables. The software used is *STATA 14*.

4.3.3.1. Confirmatory factor analysis

Factor analysis is used for modelling observed variables in smaller numbers of underlying latent – unobservable - factors. The factors are a broad concept of the description of a certain phenomenon.

In particular, the confirmatory factor analysis (CFA) is multivariate statistics. It is used to test the correspondence between the variables and the number of the constructs. In other words, CFA is a method to confirm or reject the measurement theory.

To assess this analysis, some coefficients have been evaluated.

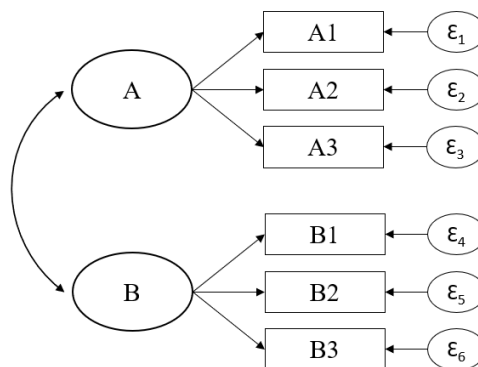


Figure 6: The confirmatory factor model

First of all, the factor loadings have been calculated. It indicates the relationships of each variable with the underlying factor. Thanks to this coefficient it is possible to establish whether the items associated to the construct correctly contribute to the right measurement of the latent variable. When the factor loading is ≥ 0.7 it means that the factor extracts sufficient variance from the variable.

These coefficients have been used to evaluate the convergent validity. The convergent validity confirms that two measures that assess the same construct are related. It is measured using two indicators: AVE and CR.

The average variance extracted (AVE) reveals how much variations in the items can be explained by the construct or by the latent variable.

$$AVE_j = \frac{\sum_{i=1}^p L_i^2}{p}$$

J= number of constructs

P=number of items in the construct

L_i =standardized factor loadings for the i_{th} item

It is calculated for each construct starting from the sum of the squared standardized factor loadings of the items that constitute the construct. This value is then divided the number of items present in the construct. When AVE is $> 0,5$ it is possible to state that there is an adequate convergence. If the value is less than 0.5 it might indicate that the items explain more errors than the variance of the construct.

The second coefficient is the composite – or construct- reliability (CR). It is an indicator of the shared variance among the observed variables of the latent construct (Fornell & Larcker, 1981).

$$CR_j = \frac{(\sum_{i=1}^p \lambda_i)^2}{(\sum_{i=1}^p \lambda_i)^2 + \sum_i v(\delta_i)}$$

λ_i = standardized factor loadings for the i_{th} item

$V(\delta_i)$ = variance of the errors for the i_{th} item

P = number of items in the construct

CR of each construct is calculated considering the squared sum of the factor loadings divided the sum of the squared sum of the factor loading with the sum of the errors of the items.

To verify high internal reliability, CR must be higher than 0.7.

4.3.3.2. Path analysis

The path analysis is used to support or refuse a hypothesis. The coefficient involved in this analysis are the path coefficient and the p-value.

In order to explain the meaning of the path coefficient, the notion of dependent and independent variable must be given.

The independent variable is manipulated to observe the effects on another variable, the dependent, also called outcome. Therefore, the dependent variable depends on the fluctuations of the independent variable. During experimental research, the manipulation of the independent variables enables to identify the correlation cause-effect between the variables.

The path coefficient defines the correlation between the dependent and the independent variable (Muthén and Muthén, 1998-2012) This number indicates the response of the dependent variable to a unitarian change of the independent one, considering the other variables constant (Bollen, 1989). The correlation can be positive if the dependent variable increases its value due to the change of the independent, or negative if the value of the dependent variable decreases (Muthén and Muthén, 1998-2012).

The P-value, or probability value, is used to validate a hypothesis, supporting or rejecting the null hypothesis. The null hypothesis is that there is a null relationship between the variables of interest (Glen, n.d. a).

The smaller the P-value, the stronger is the evidence to reject the null hypothesis. To consider the null hypothesis rejected, the P-value should be $P < 0.05$. When $P < 0.001$ there is a high statistical significancy -less than one in a thousand chance of being wrong.

If the p-value invalidate the null hypothesis, it means that the relationship between the variables is verified, confirming the hypothesis.

To give an example it is possible to consider the hypothesis H1:

H1: time flexibility positively affects work-life balance

The p-value is used to reject the hypothesis:

H0: there is no relationship between time flexibility and work-life balance

Since the P-value is 0, the null hypothesis is rejected, validating H1 instead.

4.3.3.3 Model fit indices

Some absolute and relative indicators have been reported to test if the model fit the data. The coefficient analysed in this section are RMSEA, CFI, TLI and SRMR.

The Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) is an absolute indicator and represents the average standardized residual per degree of freedom. In other words, “*it assesses how far a hypnotized model is from a perfect model*” (Xia and Yang, 2019, pp. 409). The model is considered a reasonable proxy of the reality when the value of this coefficient is less or equal to 0.08. The values less or equal to 0.10 are still considered acceptable but not optimal. If $RMSEA < 0.05$ the model represents a “*close fit*” (Xia and Yang, 2019, pp. 409).

The Standardized Root Mean Square Residual (SRMR; Bentler, 1990) is the second absolute indicator took into consideration. It evaluates “*the standardized residuals between the hypnotized and the observed covariance matrices*” (Cangur and Ercan, 2015, pp. 156). The value is considered acceptable when smaller than 0.10 but it is an indicator of good fit when it is lower than 0.05 (Cangur and Ercan, 2015).

The Comparative Fix Index (CFI; Bentler, 1990) and the Tucker-Lewis Index (TLI; Tucker & Lewis, 1973) are incremental fit indicators that compare the baseline model with the hypnotized one. CFI indicates the best approximation of the population for a single model. When the value is greater than or equal to 0.09 it indicates a good fit. TLI, instead, measures “*the relative reduction in misfit per degree of freedom*” (Shi et al., 2019,

pp. 313). The value of this indicator can be also negative or higher than 1. If $TLI \geq 0.95$ the model is considered good.

The indices described in this section have been used both for the factor and the path analyses.

5. RESULTS

The aim of this chapter is to analyse the results of the questionnaire, especially to provide a statistical validity to the model. In particular, a first paragraph with the evaluation of the distribution of the sample (age, gender etc.) is presented, followed by descriptive statistics in order to give a general overview of the constructs considered and their relationships. In the final section hypotheses are tested through the implementation of SEM analysis.

5.1. THE SAMPLE

This section provides an overview of the results regarding the respondents' characteristics.

The questionnaire has been administered to 8325 employees. This size has been reduced using some filters. In the final sample we have included only those employees who had practiced remote working during the pandemic. The final sample is composed by 1550 respondents.

5.1.1. Age

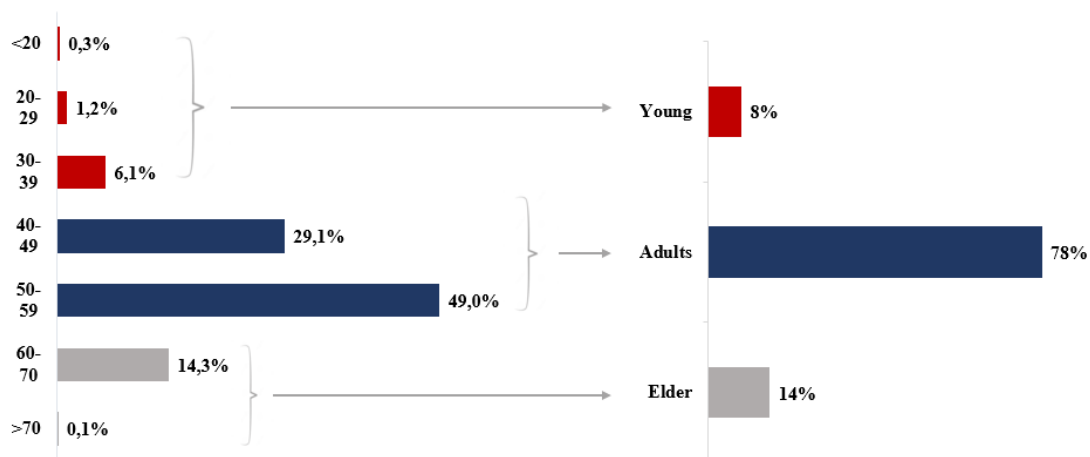


Figure 7: Age distribution

Almost half of the respondents are between 50 and 59 years old.

A further analysis can be done reducing the scale to only three bigger groups, young -less than 40, adults – between 40 and 59 -, and elder – more than 60 (Villerot, 2015)¹⁶.

Considering this classification, the majority of workers are adults, as emerged also from the initial analysis. The difference between the three groups is significant, since the adults represent almost the totality of the sample and only the 21,9% is composed by the other two groups.

What it is possible to highlight now is that the elders are almost twice the young workers.

5.1.2. Gender & Unit

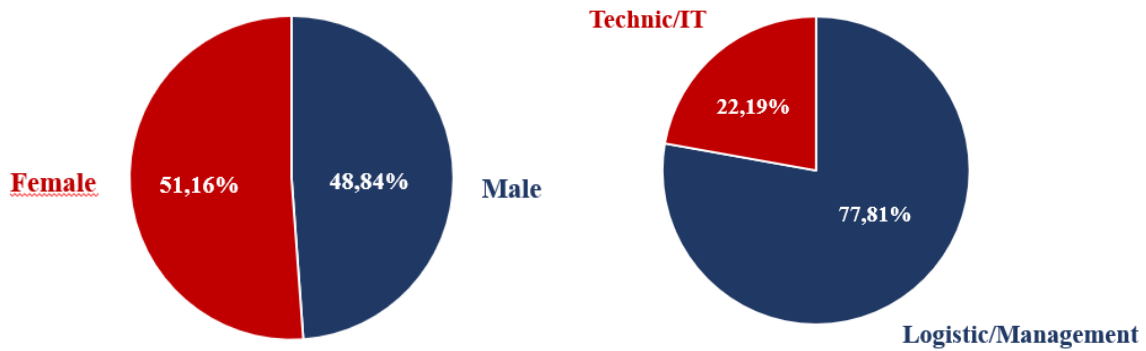


Figure 8: Gender and unit distribution

¹⁶ The ranges have been adapted due to the one proposed in the survey.

The gender is almost equally distributed, with a slight majority of women in the sample and the respondents work in the managerial unit more than in the technic one.

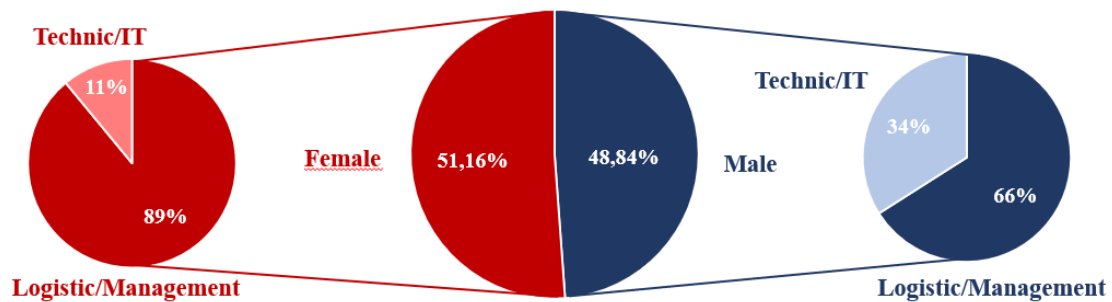


Figure 9: unit distribution divided by gender

Analysing the data per gender, almost the totality of women works in the logistic/managerial section – 89%-, with a low percentage of female employees in the technical unit – 11%. Men are more equally distributed, with the 66% that works in the managerial section and the remaining 34% that works in the IT unit.

The table below gives an overview of the distribution of the gender in the units.

	Logistic/Management	Technic/IT	TOT Gender
Male	501	256	757
Female	705	88	793
TOT Unit	1206	344	

Table 10: Gender and Unit distribution

The managerial unit has a more equal division, with the 58% of the jobs occupied by woman and the 42% by men. The distribution of the technical division, instead, is more unbalanced, since most of the employees of this area are men, with only the 26% of women.

5.2. RESULTS FROM THE QUESTIONNAIRE

This paragraph provides a general overview of the constructs considered in the model.

The table reports the number of valuable observations, the mean, the standard deviation, and the minimum and maximum values of each construct.

All the constructs are based on the same scale¹⁷. For this reason, the results are comparable.

A particular attention is given to the mean and standard deviation of both the general index representing the construct and the single items that constitute it. This passage could be useful to extrapolate necessary information for the understanding of the data as a whole.

The mean gives information regarding the average value of the answers.

The standard deviation, instead, represents the variability of the answers. This means how much the answers are far from the average value. The variability can be low (≤ 1) or high (> 1), depending on how the single values deviate from the mean (McClave et al., 2005).

Two variables can have same values of mean but different standard deviations. This gives different explanation to the values of the two variables.

For a better explanation, an example is proposed.

The table below represents two samples composed by the same number of answers.

N. observations	Sample A	Sample B
1	2	1
2	2	0
3	2	2
4	2	5
5	2	2
6	2	1

¹⁷ 1-5 Likert scale

7	2	3
Mean	2	2
St. deviation	0	1,51

Table 11: Standard deviation example

In both of the cases the mean is 2, but the standard deviation shows that the answers of the first sample are more in line with the average. This means that there is no variability in the data and all the respondents of the sample A. the answers of the sample B are very variable. Looking only at the averages, no differences would be detected between the two samples. The standard deviation highlights that the answers of the second sample differ between each other and the average is only a combination of low and high values.

It is important to underline that all the answers can be biased by the environment in which the sample is since it changes the perception of the constructs. An example is the COVID-19 pandemic, that modified the professional and personal routine of the respondents.

As it is possible to see from the table, the number of observations of Work-life balance is different from the others. In fact, in this case not all the respondents answered to all the questions. For this reason, the non-complete answers have been not included in the count.

CONSTRUCT	ITEM	N.OBS	MEAN	STD. DEV.	MIN	MAX
Flexible hours	FH1	1550	3,56	1,24	1	5
	FH2	1550	3,81	1,18	1	5
	FH3	1550	3,81	1,22	1	5
Autonomy	JA1	1550	3,84	0,934	1	5
	JA2	1550	4,01	0,83	1	5
	JA3	1550	3,92	1,04	1	5
Work-Life balance	WLB1	1548	4	0,96	1	5
	WLB2	1550	3,97	0,99	1	5
	WLB3*	1550	4,05	1,11	1	5
	WLB4	1550	4,05	0,95	1	5
Job Satisfaction	JS1	1550	3,91	1,09	1	5
	JS2	1550	3,71	1,08	1	5
	JS3	1550	4,27	0,7	1	5
	JS4	1550	4,26	0,83	1	5
	WE1	1550	3,6	0,94	1	5

Work Engagement	WE2	1550	3,91	0,98	1	5
	WE3	1550	4,02	0,89	1	5

Table 12: Number of observations, mean, std. dev., min., and max. of each item

***Reversed item**

The highest mean value is reached by JS3, that has also the lowest value of standard deviation. This means that all the respondents answered with a high value, with a delta of only 0,7. The lowest mean number is the one of FH1, with the highest standard deviation. In this case, the difference between the values of the answers is higher and the mean is a combination of low and high values. Combining the high standard deviation with the low mean, it is possible to realise that the number of people that answered on a scale from 1 to 3 is higher than who selected 4 or 5.

The question WLB4 gives the possibility to have a look on the direct appreciation of remote working by respondents.

In the table below the overall values have been reported.

CONSTRUCT	N.OBS	MEAN	STD. DEV.	MIN	MAX
Flexible hours	1550	3,74	1,09	1	5
Job autonomy	1550	3,93	0,76	1	5
Work-life balance	1548	4,11	0,83	1	5
Job satisfaction	1550	4,29	0,69	1	5
Work engagement	1550	3,86	0,81	1	5

Table 13: Number of observations, mean, std. dev., min., and max. of each construct

All the means are over the sufficiency level (3). This means that, on average, employees experience all the constructs reported in the model, perceiving time flexibility, autonomy, balance, satisfaction, and engagement. The highest mean is reached by job satisfaction, while the lowest is referred to flexible hours.

In general, the standard deviation is medium-low, meaning that the respondents agree between each other on the level of perception of the construct. The only exception is time flexibility, with a level of standard deviation higher than 1. In this case not all the

respondents agree on the questions and the on average value is the result of “high” answers (4-5) combined with “low” answers (1-2). Therefore, this data is explanatory of the difference in temporal flexibility experienced by the respondents.

The further discussion will be focused to only the significative elements of the two tables. In particular, there will be an understanding of the constructs with the lowest and highest overall mean – respectively flexible hours and work-life balance. Moreover, some particular items that shows some peculiarities will be analysed, such as FH1 and WE1, with low levels of average, and JS3, that has the highest mean and the lowest variance.

5.2.1. Contingency analysis

Segmenting the sample in classes, it is possible to analyse the answers depending on the generalities of the respondents. In particular, in this paragraph the answers have been analysed depending on the age, gender and unit.

5.2.1.1 Age

	FH	JA	WLB	JS	WE	SAMPLE	AVG.
>=60	3,81	3,89	3,98	4,23	3,82	222	3,95
50-59	3,76	3,93	4,10	4,30	3,89	759	3,99
40-49	3,73	3,94	4,20	4,30	3,84	451	4,00
30-39	3,44	3,98	4,09	4,32	3,74	95	3,91
<30	3,87	3,87	4,22	4,26	3,74	23	3,99
HIGHEST	<30	30-39	<30	50-59 & 40-49	50-59		
LOWEST	30-39	<30	60-69	>=60	30-39 & <30		

Table 14: Mean value of each construct analysed by age

The table shows the average answer given by each group for each construct.

The second-to-last column indicates the size of the sample. Only one person older than 70 and only four workers younger than 20 answered to the questions. Since the difference between the samples is too big, these two classes have been included in the nearer category, creating a class “>=60” and one “<30”.

The deltas between the values are very low. This means that all the ages perceive the construct more or less at the same way.

Considering the age, the mean values are similar to each other. Nevertheless, even if the differences are minimal, it is possible to detect the highest and the lowest values, represented in the table with green and red colours respectively. The age with the highest mean is 40-49, while the one with the lowest is 30-39.

For each construct it is also possible to highlight the lowest and the highest numbers. Unlike the highest numbers, it is visible that the recurrent age class that has the lowest value is the 30-39 years old, as highlighted in the calculation of the general average per age.

In the paragraph 5.1.1, the ages have been reallocated in three macro-groups. The table below represent the regrouping for a more general understanding of how the constructs have been perceived among the different ages. Also in this case it is important to keep in mind that the elder and the young are a small percentage of the total, even if slightly bigger than before, due to the grouping.

	FH	JA	WLB	JS	WE	AVG.
elder	3,81	3,89	3,98	4,23	3,82	3,95
adults	3,75	3,94	4,14	4,30	3,87	4,00
young	3,53	3,96	4,12	4,31	3,74	3,93
HIGHEST	elder	young	adults	young	adults	
LOWEST	young	elder	elder	elder	young	
$\Delta\%$	8,1%	1,69%	4,00%	1,78%	3,67%	

Table 15: Mean value of each construct analysed by age - grouped

The highest delta is the one of time flexibility, while the lowest is Job autonomy.

As before, the colours in the last column represent the lowest and highest value. The class with the highest average is the one of the adults, while the lowest is the young. The last information is indicated also by the analysis of the single constructs. Equally to the considerations on the previous table, the lowest for each construct has a recurrency, the young.

5.2.1.2 Gender

The second analysis is performed filtering by gender.

	FH	JA	WLB	JS	WE	AVG.
FEMALE	3,736	3,916	4,127	4,285	3,856	3,984
MALE	3,742	3,947	4,131	4,295	3,850	3,993
HIGHEST	M	M	M	M	F	
LOWEST	F	F	F	F	M	
$\Delta\%$	0,16%	0,78%	0,09%	0,22%	0,14%	

Table 16: Mean value of each construct analysed by gender

M=male; F= female

The deltas are very low, even more that in the case of the analysis per age. For this reason, it is not possible to derive considerations based on the differences among the constructs with this classification. In general, men and women had the same perception of the constructs.

5.2.1.3 Unit

The last analysis is conducted by Unit. In the managerial area works the majority of employees. For this reason, this is only a rough analysis, even if the values might not be totally comparable due to the difference in size of the samples.

	FH	JA	WLB	JS	WE	AVG.
IT	3,802	3,980	4,134	4,404	3,919	4,048
MAN	3,721	3,918	4,106	4,257	3,838	3,968
HIGHEST	IT	IT	IT	IT	IT	
LOWEST	Man	Man	Man	Man	Man	
$\Delta\%$	2,17%	1,58%	0,067%	3,45%	2,09%	

Table 17: Mean value of each construct analysed by Unit

Analysing the deltas, it is possible to see how small the one of work-life balance is. Time flexibility is, again, the one with the highest difference. One peculiarity is the high value of the delta of Job satisfaction. in general, the highest values are related to the IT unit, while the lowest refers to the logistic/managerial.

Despite these small considerations, no further analyses can be done on the differences between the two units because, like the case of the gender, the deltas are too low.

It is possible to summarize the three analyses using the deltas of each table.

$\Delta\%$	FH	JA	WLB	JS	WE	HIGHEST	LOWEST
Age	8,1%	1,69%	4,00%	1,78%	3,67%	FH	JA
Gender	0,16%	0,78%	0,09%	0,22%	0,14%	JA	WLB
Unit	2,17%	1,58%	0,067%	3,45%	2,09%	JS	WLB

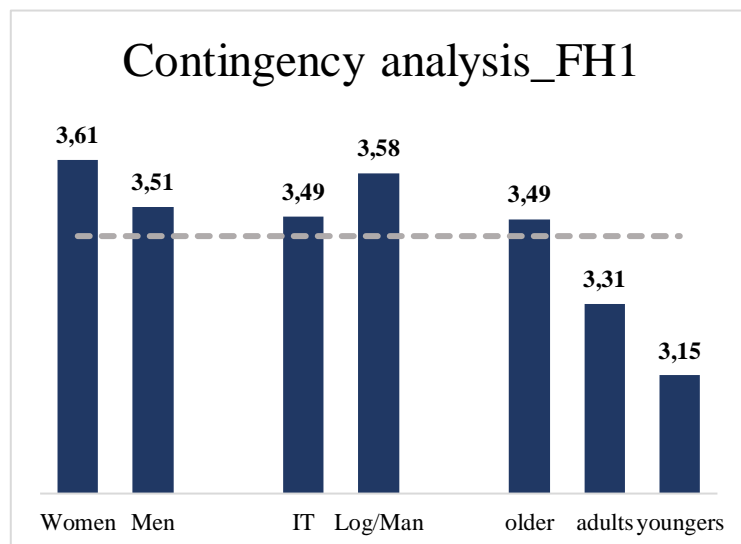
Table 18: Deltas of the mean values of each construct by age, gender, and unit

In general, all the values are very low. This means that the answers are in line with the average value. However, age is the one with highest deltas, while gender has the lowest.

The last two columns indicate the highest and the lowest delta of each classification. It appears clear that work-life balance is the construct with the lowest differences among the classes.

5.2.1.4 Analysis of the most significant items

In this section, the items with a particularity have been analysed, segmenting the answers per classes.



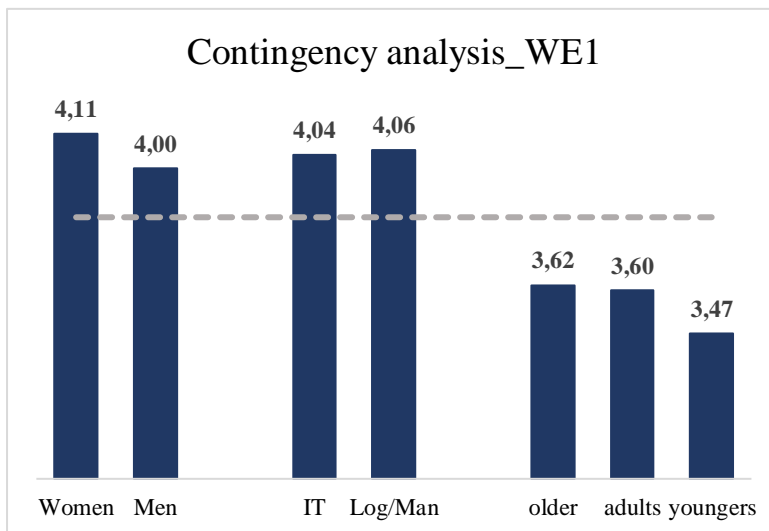
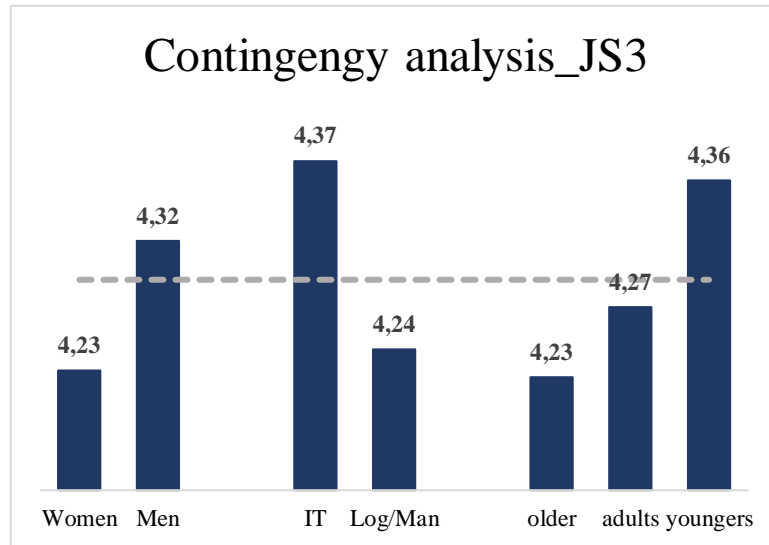


Figure 10: Contingency analysis on the main items of interest (FHI, WE1, and JS3)

The dotted line represents the mean value. As it is possible to see from the graphs above, WE1 and JS3's answers are in line with the mean value.

5.3. MODEL

This paragraph shows the statistical analyses conducted in order to test and validate the model. In particular, a correlation matrix has been created to understand if a linear relationship exists between the variables investigated. Therefore, a SEM analysis has been performed to assess the validity of the hypotheses (Muthén and Muthén, 1998-

2012). The internal consistency of each construct has been already proven by the Cronbach's alpha coefficient, shown in section 4.2.3. Measurement.

5.3.1. Zero-order correlation analysis

The table below indicates the zero-order correlation matrix. As explained in the section 5.3.2., it indicates the relationship between two variables.

	FH	JA	WLB	JS	WE	MEAN	ST. DEV.
FH		0,5918	0,4166	0,1884	0,2327	3,74	1,09
JA	0,5918		0,4515	0,3176	0,3926	3,93	0,76
WLB	0,4166	0,4515		0,2026	0,2325	4,11	0,83
JS	0,1884	0,3176	0,2026		0,6297	4,29	0,69
WE	0,2327	0,3926	0,2325	0,6297		3,86	0,81

Table 19: Zero-order correlation matrix

Looking at the coefficients, it is possible to state that there is a positive relationship between all the couples analysed and that none of them is close enough to zero to refuse the relationship. The strongest correlation is the one between job satisfaction and work engagement, while the lowest is the one between Job satisfaction and time flexibility.

Since not all these relationships are part of the model, it is possible to do a further skimming, considering only the useful correlation.

FH-WLB	JA-WLB	JS-WLB	WE-WLB
0,4166	0,4515	0,2026	0,2325

Table 20: Pearson coefficients of the relationships analysed in the hypotheses

The correlations between the antecedents and the mediator are stronger than the ones between the mediator and the outcomes. On average, the first correlations are the double with respect the last ones.

5.3.2. SEM analysis

In order to verify the hypotheses, a SEM analysis has been conducted. In particular, the path coefficient and the p-value of each relationship have been reported in the table below.

5.3.2.1. Confirmatory factor analysis

The confirmatory factor analysis is represented in the tables below. In particular, the first table indicates the factor loading of each item and the AVE and CR of each construct. The second table refers to the fit-indicators with a 5-factors model. All these indicators are explained in the sections 4.3.3.1 and 4.3.3.3.

CONSTRUCT	ITEMS	FACTOR LOADING	AVE	CR
FH	FH1	0,805	0,612	0,824
	FH2	0,675		
	FH3	0,856		
JA	JA1	0,684	0,437	0,689
	JA2	0,456		
	JA3	0,797		
WLB	WLB1	0,917	0,576	0,834
	WLB2	0,955		
	WLB3	0,544		
	WLB4	0,503		
JS	JS1	0,758	0,490	0,788
	JS2	0,775		
	JS3	0,468		
	JS4	0,753		
WE	WE1	0,451	0,519	0,753
	WE2	0,862		
	WE3	0,783		

Table 21: Confirmatory factor analysis with factor loading, AVE, and CR

The values of CR are all bigger than 0.7, exception made for Job Autonomy, which is slightly under the limit. The values of AVE are a little bit less fitting, since both the values of job autonomy and job satisfaction are slightly under the limit of 0.5. Overall, the values are acceptable, but JA and JS might be better represented.

For a better understating, an analysis of the main fit-indicators has been performed, using a 5-factor model.

Model	RMSEA	CFI	SRMR	TLI
5 factors	0,077	0,925	0,060	0,906

Table 22: Fit indices for the CFA

Starting from the considerations done in the section 4.3.3.3, it is possible to compare the results with the limit values, to understand the goodness of the 5-factor model.

RMSEA and SRMR are in the acceptance range even if not totally optimal since are in the range between 0.05 and 0.1. CFI indicates a good fit since it is higher than 0.9. The only indicator that suggests that the model is not so fitting is TLI, that is slightly under the acceptance lower limit.

Overall, considering that the only non-in-range value is very close to the acceptance limit, it is possible to consider the 5-factor model fitting.

5.3.2.2. Path analysis

The statistical validation of the hypotheses follows two steps, the validation of the relationship using the p-value and the validation of the positive connection between the variables using the sign of the path coefficient.

The table below reports the results of this statistical analysis.

Hypothesis	Path coefficient	P-value	Statistical validity
H1: <i>time flexibility positively affects work-life balance</i>	0.354	0.000	SUPPORTED

<i>H2: autonomy positively affects work-life balance</i>	0.567	0.000	SUPPORTED
<i>H3: work-life balance positively affects job satisfaction</i>	0.741	0.000	SUPPORTED
<i>H4: Work-life balance positively affects work engagement</i>	0.828	0.000	SUPPORTED

Table 23: hypotheses validation

The P-value is 0 in all the hypotheses. This means that the null hypothesis of non-relationship between the variables is always rejected and that the variables are connected in all the hypotheses proposed in this research.

In order to verify if the relationship is positive or negative, the path coefficient must be analysed. Since the path coefficients are positive, the positivity of the relationships is verified for all the hypotheses.

In conclusion, the hypotheses presented in the model are all statistically supported and validated.

The fit indices have been calculated in order to understand if the model fits the data. The results are reported in the table below.

Model	RMSEA	CFI	SRMR	TLI
5 factors	0,062	0,939	0,078	0,919

Table 24: Fit indices for the path analysis

The results are similar to the ones of the CFA 5-factor analysis. The value of RMSEA and SRMR are acceptable but not optimal since are in the range between 0.05 and 0.1. Also in this case, CFI is over the lower limit of 0.9, indicating a good fit. The value of TLI, instead, is higher than 0.9, that is the threshold. Since all the indicators are statistically acceptable, the model is considered a good representation of the data.

To have a better graphical understanding, the model is presented. Path coefficients and the standard errors are reported. The relationships that are not statistically supported are highlighted with a dotted line, the verified one, instead, are represented by a continuous line.

The standard error explains how spread out the data are. In other words, it is an indicator of the reliability of the mean. Considering a regression, the standard error is a measure of variability, of dispersion of the data from the line (Glen, n.d. b).

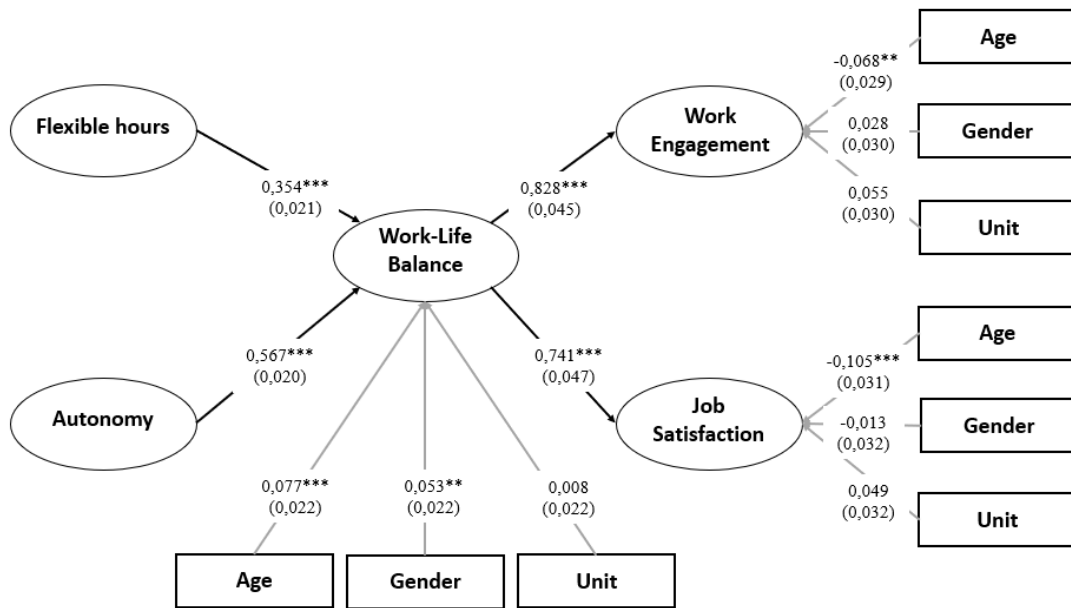


Figure 11: The model with path coefficient and standard error in the parentheses

* means $p <= 0,1$

** means $p <= 0,05$

*** means $p <= 0,01$

Nothing means $p > 0,1$

The ovals indicate the constructs. The antecedents and the outcomes are put in column because they represent the two macro-constructs of remote working and psychological wellbeing. The rectangles are the three control variables, and the relationships are depicted by arrows. On the arrows the path coefficient is reported. The asterisks represent the range in which there is the standard error.

The standard errors are all in the same range, as it is possible to see from the fact that the arrows present only one star key. This means that the standard errors of the relationships are similar.

The dotted lines are not present in the model, since all the hypotheses are verified, as explained above.

5.3.2.3. Control variables

The control variables define if the relationships between the variables are influenced by some exogenous factors (see 3.1.1. Control variables).

In the tables below the p-values and path coefficients are presented.

P-value	Work-life balance	Job satisfaction	Work engagement
Age	0,000	0,001	0,021
Gender	0,018	0,675	0,339
Unit	0,689	0,127	0,069

Table 25: P-value of the control variables

Path coefficient	Work-life balance	Job satisfaction	Work engagement
Age	0,077	-0,104	-0,068
Gender	0,053	0,013	0,028
Unit	0,009	0,049	0,055

Table 26: Path coefficient of the control variables

The p-value is shown to identify the possible relationships between the variables and the control variables. If the p-value is higher than 0,05, it is possible to conclude that there is no correlation between the two elements. This means that the variation of the variable is not affected by the control variable.

The path coefficient has been reported to identify if the correlation is positive or negative and if it is strong.

The cases in which the p-value is low enough to refuse the zero-hypothesis are highlighted in yellow and identify a relationship between the construct and the correspondent control variable.

The values of the path coefficient are very low. This means that for a unitarian change in the age, for example, job satisfaction only changes of 0.107.

The relationship between Gender and Work-life balance presents the lowest path coefficient. Moreover, from the analysis on the contingency factors, emerges that the difference in gender is too low to be commented – the delta is only 0.09%. For this reason, it will not be discussed in the section 4.3.5 Control variables. Some considerations will be reported in the section 4.3.3 Mediator.

6. DISCUSSION

Starting from a review of the literature and an understanding of the context, a model has been proposed. The spread of the survey has been vital in order to collect data to be analysed. Thanks to the information obtained by the statistical analysis performed on the data, it has been possible to give a mathematical support to the model.

The aim of this chapter is to interpret the results obtained, giving a solid theoretical contribution, explaining some practical implications, and the limits of this research, followed by a suggestion of future point of analysis.

The theoretical section is based on the analysis of the relationships between the antecedents, the mediator, and the outcomes. Deep considerations have been performed, based also on the finding of the descriptive analysis and on the specific answers of the survey. After that, the model has been throughout discussed, giving a final explanation of the research question.

The effects of remote working on wellbeing are also practical and related to the happiness of employees, that is then translated into an increment of productivity and a reduction of sickness and absenteeism. Moreover, the contribution in the achievement of some SGDs will be analysed and discussed.

6.1. THEORETICAL CONTRIBUTION

The main theoretical contribution is determined by the newness of the context. The pandemic opened a gate of investigation, generating new unknowns to fulfil. Moreover, the public sector is less analysed than the private one. Hence, it has been possible to have a wide range of movement to bring a theoretical contribution to the literature.

Several gaps have been found in the public sector, especially on how the constructs act in the public administration field. Thanks to the analysis of the constructs in the referring context of the public administration, a consistent contribution to the literature has been reported, solving the gaps found in the literature (section 3.2 General gaps found in the context), identifying, for example, the PA employees' perception of job satisfaction and

work engagement, and the connection between remote working and psychological wellbeing.

Moreover, in this specific context of analysis, all the hypotheses of the model are unknown and constitute a contribution. The literature presents a solid discussion on almost all the proposed relationships, but majorly in the private sector.

An exception is the relationship between work-life balance and work engagement, which is not well studied neither in the private sector. Scholars focused their attention on the effects of work engagement on work-life balance, but not the opposite. This research gives a strong theoretical contribution on this specific relation, analysing the effects of work-life balance on the eudaimonic psychological well-being, represented by engagement.

The model itself represent a contribution since it is unique and, for the first time, analyse both the effects of autonomy and flexibility on psychological wellbeing, with the mediation of work-life balance. Moreover, this research considers both the meanings of wellbeing¹⁸.

Going deeper on the analysis of the survey, results show a good perception of all the constructs analysed by respondents since the mean is always over the sufficiency level, a threshold that in this case is considered 3. Moreover, the medium-low level of standard deviation indicates low disbalancing between different kind of employees. Taking into considerations values of central tendency we have observed, for example, that temporal flexibility has the lowest mean, but is still over the sufficiency level. This means that the respondents perceive to have experienced more autonomy than temporal flexibility.

The constructs will be analysed according to the division adopted in the model. The pivotal point of this analysis is work-life balance, in relation to its antecedents and the outcomes. WLB is one of the constructs with the highest mean, giving consistency to the

¹⁸ The two meanings are hedonic and eudaimonic, respectively represented by job satisfaction and work engagement

remarks done. In fact, this means that it is possible to really analyse the effects it has on the outcomes and the contribution given by the antecedents.

The discussion is based on the comparison between what found in the literature review (section 3.3 Hypotheses) and the results of the analysis performed on the survey.

6.1.1. Antecedents

The statistical analysis confirmed the first and the second hypotheses. The antecedents – time flexibility and autonomy- have a positive impact on balancing personal and professional lives.

This result was expected since several scholars defined autonomy and temporal flexibility as job resources (Bakker et al. 2007) able to increase work-life balance (Demerouti et al. 2001; Hill et al., 2001; Russell et al., 2009; Lott, 2014). Job resources, together with job demands, compose the Demands-Resources (JD-R) model. Job resources represent the way to reduce exhaustion and increase personal growth. Job demands indicate the psychological and physiological effort required by the job (see 2.2.3.2 Work engagement). The action of the antecedents fosters the positive effects of work-life balance on the outcomes, mitigating the negative implications of job demands.

In conclusion, since work-life balance is one of the constructs most experienced by employees, it is then true that the antecedents have positive effects on work-life balance.

Analysing the values of the single hypotheses, it is possible to make some considerations on the two specific relationships.

6.1.1.1 Autonomy positively affects work life balance

Autonomy-work-life balance is the relationship with the highest path coefficient among the antecedents. This means that the relation cause-effect is strong. This founding is supported by previous literature. For example, Campbell Clark (2001) defines autonomy as the dimension most often associated with work-life balance because of the influences it has on both the professional and private domains. The freedom given by autonomy is vital to manage the work and non-work lives (Hackman and Oldham, 1975).

It is important to remark that the confirmatory factor analysis shows that job autonomy is not optimally represented by its items (see 5.3.2.1 Confirmatory factor analysis), meaning that some results might be twisted. Despite this, the findings are consistent with the literature related to the private sector and, for this reason, are considerable reliable.

6.1.1.2 Flexible hours positively affect work life balance

Time flexibility has a positive direct impact on work life balance. Time flexibility is able to reduce stress components, increasing the overall work-life balance, as sustained by several scholars (Wessels et al., 2019; Sirgy and Lee, 2018). According to Kersley et al. (2005), the benefits of time flexibility on work-life balance are more visible in employees with family and children. The mean age to have a child in Italy is at 31,3 years old (Eurostat, 2021). This information leads to the conclusion that people over 30 are more likely to have a family to manage. The values of work-life balance on the sample agree on this assumption, since adults have the highest mean value of work-life balance.

However, the results show that the effects of time flexibility on work-life balance are positive but not so strong, contrasting with the assumptions found in the literature (e.g., Possenriede and Plantenga, 2014). Through the path coefficient's values it is possible to observe that autonomy influences work-life balance more than time flexibility. Moreover, autonomy has a higher indirect impact also on the outcomes, as it is possible to see from the zero-order correlation matrix.

The explanation may lie in the strong relation between time flexibility and autonomy. In fact, the Pearson Coefficient is 0.5918, one of the highest of the zero-order correlation matrix. Many authors consider time flexibility as a strong mean to reach autonomy, influencing work-life balance only indirectly (Campbell Clark, 2001; Bohlen and Viveros-Long, 1981; see 2.2.1.1 Temporal Flexibility). This thesis is halfway with the two theories since flexibility has a direct impact on work-life balance but also an indirect one mediated by autonomy.

Despite this possible reasoning, it is important to remember that flexible hour is the construct with the lowest average and the highest standard deviation. This means that employees experienced a -relative- low level of time flexibility, especially with respect

to autonomy. Therefore, this data may have twisted the final result, giving autonomy a higher impact on work-life balance than flexibility.

In particular, the flexible item that has the lowest mean value and highest standard deviation is the one that might perfectly fit with the concept of flexible hours -FH1, the freedom in choosing the hours in which the employee can work. The standard deviation indicates that some employees perceive to be less free than others. As it is possible to see from the contingency analysis (see 5.2.1. Contingency analysis), the “freeless-employees” are young employees. The reasons of this low perception of freedom for younger employees may be caused by the old-style management of the public administration. Freedom is majorly given by those employees that are more reliable, have more experience. Managers might fear the loss of power and for this reason they reduce the flexibility for those employees that work for the company for less time (Masuda et al., 2017). It is important to remember that we are talking about a psychological perception, not a mathematical analysis on the effective flexibility employees have. Therefore, the differences may be caused also by the expectations employees have on flexibility, or the necessities. For example, it is more likely that younger employees have children and need more flexibility to deal with unforeseen events and child-related issues.

6.1.2. Mediator

Work-life balance is one of the constructs most experienced by the respondents. This information is very important since it gives consistency to the hypotheses, that are all based on the mediator.

Employees positively answer not only to the *satisfaction with Work-life-balance* items, but also the one of *work interference with personal life* (Banu and Duraipandian, 2014). It is then possible to conclude that work-life balance has been really achieved since both the requisites- maximization of engagement and minimization of role conflict - are satisfied.

Moreover, this is the construct with the lowest deltas between the gender and the units. This means that there is a good balance between the different roles and genders, and it supposes a low level of unfair given privileges. The last information is surprising, since

in the literature it appears that usually women suffer more a bad balance between personal and professional life (Adisa et al., 2014; Rothbard, 2001). This is due to the expectation that the society has on women, that are seen as the backbone of the family, but they are also expected to perform well at work (Liu et al., 2021). The gender equality in work-life balance is supported by several studies (Liu et al., 2021; Starmer et al., 2019; Baptiste et al., 2017). This might be explained by the economic growth and the social progress, that reduced the gender discrepancies, such as in salaries, career development or employment opportunities (Zhou, 2018).

The lack of differences may also be caused also by the mitigating role of flexible practices. In fact, if in general women suffer more of role-family conflicts than men, it is also true that flexible practices have a better balancing between work and private lives, especially for women (Van der Lippe et al., 2018).

6.1.3. Outcomes

The p-value and the high positivity of the path coefficients leads to the statistical acceptance of the hypotheses three and four. The path coefficients of the hypotheses of relationships between the mediator and the outcomes are significantly higher than the ones of the antecedents. Therefore, it is possible to not only accept the hypotheses, but consider work-life balance having a strong positive impact on both the hedonic and eudaimonic sides of psychological wellbeing.

6.1.3.1 Work life balance positively affects Job satisfaction

The relation between work-life balance and job satisfaction was expected since it has been verified by the literature several times¹⁹. The majority of the scholars consider work-life balance an essential element to reach job satisfaction and then life satisfaction (Haar et al., 2014; Carlson et al., 2009). According to Campbell Clark (2001), employees' satisfaction is implicit in the concept of work-life balance.

Achieving job satisfaction through work-life balance leads not only to better work conditions, or higher productivity but also to a betterment of life, since it is possible to

¹⁹ Referring to the private sector.

manage all the domains optimizing time and resources (Allen et al., 2000). Job satisfaction is the construct most experienced by the respondents, followed by work-life balance (see 5.2 Results from the questionnaire). This adds solidity to this hypothesis that includes both the concepts.

Job satisfaction encloses the very important concept of how much employees consider their job important. It is represented by the item JS3, that is the one with the highest mean (4,27) and the lowest standard deviation (0,7) in absolute. This indicates that the most perceived feeling is that they are doing an important and valuable job. In fact, directly or indirectly, these employees are doing a vital job, like saving lives or preventing disasters, and they are aware of that. Since no differences have been detected in the contingency analysis (see 5.2.1. Contingency analysis), the perception of importance is spread among all the ages, units, and genders.

6.1.3.2 Work life balance positively affects work engagement

One of the biggest theoretical contributions to the literature is given by the findings regarding the relationship between work-life balance and work engagement.

Most of the scholars studied the effects that work engagement has on work-life balance, since work-life balance is achieved through the engagement both in work and non-work domains (Sirgy and Lee, 2018).

If it is true and intrinsic that work engagement leads to work-life balance, the theoretical analysis of the two constructs taken individually verified also the opposite, even if no correspondence has been found in the literature, as sustained by Žnidaršič and Bernik (2021).

High levels of work engagement are reached through the psychological feelings of involvement, energy, and immersion on the job (Bakker and Schaufeli, 2008; see 2.2.3.2 Work engagement). In particular, employees must have the right amount of energy to be involved and focused on job-objectives in order to persecute engagement. To do so, it is indispensable to have a good balance between both work and non-work activities.

Moreover, the formulation of the hypothesis of a relationship between work-life balance and work engagement has been based on the hypothesis H3²⁰- already verified- and on the connection between the latter and job satisfaction. The Pearson Coefficient of this connection is the highest of the matrix (0.6297), giving a numerical corroboration to the theoretical assumptions (see 3.3.4 Work life balance and work engagement).

In this research the positive relationship between work-life balance and work engagement is verified and the p-value is at his lowest (0). Moreover, this hypothesis is the one with the highest path coefficient, giving ulterior solidity to the relationship.

The only negative point is represented by the item WE1, identifying vigor. This relative low value (3.6) might be a sign of burnout, the negative feeling opposed to work engagement.

Vigor is the characterization of work engagement that indicates the energy that employees have while working (Bakker and Schaufeli, 2008). According to the bipolar view, vigor is opposite to exhaustion, as two poles of the same dimension, “energy” (Demerouti et al., 2010). It is then possible to conclude that, usually, they are mutually exclusive: who perceives low levels of vigor also perceives high level of exhaustion and *vice-versa* (Sonnentag et al., 2012; Mäkikangas et al., 2013).

Exhaustion is the lack of energy and the feeling of fatigue (Maslach et al., 1996). It is the main characterization of job burnout, that is indeed defined as a syndrome of exhaustion that has negative implications, increasing absenteeism and reducing job satisfaction and work engagement (Maslach et al., 2001).

Therefore, the encountered low level of vigor may be an indicator of burnout.

The pandemic may have played a vital role in the growth of the burnout syndrome also for those roles that where not directly exposed to the virus like the healthcare sector. The reasoning can be found in the concern about the pandemic, the uncertainty it causes, the fear of being infected (Rodríguez-López et al., 2021). Moreover, previous research on

²⁰ The hypothesis H3 refers to the positive relationship between work-life balance and job satisfaction

2003-SARS found out that one the most important and common consequence is exhaustion (Marjanovic et al., 2007), which is also the leading cause of burnout.

Burnout symptoms vary depending on workers' life stage. This is due to different work requirements or demands, as well as different levels of work-family conflicts that employees experience at the different stages of their lives.

The most affected by low vigor are the employees between 30 and 39 years old. The causes may be reconducted to the fact that younger employees may face greater pressure at work since they are at a lower career stage, with less responsibilities and compensation. Moreover, age is associated with higher skills, authority, social support at work, and lower insecurity and irregular work schedules (Marchand et al., 2015). All these factors contribute to reduce burnout in older employees.

Most studies (e.g., Maslach et al., 2001; Rožman, 2019) confirmed that younger employees have higher level of burnout than older due to pressure, stress, and anxiety and that burnout decreases after middle age. In fact, burnout is associated to private life phases, such as family responsibilities and the family life cycle (Rožman, 2019; LaFaver et al., 2018). Unlike young workers between 20 and 29 years old, it is more likely that 30-39 age group perceive greater stress derived from the family and the higher responsibilities. The level of work-life balance confirms this statement, since it is lower for this class than the one between 20 and 29 years old.

Despite these considerations, there are not researches that connects Covid-burnout and public administration employees. Moreover, the relationship between vigor and exhaustion is not well studied. For these reasons, it is not possible to detect a certain cause of the low vigor, since further studies must be done, such as a comparison between the level of vigor before and after the pandemic, or specific research on this topic.

In addition, according to Demerouti et al. (2001), the lack of resources leads to a disengagement, while job demands are predictors of exhaustion. Time flexibility is considered a solution of a particular job demand, that is time pressure (see 6.1.5. General

Model). The reasoning behind this possible experience of exhaustion may be connected to the low²¹ perception of temporal flexibility (see 5.2. Results from the questionnaire).

It is important to remember that the analysis has been conducted during the pandemic. This means that work-life balance has been able to augment the two outcomes despite the COVID-19 negative implications. Moreover, the value of the item is still over the sufficiency level. This means that, even if experienced, the exhaustion perceived is not high.

6.1.4. Control variables

The analysis on the control variables shows that some constructs are influenced by the exogenous factors indicated. The values of interest are the ones of the relationships with a p-value ≤ 0.05 .

Age is the control variable that has the highest influence on the constructs. This result was expected because the contingency analysis shows that gender and unit have less variations in respect with age. In particular, it has an impact on job satisfaction, work engagement, and work-life balance.

Age affects both job satisfaction and work engagement, that are the two elements that compose the psychological wellbeing. For this reason, the overall wellbeing is influenced by age.

Despite the possible considerations, the size of the sample of young and older is extremely smaller than the one regarding adults. The sum of the two categories represents only the 22% of the sample. For this reason, the result of a connection between age and the constructs can be twisted, since the answers given by the few young/old employees may be the truth of a small group and not of the whole category.

²¹ As explained, the low perception is only relative. Time flexibility is the construct with the lowest mean value, but it is still over the sufficiency level.

6.1.4.1. Job satisfaction

Job satisfaction is affected by the age of the respondents.

The relationship Age-Job Satisfaction is negative. The scale of the age has been manipulated in order to be analysed, transforming the scale with values from 1 to 7, with 1= “age > 70” and 7 = “age < 20”. Therefore, the highest number of this scale is assigned to the lowest age. This inversion of the scale is translatable in a linear positive relationship age-job satisfaction, indicating that job satisfaction decreases when the age decreases. This means that older employees are more satisfied with their job.

The expectations were at the opposite, considering young employees as more engaged, since they have more technological skills (Barth et al., 2020), necessities to perform the job remotely.

The literature is ambiguous in this area. Some studies found the same positive linear connection and considered age as antecedent of job satisfaction (Davis, 2004; White and Spector, 1987), others found out a curvilinear shape (Clark et al., 1996), for other scholars there is no connection between the two (Brief, 2002; Weaver, 1978).

Older employees have more experience. This gives them higher objectivity on some aspects that may cause dissatisfaction in other employees, and they acquired more specific skills to perform their job easily (Carrillo-García et al., 2013). In addition, they may have stronger sense of achievement and more realistic expectations about the job (Gyekye and Haybatollahi, 2015).

Moreover, seniority gives them a better treatment from other workers, since they are seen by their younger co-workers as superior. This trait gives them also more stability in the job, in terms of risk and uncertainty of the tasks. (Gyekye and Salminen, 2009).

Young workers, instead, may experience more difficulties in performing tasks. This may be due to the fact that they are new in the job environment, and they do not possess yet the specific skills necessary to make the job more manageable, acquirable making experience on the field. Moreover, these difficulties can cause higher turnover intentions (Gyekye and Haybatollahi, 2015).

This reduction of job satisfaction in younger employees might be caused also by the different expectations they have compared to what offered by the organization, as explained in the section 6.1.1.2.

6.1.4.2. Work engagement

Also work engagement is affected by the age of respondents and in the same way of job satisfaction. The p-value of this relationship is lower than 0.05 but is not strong as the one of age and job satisfaction. The path coefficient is negative, showing that work engagement increases with aging. Moreover, this coefficient has a very low value, indicating that the increment of work engagement is low. Other studies discovered that engagement increases with age. The experience acquired increases emotional and intellectual involvement. These factors motivate employees in doing their best, giving them the possibility to experience work engagement in all its meanings (James et al., 2012; Towers Perrin, 2005). It is important to underline that engagement increases when an employee works for the same organization for several years – 10 or 20 years (Dalal et al., 2012). Older employees are more likely to have such a long relationship with a company and this might explain the reasoning of this connection. Since there is no information concerning how long they have been working for the PA, no further consideration can be derived from this result.

6.1.4.3. Work-life balance

The p-value -that is zero- indicates that Work-life balance is strongly influenced by age, even if the increment is very low. The path coefficient positivity indicates that work-life balance is more experienced by young workers and less by the elders. Even the contingency analysis highlights the differences of the mean value of this construct among the ages. The connection between work-life balance and the age might be interpreted as a difference of necessities depending on the steps of the life. In fact, it has been proved that values, priorities, and attitudes change over the life (Klimchak et al., 2019). Young employees are more based on long-term goals, such as acquiring knowledge, and extrinsic benefit, such as the quality of the job. On the other hand, older people seek intrinsic benefits, such as caring responsibilities and the professional and social relationships

(Klimchak et al.,2019). Some scholars (Richert-Kazmierska and Stankiewicz, 2016; Žnidaršič and Bernik, 2021) consider that young employees, that are more likely to have young children, should have lower level of work-life balance. It is important to remember that this thesis aims at analysing the effects of a change – the introduction of remote working – and not a generic “as-is”. Young employees, that usually face with difficulties in balancing all the aspects of their lives, have now the possibility to better manage time and resources. This results in a Δ WLB higher than the one experienced by elders, that might have higher levels of previous balance, but did not find big differences with the new level of work life balance caused by autonomy and flexibility.

6.1.5. General model

Using the data of the survey, this study aims at investigating the effects of remote working on public administration employees during COVID-19 pandemic.

The statistical analyses conducted to verify if the model fit the reality that this thesis analyses show that all the indicators are good, even if not optimal. For this reason, it is possible to consider the information derived reliable but with room for improvement.

Overall, the results are consistent with prior research done in the private sector but, in addition, they give further contributions to the literature, demonstrating a connection between work-life balance and work engagement, giving an overall answer to the research question, analysing the effects of balance on psychological wellbeing, and investigating the constructs in the context of the public administration. These elements represent the main innovativeness of the research, since big gaps have been found in the literature.

The model has been analysed in the context of the Public Administration. This study is important not only because it brings a consistent contribution in a field that is not enough studied and has big room for investigation, but also because it highlights an important challenge. The Public Administration structure is in contrast with the characteristics of remote working of flexibility and autonomy and the analysis on how it reacted to this flexible practice gives a basis on the change towards a new Public Administration (discussed in 6.2 Practical Implications). Remote working has been implemented in the public administration majorly during the pandemic. For this reason, the effects that this

practice has on public administration employees are still not studied. The results indicate that employees had a good experience of remote working and have drawn positive implications from it, such as the increment of job satisfaction and work engagement. Theoretically, the result of positive implications on employees was expected. In fact, public administration is typically seen as not flexible (Di Francesco and Alford, 2016) and with risk of producing red tape, a negative job demand caused by over-bureaucracy (Borst et al., 2017). Red tape reduces the innovativeness of the organization (Merlicco, 2008) and employees' wellbeing, that has consequences on productivity and may cause alienation (Bozeman, 1993; DeHart-Davis & Pandey, 2005). Remote working, thanks to the use of flexibility and autonomy, is able to reduce job strain because it has proven that it creates balance between personal and professional lives (Perry et al., 2018). Moreover, the control over their work generated by remote working (Nakrošienė et al., 2019) empathises the perception of employees of being valuable for the organization, increasing psychological wellbeing (Bozeman, 1993) and reducing red tape (Buelens and Van den Broeck, 2007). This research demonstrate that employees not only feel autonomy and freedom but are aware of the importance of their job (JS3- see 6.1.3. Outcomes), proving that these employees also experience public service motivation²² (De Simone et al., 2016). Taking into consideration the results, the main research question of this thesis is verified: remote working has a positive impact on employees' psychological wellbeing.

This finding apport a big contribution to the literature because of the newness of the study and the importance of the topic. In fact, the quantity of research on the relationship between remote working and psychological wellbeing during COVID-19 pandemic is not significant. Moreover, remote working is a focus of attention because of the exponential increment in its adoption. It is therefore essential to determine the effects it has. The combination of the psychological outcomes of the pandemic and remote working must be deeply analysed to understand which leverages can be used to manage negative feelings and foster positive emotions, that have a direct impact on productivity and the welfare of the organization (Pirzadeh et Lingard, 2021). In fact, remote working can cause sense of loneliness, time pressure, and increase exhaustion (Baruch, 2001; Cacioppo et al., 2006),

²² It is a type of motivation that derives from the satisfaction in helping the society.

especially if combined with the fear atmosphere of the lockdown. The analysis on the survey shows, instead, that remote working has been capable of overcoming such negativities, bringing an overall positive contribution to psychological wellbeing. In fact, the values of job satisfaction and work engagement are far greater than the sufficiency level, indicating a good level of the two constructs that constitute wellbeing.

To theoretically support this result, it is possible to use two tools: the JD-R model (Demerouti et al, 2001; see 2.2.3. Outcomes), and the Self Determination Theory (Deci and Ryan, 2000).

Demerouti et al. (2001), sustain that there are two main elements in the job, demands and resources. Job demands cause stress in employees, since they must be accomplished. Job resources, instead, are leverages to cope with these demands. Overall, employees' wellbeing is determined by a balance between resources and demands (Schaufeli and Taris, 2014). One common job demand is time pressure, the feeling that the available amount of hours in a day is not enough. The introduction of temporal flexibility can lower this feeling, reducing then the strain of this demand and increasing employees' wellbeing. Moreover, remote working is also composed by autonomy, that is recognized as job resource in the model. The combined action of the increment of resources – because of autonomy- and a reduction of demands – due to flexibility- lead to an augmentation of the levels of engagement and satisfaction, that would have been lower with the use of only one of the two leverages.

Autonomy is also considered a fundamental need (DeCharms, 1968) in the Self-Determination theory (SDT). This theory is based on human motivation and highlights the importance of humans' inner resources for personality. The SDT explains the effects of autonomy on wellbeing. Together with competence and relatedness, they form the innate psychological needs of the SDT, which purpose is to foster personal wellbeing (Deci and Ryan, 2000). This type of wellbeing is more related to its hedonic part, identifiable in job satisfaction. In fact, the SDT is based on the concept of *intrinsic motivation*, that is “*doing an activity for the inherent satisfaction of the activity itself*” (Deci and Ryan, 2000; pp. 71). Despite this, also work engagement is involved, since the three needs have a direct impact both on satisfaction and engagement (Deci et al., 2001).

Moreover, the World Health Organization defined freedom and control as essential components to reach psychological wellbeing (Juchnowicz and Kinowska, 2021). These two components are strictly connected with flexibility and autonomy, that give employees freedom and control in choosing when and how to work. Remote working is then directly associable to psychological wellbeing as a practice to achieve freedom and control and reach self-determination.

In conclusion, these theories agree with the hypothesis of connection between the variables that compose remote working and psychological wellbeing and constitute a solid theoretic confirmation to the research question. Thanks to these considerations, it is not only possible to confirm the connection between remote working and overall psychological wellbeing but also with both the meanings of wellbeing, identified by engagement and satisfaction.

In detail, the research focused the attention on the antecedents - time flexibility and job autonomy – that have been the most experienced practices related to remote working during the pandemic. The statistical results confirm all the hypotheses: the antecedents have a direct positive effect on the mediator – work-life balance -, that has an impact on the outcomes – work engagement and job satisfaction.

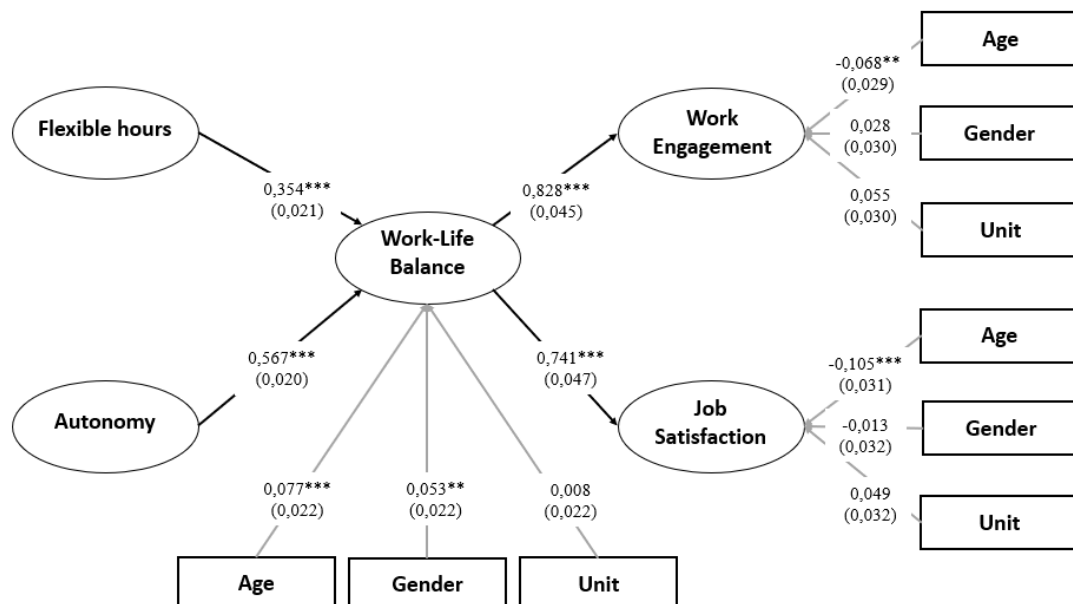


Figure 12: The general model

The antecedents have strong effects on the mediator. In fact, according to scholars such as Seifert (2001), Allen et al. (2013), and Bakker and Demerouti (2007), the introduction of flexibility and autonomy directly leads to an increment of balance between the different life-spheres. This has a consequence on the level of work engagement, job satisfaction, and life satisfaction.

As stated in the section 2.2.1 Antecedents, time flexibility and autonomy are considered as the main components of remote working in this research. It is then possible to consider remote working as positively effecting work-life balance. The literature is controversial on this topic, even if the negative aspects were highlighted more than the positive ones (see 2.3.2 Remote working). In fact, remote working is accused of removing boundaries between work and private life, giving employees the feeling of no-stop working (Pirzadeh and Lingard, 2021), increasing both work-to-family and family-to-work conflicts (Palumbo, 2020). Moreover, this also creates difficulties in focusing on the job, reducing productivity and mental wellbeing (Kniffin et al., 2020). The results of this research, instead, show that work-life balance has been strongly experienced by public administration employees during the adoption of remote working practices. Moreover, the confirmation of the relationships between remote working components and work-life balance excludes the randomness of the cause-effect connection. Contrary to the literature, the item that measures work-family conflict- WLB3- has a very high mean value (4.05), indicating that employees did not experience this type of conflict. It is then possible to state that that work-life balance has been augmented by remote working, due to the reduction of time pressure and a better management of time and resources.

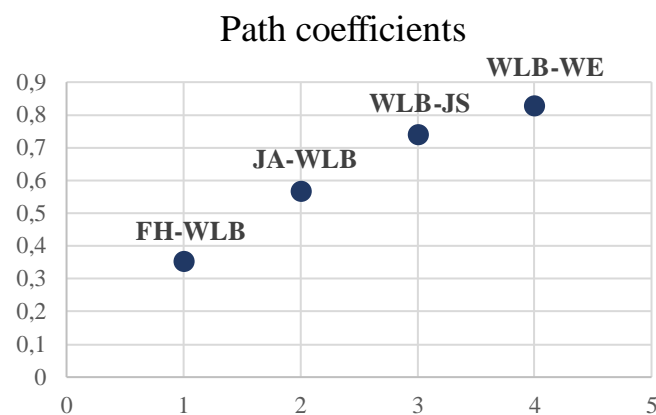


Figure 13: Relationships' Path coefficients

The correlation between work-life balance and the outcomes is stronger than the one with the antecedents, as it is possible to see from the Path coefficients. This information explains how important work life balance is, since it is able to overcome the negativities of possible phenomena, such as the strain caused by the pandemic. In fact, the fear-atmosphere during the lockdown resulted in more anxiety, a feeling that is in contrast with job satisfaction and work engagement (Demerouti et al., 2001), having a strong negative psychological impact on employees. Nevertheless, the respondents positively answered to the questions related to the outcomes, showing that the positive effect of the mediator has been stronger than the negativities caused by the pandemic. This element is another point in favour of this research since it gives a first draft of the psychological effects of COVID-19 on employees and also a key element to solve them.

Going deeper, the positive relationship between work-life balance and job satisfaction found in this research is in line with the previous literature, considering work-life balance a strong mean to reach job satisfaction. The connection between balance and the eudaimonic meaning of psychological wellbeing, instead, represents one of the main newness of the model, since it is not well studied neither in the private sector, as explained in 6.1.3. Outcomes. This research proves that a better management of resources allows employees to be more absorbed in the job, with more energy, and with the feeling of being important for the company- the main components of work engagement.

Overall, the assumption that work-life balance leads to an increment of employees' psychological wellbeing (see 2.2.3 Outcomes) is then confirmed. Some scholars consider work-life balance a predictor of psychological wellbeing (Ryff, 1989; Gröpel and Kuhl, 2009). Despite the contribution of the cited authors, the issue is little-studied, as explained in the section 3.2 General Gaps found in the literature. With the deep analysis of the relationship between work-life balance and the two components of psychological wellbeing, this thesis demonstrates the effects that work-life balance has on it, giving a solid contribution to the literature.

6.2. PRACTICAL IMPLICATIONS

This thesis gives a precious practical contribution to the public administration enhancement thanks to the newness of the research and the important findings.

Theoretically, it has been proved that remote working practices have a positive impact on employees' wellbeing.

Employees that experience remote working are more able to balance their lives. This leads to an increment of positive feelings and performances, directly translatable in augmentation of employees' psychological wellbeing.

Consequently, remote working has positive implications on the organization itself, increasing the productivity, the quality of the job and improving the overall profitability. The Country economic relaunching is essential after the contraction caused by the pandemic and also involves those organizations, like PA, whose interest is more governmental than economic *per-se*.

Moreover, the test on remote working is a good gate to start implementing real smart working practices. The public administration will experience a transformation into a more technological, effective, efficient, and dynamic company.

These implications are translatable in a betterment of the attractivity of the PA, that can see an increment of the young workforce, since this category bases its choices in non-monetary compensations, such as flexibility, autonomy and growth.

The nowadays medium age of the respondents (40-60 years old) is in line with the one of the general public administration employees, that is fifty years old (ForumPA, 2021). Comparing Italian PA with other Countries, it is possible to state that Italy has an “*old PA*”.

The low percentage of respondents older than 70 years is due to Italian retirement laws, with the legal retirement at 67 years old (Varrella, 2021).

What is surprising is the low percentage of young people. The presence of mostly adults and older people is justified by some scholars (Bright, 2010) by the differences in desire of work opportunities. In fact, older people prefer security of employment and stable monetary compensation more than younger, that seek for growth opportunities (Bright, 2010). The characteristics of the current public administration are more in line with what required by older people (as explained in section 2.3.1 Public Administration).

Moreover, young employees are the group experiences more problems. The results show that, overall, young employees have a lower perception of the constructs in comparison with the older co-workers, even if some flexible practices have been implemented. Job satisfaction and work engagement are more perceived by older people. This may indicate that the current public administration is not appealing for young workers and the one present in the organization may leave for another job that better satisfy their necessities and expectations.

The implementation of the New Public Management, especially with flexible practices, is a strong leverage to increase the non-monetary compensation seek by workers (see 2.3.1 Public Administration). This thematic is influencing the job-choice especially of young workers, increasing the engagement and the satisfaction. For this reason, it is possible to expect that this age-group will be more present in the workforce of the public administration, alongside with the fact that soon the majority of the actual employees will reach the retirement limit, causing a generational turnover.

Overall, the number of employees working for a managerial/logistic unit is higher than the ones working for the IT section. The public administration has a fixed structure (Levinthal and March, 1993) and it requires a strong managerial section. Moreover, it is

essential to have coordination inside and outside the territorial unit. This requires effort, especially on the logistic side. Considering the distribution of men and women in the two units, it is possible to detect low presence of female employees in the IT unit. This information can be caused more by a career preference than an internal choice of the organization. This hypothesis is supported by the number of women graduated in informatics in Italy, that is only the 12% for the bachelor (Montegiovine, 2021).

This low presence of the IT section will be reduced. In fact, the increment of young workforce will have an impact also on the implementation of digital practices. Younger are more familiar with new digital practices and software than older (Barth et al., 2020). Thanks to the constant use of digital tools and informatic courses at school, young workers are more used to digital practices and are able to learn fast how to use the needed technology (Barth et al., 2020). Therefore, companies can introduce digital practices with low scepticism among workers, short response time and high enthusiasm. This will give the possibility to adopt practices like smart working quite easily (Finn and Donovan, 2013). Moreover, the use of these flexible practices will make the industry more appealing, as stated before, increasing even more the willingness to work for younger.

Thanks to this mutual transformation, the public administration might lose the title of “old” and start to be seen as young, innovative and worker-oriented organization, as supported by Batini et al. (2006) and the percentages of workers assigned to the sections will be more balanced, since the IT section will be increased.

The practices of remote working put in place during the pandemic reduced the perception of PA as bureaucratic and non-flexible. This directly leads to an increment of job satisfaction and work engagement (Taylor, 2014; Lavigna, 2015). The outcomes have been heightened also by the discussed Public Service Motivation (PSM; De Simone et al., 2016; see 2.3.1. Public administration) since the respondents were in first line in helping people in a delicate moment like the pandemic. The hard work of the firefighters’ brigade has been recognized by the President of the Republic, Sergio Mattarella, that honoured their job during the pandemic in a speech. This had a strong impact on the increment of the PSM, since the brigade perceive the work as valuable, important and recognized (Mattarella, 2020).

This thesis gives a suggestion on the managerial style to adopt. The expected changes in the age of the employees require a new managerial style because young employees' necessities discord with the management of the "old" public administration.

Moreover, it gives a contribution in understanding how to mitigate possible negative implications. For example, the high experience of work-life balance leads employees to perceive themselves as more gratified by their lives. They will experience positive outcomes in both work-related and non-work-related domains (Allen et al., 2000; see 2.2.2. Work life balance). The third category of outcomes– stress related- indicated by Allen et al. (2000), have been thwarted by the negative effects of the pandemic. This indicates that managers have an important leverage to overcome phenomena able to bring negative consequences. This suggestion is confirmed by the high levels of the path coefficients that the mediator has with the outcomes.

Lastly, the shift towards NPM and flexible practices has an impact also on the SDG (Sustainable development Goals). As explained in the introduction, a section of the *Agenda 2030* is dedicated to the social sustainability, in terms of wellbeing and work conditions. In detail, the SDG directly achievable are:

- ***Good health and well-being***: the achievement of the psychological wellbeing has positive implication also on health, reducing anxiety, exhaustion, and psychological repercussions.
- ***Decent work and economic growth***: the introduction of flexible practices started the betterment of work conditions. This will attract more talents to the companies, leading to an economic growth due to increments of efficiency and effectiveness.
- ***Reduced inequalities***: flexibility gives employees the freedom to work wherever and whenever is more suitable for them. This will destroy the geographical boundaries, permitting talent acquisition from all over the world. Moreover, flexibility and freedom allow employees to better manage professional and personal duties, reducing inequalities caused by their personal life, such as have children.
- ***Industry, innovation and infrastructure***: the talent acquisition will transform the shape of the organizations. Qualified and motivated employees will produce more innovative and sustainable ideas.

The goals related to economy and environment are still achievable, but indirectly²³. For example, remote working is usually intended as homeworking by employees. this will reduce the Co2 emissions due to the reduction of commuting²⁴. Moreover, the resource optimization can give employees the possibility to better manage also their finances, increasing the goal number 12, responsible consumption and production.

6.3. LIMITS AND FURTHER RESEARCH

The research presents some structural -or endogenous- and exogenous limits. The first have an impact on the structure of the research, while the other are an element of distortion.

The structural limit is determined by the use of a pre-existing survey, that has been then modelled to fit the research question. Nevertheless, not all the possible and useful questions were present in the questionnaire. This implied the impossibility in conducting some ulterior research. For example, the questions related to the leadership were incomplete and more focused on the supervision, not useful to create a construct able to detect the leadership style adopted during the pandemic. Moreover, some aspects of remote working have not been analysed, such as the positive or negative effects it has, such as commuting time, isolation, role stressors, and communication. Furthermore, the survey leaves unknown some aspects regarding the gender distribution of the sample. In particular, the analysis on the respondents shows that the share of women and men is similar, but there is no information regarding the salary, or the grade. In other words, it is not possible to understand if there really is equity in the public administration. This missing data are vital to have a better reading of the results on work-life balance and then on well-being.

The main exogenous limit is the pandemic itself. If on one hand it gave the possibility to analyse the reactivity of employees in a peculiar situation and a room of analysis, on the

²³ Means that they are not a direct and certain consequence. For this reason, they are analysed only generally and not in detail.

²⁴ This has an impact majorly on goal number 13, Climate action.

other hand twisted the results. As a matter of fact, strong psychological factors were involved, such as anxiety and distress. These elements are known to reduce balance and well-being, contrasting the positive effect of the flexible practices put in place. Moreover, the topic is very recent and, therefore, the literature lacks completeness. This element reduced the possibility to understand some aspects of the pandemic, such as the long term effects on employees and organizations.

The contribution of this research is given not only by the gaps filling, but also on the questions that it highlights. For example, this last limit leaves room for further research, apt to increase the quality of the studies on the topic. In addition, the context of analysis is wide and gives the possibility to focus on other elements, such as the previously mentioned leadership style, or the possible burnout experienced during the pandemic. During the analysis, a hint of burnout has been found. It has not been possible to understand if the causes are related with the pandemic or structural problems within the organization, due to both endogenous and exogenous factors. The effects of burnout have been mostly studied by previous literature in the healthcare sector since these employees have been and still are in first line in the fight against the virus. Research on the connection of job burnout and public administration employees have not been conducted yet and this thesis might be a starting point for a deepening in this field. Burnout should then be analysed with a specific survey to detect all the possible causes and solutions and without the distortion of the pandemic.

Another possible point of discussion is the perspective of the organizations. The consequences of the implementation of remote working practices should be analysed also in term of productivity, absenteeism and attractivity. In fact, one of the main objectives of the companies, besides the profit, is the talent acquisition. More valuable employees were more effective and efficient, leading to consistent improvements. This element is a cue to further research, focus on understanding if the implementation of flexible practices leads to an increment of attractivity, especially for younger employees, that are more attracted by non-monetary compensations, such as work conditions and professional growth.

7. CONCLUSION

This last chapter aims at summarizing the findings of this research.

The purpose of the study is understanding the effects of remote working experienced during the pandemic on psychological wellbeing of employees within the public administration in Italy.

The pandemic forced organizations to adopt some flexible practices, such as remote working, to keep working overcoming the constraint of the lockdown. The introduction of these practices fit with the ongoing trend of requirement of more flexibility by employees.

Remote working is defined as working from anywhere at any time (Kurland and Bailey, 1999; Sardeshmukh et al., 2012). Starting from its definition, it has been deconstructed and analysed through time flexibility and autonomy. Space flexibility has not been included since the pandemic forced employees to homeworking, nullifying the possibility of choice. Autonomy is added to the definition since flexibility is expressed by the freedom of choice and *vice-versa*.

The pandemic had economic and psychologic effects. These two spheres are connected since happier and satisfied employees are more productive and increase the overall profitability. Studies on previous pandemics show that they increase fear, anxiety, and exhaustion, feelings that are opposite to those necessary to the fulfilment of economic objectives.

Moreover, remote working has a strong impact on some psychological factors, both positive and negative, such as increment of freedom due to autonomy or fear of isolation because of flexibility.

For this reason, the focus has been directed on the psychological effects of remote working on employees during the pandemic: the psychological wellbeing.

Psychological wellbeing is defined as the feeling of happiness and is represented by job satisfaction from a hedonic perspective and by work engagement by an eudaimonic point of view (Grant et al., 2007).

The choice of analysing the Italian public administration is determined by its rigid and bureaucratic structure, poorly adaptable to the ongoing change. This gap between flexibility and the public administration caused a lack of study on this field, fulfilled by this research.

All of these elements gave the possibility to build a solid model, constituted by the antecedents- time flexibility and autonomy- the mediator – work life balance- and the outcomes – job satisfaction and work engagement. In the model are present all the hypotheses apt to answer to the research question.

In detail, the hypotheses are:

H1: *time flexibility positively affects work-life balance*

H2: *autonomy positively affects work-life balance*

H3: *work-life balance positively affects job satisfaction*

H4: *Work-life balance positively affects work engagement*

The picture below is a graphic representation the model, with the constructs and the relationships that constitute the hypotheses.

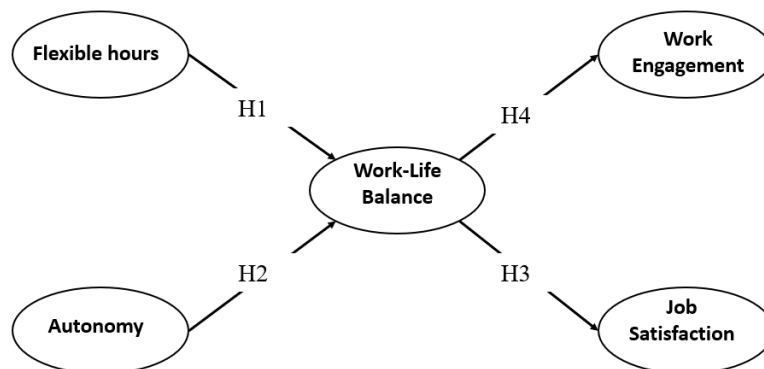


Figure 14: The model with the hypotheses

The theoretical section has been tackled with an analysis of the single constructs constituting the main elements related to the chosen field, to understand the possible effects they have on employees and organizations. The mainly used databased has been Scopus. The empirical part is based on statistical analyses. In particular, the model has been tested on a sample of public administration employees and the answers have been analysed using the software STATA14, performing some descriptive analyses and a SEM apt to validate the hypotheses and the model and to understand if it fits with the reality.

The low p-value and the positivity of the path coefficient led to the acceptance of all the hypotheses proposed, and the goodness of the fit indices proved the robustness of the model. The confirmatory analysis showed that the constructs well indicate the reality, exception made for job autonomy and job satisfaction that might be represented by better items.

Remote working, in the meaning of time flexibility and autonomy, has a positive impact on work life balance, that lead to a betterment of employees' psychological wellbeing, despite the possible negative implications of the pandemic.

One of the main theoretical contributions to the literature is given by the acceptance of the hypothesis H4 since there is a lack of the literature in this specific relationship even in the private sector. However, in the contest of public administration all the hypotheses were unknown and represent a contribution to the literature. Even if not translated into hypotheses, other gaps were found and solved. For example, this thesis contributes to the understanding of how job satisfaction, work engagement and autonomy are perceived by public administration employees. The introduction of remote working in the public organization has been a challenge. This organization has a rigid a hierarchical structure, in contrast with flexibility and autonomy given by remote working. The results show that public administration employees experienced a good level of remote working, and they took advantages from it, increasing their psychological wellbeing. This finding gave a strong contribution to the literature since the topic is not well-studied, probably because remote working has been whidely implemented only during the pandemic.

Moreover, it sets a foundation on the analysis of the positive impacts of remote working on work-life balance since most of the scholars highlighted the negativities of this construct on the balance between personal and professional lives. The biggest theoretical contribution is given by the answer to the research question, proving that remote working does not lower psychological wellbeing, but it increases employees' happiness.

The findings of this thesis are also practical. Employees that experience a gain of psychological wellbeing are happier, leading to an overall state of personal fulfilment and enhancement. These feelings have a positive impact on the organization because translated into betterment of performances and productivity, and a reduction of costs due to absenteeism and turnover. Adopting flexible practices, public administration started its transformation of NPM, reducing its fixed and bureaucratic structure. This will be translated into an increment of attractivity of the organization and a possible shift towards real smart working practices.

The introduction of flexible practices has also an impact on sustainability, helping the public administration in reaching some important goals of the *Agenda 2030*, such as the gain of well-being or the economic growth.

BIBLIOGRAPHY

- Adisa, T.A., Mordi, C. and Mordi, T. (2014). The Challenges and Realities of Work-Family Balance among Nigerian Female Doctors and Nurses, *Economic Insights – Trends and Challenges*, 3 (66), pp. 23-37.
- Allen, T. D., Herst, D. E., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work to-family conflict: a review and agenda for future research. *Journal of Occupational Health Psychology*, 5, 278–308.
- Allen, T. D., Johnson, R. C., Kiburz, K. M., & Shockley K. M. (2013). Work–family conflict and flexible work arrangements: deconstructing flexibility. *Personnel psychology* 2013, 66, 345–376
- Antonsen, M., & Beck Jørgensen, T. (1997). The “publicness” of public organizations. *Public Administration*, 75, 337-357
- Antonsen, M., & Beck Jørgensen, T. (1997). The “publicness” of public organizations. *Public Administration*, 75, 337-357.
- Anuradha & Mrinalini, P. (2016). Impact of work-life balance on job satisfaction of women doctors. *Problems and Perspectives in Management*, 14(2- 2), 319-324
- Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A. (2005). Organizations and the intersection of work and family. A comparative perspective. In S. Ackroyd, R. Batt, P. Thompson, & P. Tolbert (Eds.), *The Oxford handbook of work and organizations* (pp. 52-73). Oxford, UK: Oxford University Press.
- Appelbaum, E., Bailey, T., Berg, P., & Kalleberg, A., (2000). *Manufacturing advantage: Why high-performance work systems pay off*. Ithaca, NY: Cornell University Press
- Baase, S. (1997). *A Gift of Fire. Social, Legal, and Ethical Issues in Computing* (Prentice Hall, Upper Saddle River, NJ).
- Badri, S. K. Z., & Panatik, S. A. (2020). The roles of job autonomy and self-efficacy to improve academics’ work-life balance. *Asian Academy of Management Journal*, 25(2), 85–108. <https://doi.org/10.21315/aamj2020.25.2.4>
- Bailey, D.E., & Kurland, N.B. (2002), A Review of Telework Research: Findings, New Directions, and Lessons for the Study of Modern Work, *Journal of Organizational Behavior* 23, 383–400.
- Bailyn, L. (1993). *Breaking the mold: Women, men, and time in the new corporate world*. New York: Free Press

- Bailyn, L. (1997). The impact of corporate culture on work-family integration. In S. Parasuraman & J. H. Greenhaus (Eds.), *Integrating work and family: Challenges and choices for a changing world* pp. 209–219. Westport, CT: Quorum Books
- Bakker, A. & Demerouti, E. (2007). The Job Demands-Resources Model: State of the Art. *Journal of Managerial Psychology* 22, 309–328.
- Bakker, A. B., & Schaufeli, W. B. (2008). Positive organizational behavior: Engaged employees in flourishing organizations. *Journal of Organizational Behavior*, 29, 147–154.
- Bakker, A.B., Demerouti, E., & Verbeke, W. (2004), Using the Job Demands-Resources Model to Predict Burnout and Performance. *Human Resource Management* 43, 83–104.
- Baldwin, J.N. & Farley, Q.A., (2001). Comparing the public and private sectors in the United States: a review of the empirical research in Farazmand. A. (Ed.), *Handbook of Comparative and Development Public Administration*, 2nd ed., Marcel Dekker, New York NY, pp. 119-130.
- Baltes, B., Briggs, T., Huff, J., Wright, J., & Neumann, G. (1999). Flexible and compressed workweek schedules: a meta-analysis of their effects on work-related criteria. *J. Appl. Psychol.* 84, 496–513. doi: 10.1037/0021-9010.84.4.496
- Banu, A., & Duraipandian, K. (2014). Development of an instrument to measure work life balance of it professionals in Chennai. *International journal of management*, Volume 5, Issue 11, November (2014), pp. 21-33
- Baptiste, D., Fecher, A., M., Dolejs, S., C., Yoder, J., Schmidt, C., M., Couch, M., E., Ceppia, D., P. (2017). Gender differences in academic surgery, work-life balance, and satisfaction. *J Surg Res*. Volume 218. Pp. 99–107. doi: 10.1016/j.jss.2017.05.075
- Barth, E., Davis, J. C., Freeman, R. B., McElheran K. (2020). TWISTING THE DEMAND CURVE: DIGITALIZATION AND THE OLDER WORKFORCE. NBER Working Paper No. 28094. JEL No. J0,J01,J11,J2,O0,O32,O33
- Baruch Y., (2000). Teleworking: Benefits and pitfalls as perceived by professionals and managers. *New Technology, Work and Employment* 15: 34–49
- Baruch, Y. (2001). The status of research on teleworking and an agenda for future research. *International Journal of Management Reviews*, 3, 113-129.
- Batini, N., Callen, T., McKibbin, W. (2006). *The Global Impact of Demographic Change*. International Monetary Fund WP/06/9
- Beers, T. M. (2000). Flexible schedules and shift work: replacing the '9-to-5' workday? *Monthly Labor Review*, 123(6), 33–40.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107, 238–246. <https://doi.org/10.1037/0033-2909.107.2.238>

- Berg, D., Cammann, C., Campbell, S., Compton, M., Fichman, M., Herline, G., Herman, J., Jenkins, D., Klesh, J., Lawler, E., Macy, B., Mandigo, G., Mirvis, P., Moch, M., Nadler, D., Nieva, V., Perkins, D., Seashore, S., Hancock, W., Goodall, B., & Wellman, B. (1975). Michigan organizational assessment. Institute for social research the university of michigan ann arbor, michigan 48106
- Bernier, L., & Deschamps, D. (2020). Autonomy and distance from the centre as drivers of innovation in the public sector: Testing a positioning-based hypothesis. *Canadian public* volume 63, no. 2 (june/juin 2020), pp. 271–292
- Berthon, P., Ewing, M., & Hah, L. L. (2005). Captivating company: dimensions of attractiveness in employer branding. *International Journal of Advertising*, 24(2), 151–172
- Bohen, H. H., & Viveros-Long, A. (1981). *Balancing jobs and family life: Do flexible schedules help?* Philadelphia: Temple Univ. Press.
- Bohen, H. H., & Viveros-Long, A. (1981). *Balancing jobs and family life: Do flexible schedules help?* Philadelphia: Temple Univ. Press.
- Bollen, K. A. (1989). A new incremental fit index for general structural equation models. *Volume 7, issue 3*, pp. 303-316
- Borst, R. T., Kruyen, P. M., & Lako, C. J. (2017). Exploring the Job Demands–Resources Model of Work Engagement in Government: Bringing in a Psychological Perspective. *Review of Public Personnel Administration* 2019, Vol. 39(3) 372–397
- Boswell, W. R., Roehling, M. V., LePine, M. A., & Moynihan, L. M. (2003). Individual job choice decisions and the impact of job attributes and recruitment practices: A longitudinal field study. *Human Resource Management*, 42(1), 23–37
- Bozeman, B. (1993). A theory of government “red tape”. *Journal of Public Administration Research and Theory*, 3, 273–304.
- Breaugh, J.A. & Farabee, A.M. (2012), *Telecommuting and flexible work hours: alternative work arrangements that can improve the quality of work life*, Springer, Dordrecht, pp. 251-274.
- Brey, P. (1998). The Politics of Computer Systems and the Ethics of Design’, in M. van den Hoven (ed.), *Computer Ethics: Philosophical Enquiry*, Proceedings of CEPE97, Erasmus University Rotterdam 11–13 June 1997, An ACM/SIGCAS Conference (Rotterdam University Press, Rotterdam), pp. 64–75.
- Brey, P. (1999). Worker Autonomy and the Drama of Digital Networks in Organizations. *Journal of Business Ethics* 22: 15–25
- Brief, A.P. (2002). Organizational behaviour: affect in the workplace. *Annual Review of Psychology*, Vol. 53, pp. 279-307

- Bright L. (2010). Why Age Matters in the Work Preferences of Public Employees: A Comparison of Three Age-Related Explanations. *Public Personnel Management* Volume 39 No. 1
- Brooks, S. K., R. K. Webster, L. E. Smith, L. Woodland, S. Wessely, N. Greenberg, & G. J. Rubin. (2020). The psychological impact of quarantine and how to reduce it: Rapid review of the evidence.” *Lancet* 395 (10227): 912–920. [https://doi.org/10.1016/S0140-6736\(20\)30460-8](https://doi.org/10.1016/S0140-6736(20)30460-8)
- Buelens, M., & Van den Broeck, H. (2007). An analysis of differences in work motivation between public and private sector organizations”. *Public Administration Review*, 67(1), 65- 74
- Burchell, B. (2006). Work intensification in the UK. In D. Perrons (Ed.), *Gender divisions and working time in the new economy: Changing patterns of work, care and public policy in Europe and North America* (pp. 21–34). Northampton: E. Elgar
- Burdin, G., Pérotin, V. (2019). Employee Representation and Flexible Working Time. *Labour Economics* 61
- Burke, RJ & Cooper, CL (2006). The new world of work and organizations: implications for human resource management. *Human Resource Management Review*, vol. 16, no. 2, pp. 83-85
- Burton, J., & Van den Broek, D., 2009. Accountable and countable: Information management systems and the bureaucratization of social work. *British Journal of Social Work*, 39, 1326–1342.
- Cacioppo, J. T., Hawkley, L. C., Ernst, J. M., Burleson, M., Berntson, G. G., Nouriani, B., & Spiegel, D. (2006). Loneliness within a nomological net: An evolutionary perspective. *Journal of Research in Personality*, 40, 1054–1085. <http://dx.doi.org/10.1016/j.jrp.2005.11.007>
- Cahill, K. E., Giandria, M. D., & Quinn, J. F. (2014). The impact of hours flexibility on career employment, bridge jobs, and the timing of retirement. BLS Working Paper 472. Retrieved September 2, 2015, from www.bls.gov
- Campbell Clark S. (2001). Work Cultures and Work/Family Balance. *Journal of Vocational Behavior* 58, 348–365
- Cangur, S., & Ercan, I. (2015). Comparison of Model Fit Indices Used in Structural Equation Modeling Under Multivariate Normality. *Journal of Modern Applied Statistical Methods*: Vol. 14 : Iss. 1 , Article 14. DOI: 10.22237/jmasm/1430453580
- Cantarelli, P., Belardinelli, P., & Belle, N. (2015). A Meta-Analysis of Job Satisfaction Correlates in the Public Administration Literature. *Review of Public Personnel Administration* 2016, Vol. 36(2) 115–144

- Carlson, D. S., K., Kacmar, M., & Williams, L. J. (2000). Construction and Initial Validation of a Multidimensional Measure of Work–Family Conflict. *Journal of Vocational Behavior* 56, 249–276
- Carlson, D., Grzywacz, J., & Zivnuska, S. (2009). Is work–family balance more than conflict and enrichment? *Human Relations*, 62, 1459–1486.
- Carlsson-Szlezak, P., Reeves, M., & Swartz, P. (2020). Understanding the Economic Shock of Coronavirus. *Harvard Business Review*. <https://hbr.org/2020/03/understanding-the-economic-shock-of-coronavirus>
- Carrillo-García, C., Solano Ruíz M., C., Martínez-Roche, M., E., & Gómez-García, C., I. (2013). Job satisfaction among health care workers: the role of gender and age. *Rev. Latino-Am. Enfermagem*; 21(6):1314-20 DOI: 10.1590/0104-1169.3224.2369
- Casper, W. J., & Buffardi, L. C. (2004). Work-life benefits and job pursuit intentions: „e role of anticipated organizational support. *Journal of Vocational Behavior*, 65(3), 391–410.
- Castellini, G., Rossi, E., Cassioli, E., Sanfilippo, G., Innocenti, M., Gironi, V., Silvestri, C., Voller, F., & Ricca, V. (2021). A longitudinal observation of general psychopathology before the COVID-19 outbreak and during lockdown in Italy. *Journal of Psychosomatic Research* 141 (2021) 110328
- Chen, Y., & Fulmer, I. S. (2018). Fine-tuning what we know about employees’ experience with flexible work arrangements and their job attitudes. *Hum Resour Manage.* 2018;57:381–395
- Cho, E., & Kim, S. (2015). Cronbach’s Coefficient Alpha: Well Known but Poorly Understood. *Organizational Research Methods.* 18(2):207-230. DOI: 10.1177/1094428114555994
- Choi Sungjoo, (2017). Managing Flexible Work Arrangements in Government: Testing the Effects of Institutional and Managerial Support. *Public Personnel Management* 2018, Vol. 47(1) 26–50
- Christensen, K. E., & Staines, G. L. (1990). Flexitime: A viable solution to work/family conflict? *Journal of Family Issues*, 11, 455–476.
- Christmann, A., & Van, A. B., (2006). Robust estimation of Cronbach’s alpha. *Journal of Multivariate Analysis* 97 (2006) 1660 – 1674
- Clark, A., Oswald, A., & Warr, P. (1996). Is job satisfaction U-shaped in age?. *Journal of Occupational and Organizational Psychology*, Vol. 69 No. 1, pp. 57-81.
- Clark, S. C. (2000). Work/family border theory: A new theory of work/family balance. *Human Relations*, 53, 747–770.

- Collins, A.M., Hislop, D. & Cartwright, S. (2016). Social support in the workplace between teleworkers, office-based colleagues and supervisors. *New Technology, Work and Employment*, Vol. 31 No. 2, pp. 161-175.
- Cooper, C.D., Kurland, N.B., (2002). Telecommuting, professional isolation and employee development in public and private sector organizations. *Journal of Organizational Behavior* 23: 511–32.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334
- Dalal, R.S., Baysinger, M., Brummel, B.J. and LeBreton, J.M. (2012), “The relative importance of employee engagement, other job attitudes, and trait affect as predictors of job performance”, *Journal of Applied Social Psychology*, Vol. 42 No. 1, pp. 295-325, doi: 10.1111/j.1559- 1816.2012.01017.
- Daniels, K., Lamond, D., & Standen, P. (2001). Teleworking: Frameworks for organizational research. *Journal of Management Studies*, 38, pp. 1151-1185
- Datta Pratim, Laurie Walker, & Fabrizio Amarilli, (2020). Digital transformation: Learning from Italy’s public administration. *Journal of Information Technology Teaching Cases* 2020, Vol. 10(2) 54–71
- Davidescu, A. A., Apostu S. A., Paul, A., & Casuneanu, I. (2020). Work Flexibility, Job Satisfaction, and Job Performance among Romanian Employees— Implications for Sustainable Human Resource Management. *Sustainability* 2020, 12, 6086
- Davis, G. (2004), Job satisfaction survey among employees in small businesses. *Journal of Small Business and Enterprise Development*, Vol. 11 No. 4, pp. 495-503
- De Simone, S., Cicotto, G., Pinna, R., & Giustiniano, L. (2016). Engaging public servants Public service motivation, work engagement and work-related stress. *Management Decision* Vol. 54 No. 7, 2016 pp. 1569-1594
- de Vries, H., Tummer, L., & Bekkers, V. (2018). The Benefits of Teleworking in the Public Sector: Reality or Rhetoric?. *Review of Public Personnel Administration* 2019, Vol. 39(4) 570–593
- de Vries, H., Tummers, L., & Bekkers, V. (2017). A stakeholder perspective on public sector innovation: Why position matters. *International Review of Administrative Sciences*. Advance online publication. doi:10.1177/0020852317715513
- DeCharms, R. (1968), *Personal Causation*, Lawrence Erlbaum Associates, Hillsdale, NJ
- Deci, E. L., & Ryan, R. M., (2008). Self-determination theory: A macrotheory of human motivation, development, and health. *Canadian Psychology/Psychologie canadienne*, 49, 182–185.

- Deci, E., L., Ryan, R. M., Gagne', M., Leone, D., R., Usunov, J., & Kornazheva, B., P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former Eastern Bloc country. *Personality and Social Psychology Bulletin*, 27, pp. 930–942.
- Deci, E., L., Ryan, R., M. (2000). Self-Determination Theory and the Facilitation of Intrinsic Motivation, Social Development, and Well-Being. *e American Psychological Association*, Vol. 55, No. 1, pp. 68-78 DOI: 10.1037/110003-066X.55.1.68
- DeHart-Davis, L., & Pandey, S. K., (2005). Red tape and public employees: Does perceived rule dysfunction alienate managers?. *Journal of Public Administration Research and Theory*, 15, 133-148.
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied Psychology*, 86, 499–512
- Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and work engagement: A thorough investigation of the independency of both constructs. *Journal of Occupational Health Psychology*, 15, 209–222. <http://dx.doi.org/10.1037/a0019408>
- den Dulk, L., & Groeneveld, S. (2012). “Work–Life Balance Support in the Public Sector in Europe”. SAGE Publications. *Review of Public Personnel Administration* 33(4) 384–405
- Di francesco, m., & alford, j. (2016). Budget Rules and Flexibility in the Public Sector: Towards a Taxonomy. *Financial Accountability & Management*, 32(2), May 2016, 0267-4424
- Diener, E., Suh, E. M., Lucas, R. E., & Smith, H. L. (1999). Subjective well-being: Three decades of program. *Psychological bulletin*, 125, 276-302.
- Digital Leaders (2014) Productivity game. P. 30–31. Downloaded on May 15 2014 from www.bcs.org/content/ConMediaFile/23494
- Dolce, V., Vayre, E., Molino, M., & Ghislieri, C. (2020). Far Away, So Close? The Role of Destructive Leadership in the Job Demands–Resources and Recovery Model in Emergency Telework. *Soc. Sci.* 2020, 9, 196
- DuVy, R. D., & Richard, G. V. (2006). Physician job satisfaction across six major specialties”. *Journal of Vocational Behavior* 68 548–559
- Ercan I., Yazici B., Sigirli D., Ediz B, & Kan I. (2007). Examining Cronbach Alpha, Theta, Omega Reliability Coefficients According to the Sample Size. *Journal of Modern Applied Statistical Methods*, Vol. 6, No. 1, 291-303

Erling Barth James C. Davis Richard B. Freeman Kristina McElheran

Ferreira, P., Gabriel, C., Faria, S., Rodrigues, P., & Sousa Pereira, M. (2020). What if Employees Brought Their Life to Work? The Relation of Life Satisfaction and Work Engagement. *Sustainability* 2020, 12, 274

Finn, D., & Donovan, A. (2013). PwC's NextGen: A global generational study. Evolving talent strategy to match the new workforce reality. Accessed 29 June, 2017. (pp. 1–16). Price Waterhouse Coopers

Fornell, C. & Larcker, D. (1981). Evaluating Structural Equation Models with Unobservable Variables and Measurement Error. *Journal of Marketing Research* Vol. 18, No. 1 (Feb), pp. 39-50.

France, E., Akselsen, S., Jones, M., & Tracy, K. (2002). Telework and quality of life: Some social impacts and practical implications. *The Journal of the British Telecommunications Engineers*, 3(1), 5766.

Gajendran, r. S., & harrison, d. A. (2006). "the good, the bad, and the unknown about telecommuting: meta-analysis of individual consequences and mechanisms of distributed work". *Academy of management best conference paper 2006 hr*

Gajendran, R., Harrison, D., & Delaney-Klinger, K. (2014). Are telecommuters remotely good citizens? Unpacking telecommuting's effects on performance via i-deals and job resources. *Personnel Psychology*, 68, 353-393.

Garg, K., Dar, I. A., & Mishra, M. (2018). Job Satisfaction and Work Engagement: A Study Using Private Sector Bank Managers. *Advances in Developing Human Resources* 2018, Vol. 20(1) 58–71

Gastaldi Luca, Mariano Corso, Elisabetta Raguseo, Paolo Neirotti, Emilio Paolucci, Antonella Martini, 2014. "Smart working: rethinking work practices to leverage employees' innovation potential". ISBN 978-90-77360-17-0 pp. 337-347

George, J. & Jones, G., (1999). *Understanding and managing organizational behaviour* (2nd ed.), Addison Wesley, Reading, MA.

Gerdenitsch, C., Kubicek, B., & Korunka, C. (2015). Control in Flexible Working Arrangements: When Freedom Becomes Duty. *Journal of Personnel Psychology*, 14(2), 61–69.

Gonsalves Leroy, (2020). From Face Time to Flex Time: The Role of Physical Space in Worker Temporal Flexibility. *Administrative Science Quarterly* 2020, Vol. 65(4)1058–1091

Gorenak, I. and Pagon, M., 2006. "Vpliv organizacijskega komuniciranja na zadovoljstvo policistov pri delu". *Organizacija*, Vol. 39 No. 4, pp. 247-253. Cited in Tomažević, N., Seljak, J., & Aristovnik, A. (2014). Factors Influencing Employee Satisfaction in the Police Service: The Case of Slovenia. *Personnel Review*, Vol. 43, No. 2 (2014): pp. 209-227.

Gözükaralızlem, İ., & Şimsek, Ö. F. (2016). Role of Leadership in Employees' Work Engagement: Organizational Identification and Job Autonomy. *International Journal of Business and Management*; Vol. 11, No. 1; 2016 pp. 72-84

Grant, A. M., Christianson, M. K., & Price, R. H. (2007). Happiness, Health, or Relationships? Managerial Practices and Employee Well-Being Tradeoffs. *Academy of Management Perspectives*, pp.51-63

Grant, A., M., Christianson, M., K., & Price, R., H. (2007). Happiness, Health, or Relationships? Managerial Practices and Employee Well-Being Tradeoffs. *Academy of Management Perspectives*. Vol. 21, N. 3, 51-63

Gray, M., N. Hodson & Gordon, G. (1993). *Teleworking Explained*. John Wiley & Sons Ltd, Chichester.

Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review*, 10, 76–88.

Greenhaus, J. H., Collins, K. M. & Shaw, J. D. (2003). The relation between work–family balance and quality of life. *Journal of Vocational Behavior* 63 (2003) 510–531

Gröpel P, Kuhl J. (2009). Work–life balance and subjective well-being: the mediating role of need fulfilment. *Br J Psychol*. 2009;100(2). Pp. 365–75.

Guglielmi, D., Avanzi, L., Chiesa, R., Mariani, M. G., Bruni I., & Depolo, M. (2016). Positive Aging in Demanding Workplaces: The Gain Cycle between Job Satisfaction and Work Engagement. *Front. Psychol*. 7:1224

Gyekye, A.S. and Salminen, S. (2009). Age and workers' perceptions of workplace safety: a comparative study. *The International Journal of Aging and Human Development*, Vol. 68 No. 2, pp. 171-184.

Gyekye, S., A., & Haybatollahi, M. (2015). An empirical investigation of the impact of age and job satisfaction on Ghanaian industrial workers. *International Journal of Organizational Analysis* Vol. 23 No. 2, 2015 pp. 285-301. DOI 10.1108/IJOA-08-2012-0586

Haar, J. M., Russo, M., Suñe, A., Ollier-Malaterre, A. (2014). Outcomes of work–life balance on job satisfaction, life satisfaction and mental health: A study across seven cultures. *Journal of Vocational Behavior* 85 (2014) 361–373

Hackman, J. R. & Oldham, G. R. (1975). 'Development of the Job Diagnostic Survey', *Journal of Applied Psychology* 60, 159–170

Hackman, J. R., & Oldham, G. R. (1980). *Work redesign*. Reading, Mass.: Addison-Wesley

- Hackman, J.R. & Oldham, G.R. (2007). "How job characteristics theory happened". In Smith, Ken G.; Hitt, Michael A. (eds.). *Great Minds in Management: The process of theory development*. Oxford, England: Oxford University Press. pp. 151–170.
- Haider, S., Jabeen, S, & Ahmad, J. (2018). Moderated mediation between work life balance and employee job performance: The role of psychological wellbeing and satisfaction with coworkers. *Journal of Work and Organizational Psychology*, 34, 29-37. <https://doi.org/10.5093/jwop2018a4>
- Hamblin, H. (1995), 'Employees' perspectives on one dimension of labour flexibility: Working at a distance. *Work, Employment & Society* 9(3), pp. 473–498.
- Hayes M., Chumney F., Wright C., & Buckingham M (2019). *Global Study of Engagement The Technical Report*. ADP Research Institute pp. 1- 95
- Hill, E., Ferris, M. & McArtinson, V. (2003), "Does it matter where you work? A comparison of how three work venues (traditional office, virtual office, and home office) influence aspects of work and personal/family life", *Journal of Vocational Behaviour*, Vol. 63 No. 2, pp. 220-241
- Hill, E.J., Hawkins, A.J., Ferris, M., & Weitzman, M., (2001). Finding an extra day a week: the positive influence of perceived job flexibility on work and family life balance. *Family Relations* 50, 49–58
- Hox, J. J. & Bechger, T.M. (1998). An introduction to Structural equation modeling. *Family science review*, 11, 354-373.
- Hyman, J. & Baldry, C. (2011), "The pressures of commitment: taking software home", in Kaiser, S., Ringlsetter, M.J., Eikhof, D.R. and Cunha, M.P.E. (Eds), *Creating Balance? International Perspectives on the Work-Life Integration of Professionals*, Springer, Berlin, pp. 253-268.
- Iacovino, N. M., Barsanti, S., & Cinquini, L. (2017). Public Organizations Between Old Public Administration, New Public Management and Public Governance: the Case of the Tuscany Region. *Public Organiz Rev* (2017) 17:61–82
- James, J., B., Besen, E. Matz-Costa, C., & Pitt-Catsoupes, M. (2012). *Just do it? ... maybe not! Insights on activity in later life from the life & times in an aging society study*. Sloan Center on Aging & Work, Boston College, Chestnut Hill, MA.
- Jang, S. J., Park, R., Zippay, A. (2011). The interaction effects of scheduling control and work–life balance programs on job satisfaction and mental health. *Int J Soc Welfare* 2011: 20: 135–143
- Johnson, R.R. (2012). Police officer job satisfaction: A multidimensional analysis. *Police Quarterly*, Vol. 15 No. 2, pp. 157-176.
- Jonas, O. B. (2013). *Pandemic Risk* (p. 40). *World Development Report 2014 on Risk and Opportunity: Managing Risks for Development*.

Juchnowicz, M., & Kinowska, H. (2021). Employee Well-Being and Digital Work during the COVID-19 Pandemic. *Information* 2021, 12, 293. <https://doi.org/10.3390/info12080293>

Kahn, W. A. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. *The Academy of Management Journal*, Vol. 33, No. 4, pp. 692-724

Kahn, W.A., (1992). To be full there: psychological presence at work. *Human Relations*, Vol. 45, pp. 321-49

Karasek, R. A. (1979). Job Demands, Job Decision Latitude, and Mental Strain: Implications for Job Redesign. *Administrative Science Quarterly*, 24(2), 285–308

Kelliher, C. and Anderson, D. (2010). Doing more with less? Flexible working practices and the intensification of work. *Human Relations*, Vol. 63 No. 1, pp. 83-106.

Kersley, B., Alpin, A., Forth, J., Bryson, A., Bewley, H., Dix, G., & Oxenbridge, S. (2005). *Inside the Workplace: First Findings from the 2004 Workplace Employment Relations Survey*. Routledge doi: https://doi.org/10.1111/j.1467-8543.2008.00690_6.x

Kirchmeyer, C. (2000). Work-life initiatives: Greed or benevolence regarding workers time. In C. L. Cooper & D. M. Rousseau (Eds.), *Trends in organizational behavior* (Vol. 7, pp. 79–93). West Sussex, UK: Wiley.

Klarmann, M. & Feurer, S. (2018). Control Variables in Marketing Research. *MARKETING · ZFP · Volume 40/2/2018*. pp. 26 –40

Klimchak, M., Matthews, M., Robbins, K., & Zhang, H. (2019). When does what other people think matter? The influence of age on the motivators of organizational identification. *Journal of Business and Psychology*, 34(6), 879–891. doi: 10.1007/s10869-018-9601-6

Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashfors, S., P., Bakker, A., B., Bamberger, P., Bapuji, H., Bhave, D., P., Choi, V., K., Creary, S., J., Demerouti, E., Flynn, F., J., Flynn, M., J., Gelfand, L., L., Greer, G., J., Kesebir, S., Klein P., G., Lee, S., Y., Ozcelik, H., Petriglieri, J., L., Rothbard, N., P., Cort, W., R., Shaw, J., D., Sirola, N., Wanberg, C., R., Whillans., A., Wilmot, M., P., & van Vugt, M. (2020). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American psychologist association* 76 (1). 63-77. DOI: doi: 10.1037/amp0000716

Kossek, E.E., Lautsch, B.A., Eaton, S. C. (2006). Telecommuting, control, and boundary management: Correlates of policy use and practice, job control, and work-family effectiveness. *Journal of Vocational Behavior*, 68(2), 347–367.

- Kosser, E., E., Valcour, M., Lirio, P. (2014). *The Sustainable Workforce Organizational Strategies for Promoting Work–Life Balance and Wellbeing: a complete reference guide*. Vol 3, Jhon Wiley & Sons Inc. pp. 295-319. DOI: 10.1002/9781118539415.wbwell14
- Kuhlmann, s. (2010). New public management for the ‘classical continental european administration’: modernization at the local level in germany, france and Italy. *Public administration* vol. 88, no. 4, 2010 (1116–1130)
- Kurland, N.B. & Bailey, D.E. (1999). Telework: the advantages and challenges of working here, there, anywhere, and anytime. *Organizational Dynamics*, Vol. 28, pp. 53-68.
- Læg Reid, P., & Verhoest, K. (2010). *Governance of Public Sector Organizations: Proliferation, Autonomy and Performance*. New York: Palgrave Macmillan.
- LaFaver, K., Miyasaki, J. M., Keran, C., M., Rheaume, C., Gulya, L., Levin, K., H., Jones, E., C., Schwarz, H., B., Molano, J., R., Hessler, A., Singhal, D., Shanafelt, T., D., Sloan, J., A., Novotny, P., J., Cascino, T., L., & Busis, N., A. (2018). Age and sex differences in burnout, career satisfaction, and well-being in US neurologists *Kathrin Neurology*® 2018;00:1-14. doi:10.1212/WNL.0000000000006497
- Lavigna, R. J. (2015). Public Service Motivation and employee engagement. *Public Administration Review*, 75, 732-733
- Lavigna, R. J., (2013). *Engaging government employees: Motivate and inspire your people to achieve superior performance*. New York, NY: Amacom.
- Lee, J. (2016). *The Impact of ICT on Work*. ISBN 978-981-287-611-9 DOI 10.1007/978-981-287-612-6 Library of Congress Control Number: 2015951720
- Levinthal, D. A., & March, J. G. (1993). The myopia of learning. *Strategic Management Journal – Special Issue*, 14(S2), 95–112
- Lievens, F., Decaestecker, C., & Coetsier, P. (2001). Organizational Attractiveness for Prospective Applicants: A Person–Organisation Fit Perspective. *Applied Psychology: An International Review*, 50(1), 30-51.
- Lindorff, M., (2011). Job Satisfaction and Gender in the APS: Who’d Want to be a Male?. *The Australian Journal of Public Administration*, vol. 70, no. 1, pp. 58–74
- Liu, D., Wu, Y., Jiang, F., Wang, M., Liu, Y., & Tang, Y-L. (2021). Gender Differences in Job Satisfaction and Work-Life Balance Among Chinese Physicians in Tertiary Public Hospitals. *Front. Public Health*. <https://doi.org/10.3389/fpubh.2021.635260>
- Locke, E.A. (1976). The nature and causes of job satisfaction. In M.D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp.1297-1349). Chicago: Rand McNally.

- Lott, Y. (2014). Working-time flexibility and autonomy: A European perspective on time adequacy. *European Journal of Industrial Relations* 2015, Vol. 21(3) pp. 259–274. DOI: 10.1177/0959680114543604
- Loukidou, L., Loan-Clarke, J., Daniels, K. (2009). Boredom in the workplace: More than monotonous tasks. *Int. J. Manag. Rev.* 11(4), 381–405 (2009)
- Luo N., Zhou Y., Shon J.J. (2016). Employee satisfaction and corporate performance: mining employee reviews on glassdoor.com, Proceedings of the 37th International Conference on Information Systems.
- Lyytinen, K., & Rose, G. (2003). The Disruptive Nature of Information Technology Innovations: The Case of Internet Computing in Systems Development Organizations. *MIS Quarterly*, 27(4), 557-596. doi:10.2307/30036549
- MacEachen, E., Polzer, J., & Clarke, J. (2008). ‘You are free to set your own hours’: Governing worker productivity and health through flexibility and resilience. *Social Science & Medicine* 66 (2008) 1019e1033
- Maiorano, T., Vagni, M., Giostra, V., & Pajardi, D. (2020). COVID-19: Risk Factors and Protective Role of Resilience and Coping Strategies for Emergency Stress and Secondary Trauma in Medical Staff and Emergency Workers—An Online-Based Inquiry. *Sustainability* 2020, 12, 9004
- Mäkikangas, A., Kinnunen, S., Rantanen, J., Mauno, S., Tolvanen A., & Bakker, A., B. (2013). Association between vigor and exhaustion during the workweek: a person-centered approach to daily assessments, *Anxiety, Stress & Coping: An International Journal*, DOI: 10.1080/10615806.2013.860968
- Mann S, Holdsworth L, (2003). The psychological impact of teleworking: Stress, emotions and health. *New Technology, Work and Employment*. 18: 196–211
- Marchand, A., Beaugard, N., Blanc, M., E. (2015). Work and nonwork stressors, psychological distress and obesity: evidence from a 14-year study on Canadian workers. *BMJ Open* 2015;5:e006285. DOI: [10.1136/bmjopen-2014-006285](https://doi.org/10.1136/bmjopen-2014-006285)
- Marino, C., (2010). The introduction of new public management principles in the Italian public sector. *Transylvanian Review of Administrative Sciences*, No. 30E/2010 pp. 30-54
- Marjanovic, Z., Greenglass, E.R., & Coffey, S. (2007). The relevance of psychosocial variables and working conditions in predicting nurses’ coping strategies during the SARS crisis: an online questionnaire survey, *Int. J. Nurs. Stud.* 44 (2007) 991–998, <https://doi.org/10.1016/j.ijnurstu.2006.02.012>.
- Maslach, C., Jackson, S., & Leiter, M. P. (1996). *MBI: Maslach burnout inventory manual* (3th ed.). Palo Alto, CA: Consulting Psychologists Press.

- Maslach, C., Schaufeli, W. B., & Leiter, M. P. (2001). Job burnout. *Annual Review of Psychology*, 52, 397–422
- Mas-Machuca, M., Berbegal-Mirabent, J., & Alegre, I. (2016). Work-life balance and its relationship with organizational pride and job satisfaction. *Journal of Managerial Psychology* Vol. 31 No. 2, 2016 pp. 586-602
- Masuda, A. D., Holtschlag, C., & Nicklin, J. M. (2017). Why the availability of telecommuting matters The effects of telecommuting on engagement via goal pursuit. *Career Development International* Vol. 22 No. 2, 2017 pp. 200-219
- May, D.R., Gilson, R.L. & Harter, L.M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational & Organizational Psychology*, Vol. 77, pp. 11-37
- McClave, J. T., Benson, P. G., & Sincich, T. (2005). *Statistics for business and economics*. Upper Saddle River, NJ: Pearson/Prentice Hall.
- McShane, S.L. & Von Glinow, M.A. (2007). *Organizational Behavior* (2nd ed.), McGrawHill, New York.
- Michel, J.S., Kotrba, L.M., Mitchelson, J.K., Clark, M.A., & Baltes, B.B. (2011). Antecedents of work-family conflict: A meta-analytic review. *Journal of Organizational Behavior*, 32(5), 689–725.
- Miles, R. E., Snow, C. C., Matthews, J. A., & Coleman, H. J. (1997) Anticipating the cellular form. *Academy of Management Executive*, 11(4), 7
- Mirchandani, K. (2000). “The Best of Both Worlds” and “Cutting My Own Throat”: Contradictory Images of Home-Based Telework. *Qualitative Sociology*, 23(4): 159–82.
- Mogilner, C., Whillans, A., & Norton, M. I. (2018). Time, money, and subjective well-being. In E. Diener, S. Oishi, & L. Tay (Eds.), *Handbook of well-being*. Salt Lake City, UT: Nobascholar.
- Montano, D., Hoven, H., & Siegrist, J. (2014). Effects of organisational level interventions at work on employees’ health: A systematic review. *BMC Public Health*, 14, 135. DOI: <http://dx.doi.org/10.1186/1471-2458-14-135>
- Morgeson, F. P., & Humphrey, S. E. (2006). The Work Design Questionnaire (WDQ): Developing and Validating a Comprehensive Measure for Assessing Job Design and the Nature of Work, *Journal of Applied Psychology*, Vol. 91, No. 6, pp. 1321–1339
- Morris, M. G., Venkatesh, V., & Ackerman, P. L. (2005). Gender and Age Differences in Employee Decisions About New Technology: An Extension to the Theory of Planned Behavior. *Ieee transactions on engineering management*, vol. 52, no. 1, february 2005

- Muthén, L.K. & Muthén, B.O. (1998-2012). *Mplus User's Guide*. Seventh Edition. Los Angeles, CA: Muthén & Muthén
- Nakrošienė, A., Bučiūnienė, I., & Goštautaitė, B. (2019). Working from home: Characteristics and outcomes of telework. *Int. J. Manpow.* 40, 87–101
- Netemeyre, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology*, 81, 400–410
- Newey W., & Sami S., (2021). Control variables, discrete instruments, and identification of structural functions. *Journal of Econometrics* 222 (2021) 73–88.
- Ng, L-P., Chen, I-C., Ng, H-F., Lin, B-Y., & Kuar, L-S. (2017). Influence of job demands and job control on work–life balance among Taiwanese nurses. *Journal of Nursing Management*, 25(6), 438–448.
- Nilles, J. (1994). *Making Telecommuting Happen. A Guide for Telemanagers and Telecommuters* (Van Nostrand Reinhold, New York.).
- Nilles, J. M., Carlson, F. R., Gray, P., & Hanneman, G. (1976). Telecommuting-an alternative to urban transportation congestion. *IEEE Transactions on Systems, Man, and Cybernetics*, 2, 77-84.
- Olsen, J. P. (2015). Democratic order, autonomy, and accountability. *Governance*, 28, 425-44
- Onder G, Rezza G, & Brusaferrò S. (2020) Case-fatality rate and characteristics of patients dying in relation to COVID-19 in Italy. *JAMA* 2020; 323(18):1775–1776
- Organization for Economic Cooperation and Development. (2001). Balancing work and family life: Helping parents into paid employment. In *OECD employment outlook* (pp. 29-166). Paris: Author.
- Ory, D.T., & Mokhtarian, P.L. (2007). Does telework really save commute time? Time, distances, and speed evidence from state of California workers. In T. Van der Lippe & P. Peters (Eds.), *Competing claims in work and family life* (pp. 249-268). Cheltenham and Northampton, MA: Edward Elgar.
- Osborne, D. & Gaebler, T. (1992). *Reinventing government: How the entrepreneurial spirit is transforming the public sector*. Reading, MA: Addison-Wesley.
- Ozcelik, H., & Barsade, S. (2018). No employee an island: Workplace loneliness and employee performance. *Academy of Management Journal*, 61, 2343–2366. <http://dx.doi.org/10.5465/amj.2015.1066>
- Palmi, P., Corallo, A., Prete, M. I., & Harris, P. (2020). Balancing exploration and exploitation in public management: Proposal for an organizational model. *J Public Affairs*. Vol 13 No 5. DOI: <https://doi.org/10.1002/pa.2245>

- Palumbo, R. (2020). Let me go to the office! An investigation into the side effects of working from home on work-life balance. *International Journal of Public Sector Management* Vol. 33 No. 6/7, 2020 pp. 771-790
- Parida, V., Sjödin, D., & Wiebke R. (2019). "Reviewing Literature on Digitalization, Business Model Innovation, and Sustainable Industry: Past Achievements and Future Promises" *Sustainability* 11, no. 2: 391. <https://doi.org/10.3390/su11020391>
- Patro, C., S. (2013). The Impact of Employee Engagement on Organization's Productivity. 2nd International Conference on Managing Human Resources at the Workplace, December 13-14
- Pattusam, M. & Jayanth, J. (2015). A Test of Greenhaus and Allen (2011) Model on Work-Family Balance. *Curr Psychol* DOI 10.1007/s12144-015-9400-4
- Perlow, L. A. (1997). *Finding time: How corporations, individuals, and families can benefit from new work practices*. New York: Cornell University Press)
- Perry, J. L., & Wise, L. R. (1990). The motivational bases of public service. *Public Administration Review*, Vol. 50 No. 3, pp. 367-373.
- Perry, S.J., Rubino, C., & Hunter, E.M. (2018). Stress in remote work: two studies testing the Demand-Control-Person model. *European Journal of Work and Organizational Psychology*, Vol. 27 No. 5, pp. 577-593, doi: 10.1080/1359432X.2018.1487402.
- Peters, P., & Van der Lippe, T. (2007). The time-pressure reducing potential of telehomeworking: The Dutch case. *Internal Journal of Human Resource Management*. Vol 18 No 3. pp. 430-447. DOI: <https://doi.org/10.1080/09585190601167730>
- Peters, P., den Dulk, L., & van der Lippe, T., (2009). The effects of time-spatial flexibility and new working conditions on employees' work-life balance. *Community, Work & Family*, 12(3), 279-298.
- Pfeffer J. (2001). Fighting the war for talent is hazardous to your organization's health. *Organizational Dynamics*, 29(4), 248–259.
- Pirzadeh, P., & Lingard, H. (2021). Working from Home during the COVID-19 Pandemic: Health and Well-Being of Project-Based Construction Workers. *J. Constr. Eng. Manage.*, 2021, 147(6): 04021048
- Poelmans, S., Stepanova, O., & Masuda, A. (2008). Positive spill over between personal and professional life: definitions, antecedents, consequences, and strategies. In K. Korabik, D. S. Lero, & D. L. Whitehead (Eds.), *Handbook of work-family integration: research, theory, and best practices* (pp. 141–156). New York: Academic Press.
- Pollitt, C., & Bouckaert, G. (2017). *Public Management Reform: A Comparative Analysis-into the Age of Austerity*. Oxford: Oxford University Press

- Possenriede Daniel, and Janneke Plantenga, 2014. "Temporal and Locational Flexibility of Work, Working-Time Fit, and Job Satisfaction". IZA Discussion Paper No. 8436
- Powell, A., & Cortis, N. (2017). Working Time in Public, Private, and Nonprofit Organizations: What Influences Prospects for Employee Control?. *Human Service Organisations: Management, Leadership & Governance* 2017, 41 (2): 162-177
- Quoquab, F., Lim, C., S., & Malik, H., A. (2013). Malaysian employees perception pertaining to telework. *Bus. Manag. Q. Rev. (BMQR)* 3(1), 63–76
- Rainey, H. G. (2009). *Understanding and managing public organizations*. San Francisco, CA: John Wiley & Sons
- Rainey, H.G. (1989). Public management: recent research on the political context and managerial roles, structures, and behaviors. *Journal of Management*, Vol. 15 No. 2, pp. 229-250.
- Rani, U., & Furrer, M. (2020). Digital labour platforms and new forms of flexible work in developing countries: Algorithmic management of work and workers. *Competition & Change* 0(0) 1–24
- Rau, B., & Hyland, M. (2002). Role conflict and flexible work arrangements: the effects on attraction. *Personnel psychology* 2002,55, 111-136
- Richert-Kazmierska, A., & Stankiewicz, K. (2016). Work–life balance: Does age matter? *Work* 55 (2016) 679–688 DOI:10.3233/WOR-162435 IOS Press
- Rodríguez-López, A., M., Rubio-Valdehita, S., & Díaz-Ramiro, E., M. (2021). Influence of the CoViD-19 Pandemic on Mental Workload and Burnout of Fashion Retailing Workers in Spain. *Int. J. Environ. Res. Public Health* 2021, 18, 983. <https://doi.org/10.3390/ijerph18030983>
- Rothbard, N. P., Phillips, K. W., & Dumas, T., L. (2005). Managing multiple roles: Work–family policies and individuals’ desires for segmentation. *Organization Science*, 16: 243–258
- Rothbard, N., P. (2001). Enriching or Depleting? The Dynamics of Engagement in Work and Family Roles. *Administrative science quarterly*, 46, 655-84. <https://dx.doi.org/10.2307/3094827>.
- Rothmann, S., (2008). Job satisfaction, occupational stress, burnout and work engagement as components of work-related wellbeing". *SA J. Ind. Psychol.* 34, 11–16.
- Rousseau, D. M., Ho, V. T., & Greenberg, J. (2006). I-Deals: Idiosyncratic Terms in Employment Relationships. *Academy of Management Review*, 31(4), 977–994.

- Rozario, P. A., Howell, N. M., & Hinterlong, J., E. (2004). Role enhancement or role strain: examining the impact of multiple roles on family caregivers. *Research on Aging*, 26, 413–428.
- Rožman, M., Grinkevich, A., & Tominc, P. (2019). Occupational Stress, Symptoms of Burnout in the Workplace and Work Satisfaction of the Age-diverse Employees. *Organizacija*, Volume 52. Issue 1. DOI: 10.2478/orga-2019-0005
- Rudolph, C. W., & Baltes, B. B. (2016). Age and Health Jointly Moderate the Influence of Flexible Work Arrangements on Work Engagement: Evidence From Two Empirical Studies. *Journal of Occupational Health Psychology*.
- Russell, H., O’Connell, P., J., & McGinnity, F. (2009) The impact of flexible working arrangements on work–life conflict and work pressure in Ireland. *Gender, Work and Organization* 16: pp. 73–97.
- Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, 52(1), 141–166.
- Ryan, R. M., & Deci, E., L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68–78.
- Ryff, C. D. (1989). Happiness is everything, or is it? Explorations on the meaning of psychological well-being. *Journal of Personality and Social Psychology*, 57(6), pp. 1069–1081
- Saks, A. M., (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology* Vol. 21 No. 7, 2006 pp. 600-619
- Saltzstein, A., Ting, Y., & Saltzstein, G. (2001). Work-family balance and job satisfaction: The impact of family friendly policies on attitudes of federal government employees. *Public Administration Review*, 61, 452-467.
- Salvadori, M., L. (2018). *Storia d’Italia. Il cammino tormentato di una nazione 1861-2016*. Einaudi. ISBN: 978-8806232269
- Sardeshmukh, S. R., Sharma D., & Golden, T. D. (2012). Impact of telework on exhaustion and job engagement: a job demands and job resources model. *New Technology, Work and Employment* 27:3 pp.193-207
- Scandura, T.A. & Lankau, M.J. (1997). Relationships of gender, family responsibility and flexible work hours to organizational commitment and job satisfaction. *Journal of Organizational Behavior*, vol. 18, pp. 377–91.

Schaufeli, W. B., Bakker, A. B., & van Rhenen, W. (2009). How changes in job demands and resources predict burnout, work engagement, and sickness absenteeism. *Journal of organizational behavior* 30, 893–917

Schaufeli, W. B., Taris, T. W., & van Rhenen, W. (2008). Workaholism, Burnout, and Work Engagement: Three of a Kind or Three Different Kinds of Employee Well-being?. *Applied psychology: an international review*, 2008, 57 (2), 173–203 doi: 10.1111/j.1464-0597.2007.00285.

Schaufeli, W., B., Taris, T., W. (2014). A Critical Review of the Job Demands-Resources Model: Implications for Improving Work and Health. Chapter 4. Springer Science+Business Media Dordrecht 2014. Pp. 43-65. DOI: 10.1007/978-94-007-5640-3_4

Schaufeli, W., Salanova, M., González-romá, V., & Bakker, A. (2002). The Measurement of Engagement and Burnout: A Two Sample Confirmatory Factor Analytic Approach. *Journal of Happiness Studies*, 3(1), 71–92.

Schmoll, R., & Süß, S. (2019). Working Anywhere, Anytime: An Experimental Investigation of Workplace Flexibility's Influence on Organizational Attraction. *mrev*, 30 (1) 2019, 40 – 62

Scott, P. G., & Falcone, S. (1998). Comparing public and private organizations: an exploratory analysis of three frameworks. *American Review of Public Administration* 28: 126–145.

Seifert, H. (2001). Flexibility through working time accounts : reconciling economic efficiency and individual time requirement. WSI-Diskussionspapier, No. 130

Sewell, G., & Taskin, L. (2015). Out of sight, out of mind in a new world of work? Autonomy, control, and spatiotemporal scaling in telework. *Organ. Stud.* 36(11), 1507–1529 (2015)

Shi, D., Lee, T., & Maydeu-Olivares, A. (2019). Understanding the Model Size Effect on SEM Fit Indices. *Educational and Psychological Measurement* 2019, Vol. 79(2) 310–334. <https://doi.org/10.1177/0013164418783530>

Siebert, S., D. (1974). Toward a theory of role accumulation. *American Sociological Review*, 39, 567-578.

Singh, H., K., & Verma, S. (2020). Understanding the Challenges of Mandatory Telework Adoption and Its Effect on Employee Engagement”. S. K. Sharma et al. (Eds.): TDIT 2020, IFIP AICT 618, pp. 626–637, 2020

Sirgy, M. J., & Lee, D., J. (2018). Work-Life Balance: a Integrative Review. *Applied Research Quality Life* (2018) 13:229–254

- Sonnentag, S., Mojza, E. J., Demerouti, E., & Bakker, A. B. (2012). Reciprocal relations between recovery and work engagement: The moderating role of job stressors. *Journal of Applied Psychology*, 97, 842–853. doi:10.1037/a0028292
- Spector, P., E. (1997). *Job Satisfaction: Application, Assessment, Causes, and Consequences*, Sage, Thousand Oaks. CA.: Sage Publication Inc
- Starmer, A., J., Frintner, M., P., Matos, K., Somberg, C., Freed, G., & Byrne, B., J. (2019) Gender discrepancies related to pediatrician work-life balance and household responsibilities. *Pediatrics*. Volume 144, issue 4. doi: 10.1542/peds.2018-2926
- Stavrou, E. (2005). Flexible work bundles and organizational competitiveness: A cross-national study of the European work context. *Journal of Organizational Behavior*, 26, 923-947
- Steel, B., S., & Warner, R., L. (1990). Job satisfaction among early labor force participants: unexpected outcomes in public and private sector comparisons. *Review of Public Personnel Administration*, Vol. 10 No. 3, pp. 4-22.
- Steiger, J. H. (1990). Structural model evaluation and modification: An interval estimation approach. *Multivariate Behavioral Research*, 25, 173–180.
- Steijn, B. (2004). Human Resource Management and Job Satisfaction in the Dutch Public Sector”. *Review of Public Personnel Administration*, Vol. 24, No. 4 December 2004 291-303
- Tang Li-Ping, T., & Baumeister R. F. (1984). Effects of Personal Values, Perceived Surveillance, and Task Labels on Task Preference: The Ideology of Turning Play into Work. *Journal of Applied Psychology* 69(1): 99–105.
- Tavares, A.I. (2017). Telework and health effects review. *Int. J. Healthc.* 3(2), 30 (2017)
- Taylor, D., & Kavanaugh, J. (2005). Developing a model of leadership in the teleworking environment: A qualitative study. *Journal of Organizational Culture, Communications, and Conflict*, 9, 73-95.
- Taylor, J. (2014). Public service motivation, relational job design, and job satisfaction in local government. *Public Administration*, 92, 902–918
- Thompson, J. R. (2000). Reinvention as reform: Assessing the National Performance Review. *Public Administration Review*, 60, 508-521.
- Tisdell, C., A., (2020). Economic, social and political issues raised by the COVID-19 pandemic. *Economic Analysis and Policy* 68 (2020) 17–28
- Tomažević, N., Seljak, J., & Aristovnik, A. (2014). Factors Influencing Employee Satisfaction in the Police Service: The Case of Slovenia. *Munich Personal RePEc Archive Paper No. 62037*

Towers Perrin (2005), *The Business Case for Workers Age 50p: Planning for Tomorrow's Talent Needs in Today's Competitive Environment*, AARP, Washington, DC.

Tremblay, D.G. (2002). Balancing work and family with telework? Organizational issues and challenges for women and managers. *Women in Management Review*, 17, 157-170.

Tucker, L. R., & Lewis, C. (1973). A reliability coefficient for maximum likelihood factor analysis. *Psychometrika*, 38, 1–10.

Useem, J., & Harrington, A. (2000). Welcome to the new company town. *Fortune*, 8–25, 62, 74

Valentine, S., R. (2002). Men and Women Supervisors' Job Responsibility, Job Satisfaction, and Employee Monitoring. *Sex Roles*, Vol. 45, Nos. 3/4. Pp. 179-197. 0360-0025/01/0800-0179/0

van den Hoven M., (1995). *Information Technology and Moral Philosophy*, Dissertation Erasmus University, Rotterdam, The Netherlands.

Van der Lippe, T., Van Breeschoten, L., & Van Hek, M. (2018). Organizational work–life policies and the gender wage gap in European workplaces. *Work and Occupations*. <https://doi.org/10.1177/0730888418791652>.

Van Dick, R., Christ, O., Stellmacher, J., Wagner, U., Ahlswede, O., Grubba, C. & Tissington, P.A. (2004). Should I stay or should I go? Explaining turnover intentions with organizational identification and job satisfaction. *British Journal of Management*, Vol. 15 No. 4, pp. 351-360.

van Hoorn, A. (2018). Trust and signals in workplace organization: evidence from job autonomy differentials between immigrant groups. *Oxf. Econ. Pap.* 70(3), 591–612

Verhoest K, Roness PG, Verschuere B., Rubecksen, K. & McCarthaigh, M. (2010). *Autonomy and Control of State Agencies: Comparing States and Agencies*. Houndmills: Palgrave Macmillan.

Verschuere, B., & Barbieri, D. (2009). Investigating the 'NPMness' of agencies in Italy and Flanders. *Public Management Review*, 11:3, 345-3

Vigan, F. A., & Giauque, D. (2016). Job satisfaction in African public administrations: a systematic review. *International Review of Administrative Sciences* 2018, Vol. 84(3) 596–610

Virick M., DaSilva, N., & Arrington, K. (2010). Moderators of the curvilinear relation between extent of telecommuting and job and life satisfaction: The role of performance outcome orientation and worker type. *Human relations* 63(1) 137–15

Voydanoff, P. (2005). Toward a conceptualization of perceived work-family fit and balance: a demands and resources approach. *Journal of Marriage and Family*, 67, 822–836.

Warr, P. (1987). *Work, unemployment, and mental health*. Oxford: Clarendon Press.

Wessels, C., Schippers, M. C., Stegmann, S., Bakker, A. B., van Baalen, P. J., & Proper, K. I. (2019). Fostering Flexibility in the New World of Work: A Model of Time-Spatial Job Crafting. *Front. Psychol.* 10:505

White, L. D. (1926). *Introduction to the Study of Public Administration*. Macmillan.

White, T. & Spector, P. (1987). An investigation of age-related factors in the age-job satisfaction relationship. *Psychology and Age*, Vol. 2 No. 3, pp. 261-265.

Wiesenfeld, B., Raghuram S., & Garud, R. (1999). Communication Modes as Determinants of Organizational Identity in a Virtual Organization. *Organization Science* 10, 777–790

Wilson, W. (1887). The study of administration. *Political Science Quarterly*, 2, 197-222

Witt, L. A., Andrews, M. C., & Kacmar, K. M. (2000). The role of participation in decision-making in the organizational politics-job satisfaction relationship. *Human Relations*, 53(3), 341-358

Wrzesniewski, A., Dutton, J. E., & Debebe, G. (2003). Interpersonal sensemaking and the meaning of work. In B. Staw & R. Kramer (Eds.), *Research in organizational behavior* (Vol. 25, pp. 93–135). New York: Elsevier Science.

Xia, Y. & Yang, Y. (2019). RMSEA, CFI, and TLI in structural equation modeling with ordered categorical data: The story they tell depends on the estimation methods. *Behavior Research Methods*. 51:409–428 <https://doi.org/10.3758/s13428-018-1055-2>

Yalabik, Z. Y., Rayton, B. A., & Rapti, A. (2016). Facets of job satisfaction and work engagement. *Evidence-based HRM: a Global Forum for Empirical Scholarship* Vol. 5 No. 3, 2017 pp. 248-265

Zhang Y., Xuebo C., Qiubai S. (2013). Review of Structural Equation Modeling (SEM) Applications. 2nd International Symposium on Instrumentation and Measurement, Sensor Network and Automation (IMSNA), 978-1-4799-2716-6/13

Zhou, Y. (2018). The dual demands: gender equity and fertility intentions after the one-child policy. *J Contemp China*. Volume 28, issue 117. Pp. 367–84. doi: 10.1080/10670564.2018.1542219

Žnidaršič, J., Bernik, M. (2021) Impact of work-family balance results on employee work engagement within the organization: The case of Slovenia. PLoS ONE 16(1): e0245078. <https://doi.org/10.1371/journal.pone.0245078>

SITOGRAPHY

Bassan, V., Salvioli, L., Simonetta, B., (2021). Cose che noi umani. La pandemia che ha sconvolto le nostre vite e resterà per sempre nell'immaginario comune. Una cronistoria degli eventi che non avremmo mai potuto immaginare. Il sole 24ore. Retrieved July 8, 2021. From <https://lab24.ilsole24ore.com/storia-coronavirus/>

Bosetti, B., Gatti, G. (1990, August 7). Nuove norme in materia di procedimento amministrativo e di diritto di accesso ai documenti amministrativi. Law n. 241. Retrieved April 20, 2021. From https://www.bosettiegatti.eu/info/norme/statali/1990_0241.htm

Canazza (n.d.). il corpo nazionale dei vigili del fuoco. Comando provinciale Varese. Retrieved June 16, 2021. From http://www.provincia.va.it/proxyvfs.axd/null/r40406/vvf_il-corpo-nazionale

Dong, E., Du, H., & Gardner, L. (2020). An interactive web-based dashboard to track COVID-19 in real time. *Lancet Inf Dis.* 20(5):533-534. doi: 10.1016/S1473-3099(20)30120-1. From <https://github.com/CSSEGISandData/COVID-19>

European Centre for Disease Prevention and Control (ECDC; 2020, April 6). Situation update worldwide, updated 6 april 2020. European Union. Retrieved May 21, 2021. From <https://www.ecdc.europa.eu/en/geographical-distribution-2019-ncovcases>

Eurostat (2021, February 24). Women in EU are having their first child later. Retrieved October 6, 2021. From <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/ddn-20210224-1>

ForumPA (2021, June 21). ForumPA 2021, presentata la ricerca sul lavoro pubblico. Ministro per la pubblica amministrazione. Retrieved September 13, 2021. From <http://www.funzionepubblica.gov.it/articolo/notizie-alfabeto-della-pubblica-amministrazione/21-06-2021/forumpa-2021-presentata-la>

Glen, S. (n.d.a) P-value in statistical hypothesis tests: what is it?. StatisticHowTo. Retrieved September 2, 2021. From <https://www.statisticshowto.com/probability-and-statistics/statistics-definitions/p-value/>

Glen, S. (n.d.b) What is the standard error of a sample? StatisticHowTo. Retrieved September 2, 2021. From <https://www.statisticshowto.com/probability-and-statistics/statistics-definitions/what-is-the-standard-error-of-a-sample/>

Governo sul territorio: le Prefetture (2021, January 26). Ministero dell'interno. Retrieved July 7, 2021. From <https://www.interno.gov.it/it/temi/territorio/governo-sul-territorio-prefetture>

International Monetary Fund. (2020, June). World Economic Outlook, April 2020: The Great Lockdown. Retrieved July 8, 2021. From <https://www.imf.org/en/Publications/WEO/Issues/2020/04/14/weo-june-2020>

Madia (2017, June 26). Direttiva n. 3 in materia di lavoro agile. Ministro per la Pubblica amministrazione. Retrieved August 31, 2021. From <http://www.funzionepubblica.gov.it/articolo/dipartimento/01-06-2017/direttiva-n-3-del-2017-materia-di-lavoro-agile>

Mattarella, S. (2020, December 4). Messaggio del Presidente Mattarella al Capo Dipartimento dei Vigili del Fuoco, prefetto Lega, in occasione della festa di Santa Barbara. Quirinale. Retrieved October 14, 2021. From <https://www.quirinale.it/elementi/51248>

Montegiovine, S. (2021, April 22). Università, le ragazze più brave ma l'informatica è ancora una cosa da uomini. Il Messaggero. Retrieved October 14, 2021. From https://www.ilmessaggero.it/donna/mind_the_gap/le_ragazze_futuro_ingegnere_informatiche_cercasi-5915567.html

Naics (2012). Industry Definition 92- public administration. Vermont department of labor. Retrieved August 30, 2021. From <http://www.vtlmi.info/naicsdef.cfm?naics=92>.

Smart working observatory (2020). Retrieved in June 8, 2021. From <https://www.osservatori.net/it/ricerche/osservatori-attivi/smart-working>

Stata (n.d.). Why use STATA. Retrieved November 10, 2021. From <https://www.stata.com/why-use-stata/>

The national fire corps (n.d.). Dipartimento dei vigili del fuoco, del soccorso pubblico, e della difesa civile. Retrieved July 7, 2021. From <https://www.vigilfuoco.it>

The White House (2010, October 25). Statement by the president on national work and family month. Office of the press secretary. Retrieved March 20, 2021. From <https://obamawhitehouse.archives.gov/the-press-office/2010/10/25/statement-president-national-work-and-family-month>

Tundo, A. (2020, February 20). Un anno fa il 'paziente 1': il giorno in cui l'Italia si trovò il Covid in casa. Da Codogno al vaccino, storia di dodici mesi di convivenza con il virus. Il Fatto quotidiano. Retrieved July 8, 2021. From <https://www.ilfattoquotidiano.it/2021/02/20/un-anno-fa-il-paziente-1-il-giorno-in-cui-litalia-si-trovo-il-covid-in-casa-da-codogno-al-vaccino-storia-di-dodici-mesi-di-convivenza-con-il-virus/6104156/#cComments>

United Nations (2015). Take action for the sustainable development goals. Retrieved July 1, 2021. From <https://www.un.org/sustainabledevelopment/sustainable-development-goals/>

Varrella, S. (2021, August 13). Retirement age in Italy from 2010 to 2021, by gender. Statista. Retrieved September 13, 2021. From <https://www.statista.com/statistics/1174497/retirement-age-in-italy-by-gender/>

Villerot, S. (2015, June 3). Le Stagioni della vita sono cambiate? Focus. Retrieved October 24, 2021. From <https://www.focus.it/cultura/curiosita/le-stagioni-della-vita-non-sono-piu-quelle-di-una-volta>

WorldatWork (2015). Trends in workplace flexibility. Retrieved April 6, 2021 from <http://www.worldatwork.org/waw/adimLink?id=79123>

APPENDIX

The table below provides the questions from the survey used to create the constructs.

The number of questions proposed was higher, but a skimming has been necessary in order to assign the right items to the constructs.

CONSTRUCT	N° ITEM	SURVEY'S QUESTIONS
FH	FH1	Sono libero/a di scegliere in quale fascia oraria dover lavorare
	FH2	Mi sento più responsabilizzato senza un controllo preciso dell'orario e del lavoro svolto
	FH3	Posso stabilire con una certa autonomia l'orario di inizio e di termine dell'attività lavorativa, garantisco il risultato più che l'orario
JA	JA1	Posso scegliere in modo autonomo come raggiungere gli obiettivi che mi vengono assegnati dai miei superiori
	JA2	Mi sento a mio agio nel prendere decisioni autonome all'interno delle mie responsabilità
	JA3	Posso distribuire i miei compiti e il mio carico di lavoro, nell'arco di una giornata lavorativa, in maniera autonoma
WLB	WLB1	Attualmente sento di riuscire a dedicare sufficiente tempo sia al lavoro che alla famiglia
	WLB2	Sono soddisfatto di come il tempo a mia disposizione mi consenta un corretto equilibrio tra vita provata e professionale.
	WLB3	Sento di non riuscire a gestire e concludere gli impegni familiari nell'arco della mia giornata
	WLB4	Il lavoro da casa è uno strumento che aumenta la flessibilità del lavoro e la possibilità di mettere d'accordo esigenze di servizio e personali
JS	JS1	Sono soddisfatto del ruolo che occupo attualmente all'interno dell'Organizzazione, non vorrei appartenere ad un'altra
	JS2	Il mio ruolo all'interno del Corpo Nazionale dei VVF risponde bene ai miei bisogni e capacità

	JS3	Il lavoro che faccio ha una grande importanza
	JS4	Nonostante il periodo difficile, il mio lavoro mi piace molto
WE	WE1	Al lavoro mi sento frequentemente pieno di energia
	WE2	Sono appagato dal lavoro che sto svolgendo
	WE3	Sono entusiasta del mio lavoro e mi ci dedico con passione

Figure 15: the questions of the survey that compose the constructs