UNIVERSITÀ DEGLI STUDI DI UDINE
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Corso di dottorato di ricerca in:

"Scienze Manageriali e Attuariali"

in convenzione con Università di Trieste

Ciclo 33°

Titolo della tesi

"**An Investigation of The Role of Work-Life Balance
for Creativity and Innovation**"

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Anno 2020

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Introduction

1. Thesis overview

1.1 Toward a "new reality"

Work–life balance (WLB) is a topic of contemporary interest and a term that is increasingly cited both in academic literature and everyday life. The need to balance work with other spheres of life is one of the main challenges and necessities individuals and organizations face due to the heightening conflict between work demands and the decline of work as a central life interest (Guest, 2002).

In the past five decades, research on the work–life interface has intensified dramatically due to several social trends that have affected both family and work domains (Powell *et al.,* 2019). In terms of the family domain, the increasing prevalence of dual–earner couples (Eagly & Wood, 2016), the changing structure of the traditional "family" as a result of more couples remaining unmarried and the existence of more single–parent families (Lundberg, Pollak, & Stearns, 2016), the growth of females employed in managerial and professional positions (Powell, 2019), and the rise of the "sandwich generation" (mid–life adults who simultaneously raise dependent children and care for frail elderly parents) (Grundy & Henretta, 2006), have stimulated the interest of researchers.

In the last decades, the nature of work itself has also been changing profoundly. Advancements in information and communication technology have significantly impacted work life. Due to technological innovations, organizations have redesigned their approach to work in a more flexible way (i.e., flexibility in time and place of work) (Demerouti *et al.,* 2014).

Furthermore, since the beginning of 2020, the COVID–19 pandemic has had a profound effect on the organization of work, and legislative provisions have required companies to make widespread use of tools related to working remotely in order to combine the need for continued economic activity with the need to isolate during the lockdown in order to contain contagion. As a result, work has become more virtual. Before the COVID–19 emergency, remote work was not broadly adopted in Italy (Politecnico di Milano, 2019). However, the widespread implementation of remote work procedures during this emergency has resulted in a radical and unexpected reconsideration of the organization of work, and it is probable that the elevated levels of remote work will be maintained after the emergency (e.g., Torre, 2020).

Therefore, the COVID–19 has only emphasized the already underway changing nature of work. These radical modifications in the procedures, time, and location of work have afforded more flexibility and freedom to employees, but, at the same time, there is a significant drawback in that: the boundaries between work and personal life have been blurred. Longer working hours, the need for speedy responses, increases in the intensity of work, and difficulties "disconnecting" have amplified work pressures, and, as a result, work tends to dominate life, creating a work–life imbalance (Guest, 2002). These issues stress the necessity of supporting the balance between work and private life. Additionally, the uncertainty caused by the unpredictable impact of the COVID–19 disease has shed new light on the other main topic of this thesis: the importance of creativity and innovation management in organizations.

Since its inception, long before the COVID–19 emergency, this thesis has revolved around the consciousness that the growing importance of work–life balance in the current context is combined with the organizations' impossibility to get away from creativity and innovation. Therefore, COVID–19 was not the trigger of this thesis, but its occurrence has emphasized the critical role of creativity and innovation management in the current work environment.

Creativity and innovation are processes that cannot be undermined since they form the basis of a company's competitive advantage (e.g., Anderson, Potočnik, & Zhou, 2014) and are crucial factors in today's challenging and dynamic work environment (Crossan & Apaydin, 2010). The capacity for innovation is considered the most important factor in company performance (Mone *et al.,* 1998), and innovative initiatives tend to rely on employees' features and behaviors at work (Hirst, Van Knippenberg, & Zhou, 2009). These drivers of innovation, also called "micro–foundations," (e.g., Maqbool, Černe, & Bortoluzzi, 2019) play a crucial role in understanding the notion of innovative work behavior (IWB) and creativity.

This thesis deals with both the concepts of creativity and innovation. We are aware that the two concepts are distinct, however are nuanced concepts, each incorporating a series of different but strictly related processes leading to different but often connected results (Anderson *et al.,* 2004). Accordingly, in this thesis we distinguish creativity and innovation, and we refer to creativity as defined by Amabile (1988: 126) "Creativity is the production of novel and useful ideas by an individual or a small group of individuals working together". This definition is widely shared by other scholars in the field (e.g., George, 2007; George & Zhou, 2001; Shalley *et al.,* 2004; Shalley & Zhou, 2008). Afterward, Amabile (1988: 126) gave also a definition of organizational innovation built on

creative ideas as the fundamental element: "Organizational innovation is the successful implementation of creative ideas within an organization," also specifying that "the ideas in question can be anything from ideas for new products, processes, or services within the organization's line of business to ideas for new procedures or policies within the organization itself." In this definition, the word implementation is used largely to incorporate developing ideas and putting them to use (Amabile, 1988). Creativity is the generation of novel and potentially useful ideas that individuals can share with each other. However, only when these ideas are successfully implemented at the organizational level will they constitute innovation (Amabile, 1996; Shalley *et al.,* 2004). When moving from the concept of creativity to the concept of innovation, the difference between generation and implementation of novel and useful ideas is essential. Given that creativity consists of generation and innovation in the implementation of ideas, creativity is often considered as the first step in innovation (Amabile, 1996), or the first step of the innovative work behavior (IWB) if we focus our attention on the individual level or micro–foundations of innovation. The innovative work behavior (IWB) is a multi–dimensional construct that embodies all behaviors through which employees can contribute to the innovation process (De Jong, & Den Hartog, 2007). According to Janssen (2000), IWB is "the intentional creation, introduction, and application of new ideas within a work role, group, or organization, in order to benefit role performance, the group, or the organization" (p. 288). Therefore, the concept of IWB is derived from individuals' creative behavior (De Jong & Den Hartog, 2007); however, as already mentioned, it differs from creativity (Amabile, 1983), because it also includes other stages of the innovation process before the implementation of ideas (De Jong & Den Hartog, 2010).

Thus, taking into consideration the changing trends described in the previous section, the present thesis is based on a fundamental awareness: the necessity of combining both employees' work–life balance and organizations' need for creative and innovative contributions in order to survive in an increasingly dynamic and competitive work environment.

Scholars and practitioners in this field share a particular interest in understanding how to stimulate creative behavior in the workplace and what the drivers for this behavior are (e.g., Shalley & Zhou, 2008). In the past three decades, the majority of organizational creativity research has adopted an interactional perspective, emphasizing the importance of person–context interaction in enhancing or inhibiting creative behavior (e.g., Amabile, 1996; Woodman *et al.,* 1993). Several studies have investigated the interplay between contextual and personal factors at work that are

beneficial for fostering creativity (e.g., George & Zhou, 2001; Shalley *et al.,* 2004). However, only a small number of studies have considered individuals' perceptions of WLB and the work–life balance initiatives, otherwise known as family–friendly workplace practices (FFWPs) (Bloom *et al.,* 2011), as promoters of creativity (e.g., Aleksić, *et al.,* 2017). Further research is therefore required to address the role of these factors. The existing research does not support that WLB has a positive impact on creativity or innovation because the connection has not been extensively studied, and the study results are sometimes inconsistent.

1.2 Research aim and positioning

This Ph.D. thesis aims to enhance our understanding of the relationship between WLB, creativity, and innovation, shedding light on how WLB impacts creativity and innovation.

The research context chosen for this thesis positions it in the intersection between the domains of work–life research and innovation and creativity research. This context is an area of overlap between the necessary balance of work with the other spheres of life, and innovation and creativity management.

The present thesis is based on two fundamental premises. The first one concerns the topic of work–life balance. We consider the work–life phenomena in a broader sense instead of focusing solely on the limited interface between family and work, as has traditionally been done in the literature due to the supremacy of family over all other spheres of the individual's private life (e.g., Frone, 2003). To investigate the work–life phenomena, we have gone beyond the balance between work and family to explore the balance between work and other nonwork or life roles (e.g., Powell *et al.,* 2019). Given this, we dealt with both "work–life balance" and "work–family balance," using the term "work–life balance" as an umbrella term that encompasses all the dimensions of life.

The second premise regards the innovation domain. Since the first studies on innovation were conducted, the literature has focused on the role of innovation at the firm level (e.g., Eisenhardt & Martin, 2000; Schumpeter, 1942). Though, in the past decade, an emerging stream of literature has focused on innovation at the individual level. Following this recent trend, we focus our attention on individuals and their characteristics, beliefs, and behaviors as primary drivers of organizational innovation. On account of this, we consider both creativity and innovative work behavior (IWB) at the individual level, where creativity or idea generation is the first phase of the IWB, followed by the promotion of ideas, and, finally, the implementation phase (e.g., De Jong & Den Hartog, 2007,

2010; Janssen, 2000). Being aware that organizational innovation tends to rely on the employees' IWB and creative contributions (George, 2007), in this thesis, we also indirectly consider innovation at the organizational level.

The investigation of the role of WLB in encouraging creativity and innovation is developed in three papers, culminating in a comprehensive theoretical contribution and an explanation of the managerial relevance of this work.

Furthermore, in terms of outcomes that are managerially relevant, given that we have seized the opportunity to consider the context of the unexpected COVID–19 emergency, we also contribute to post–COVID–19 management with useful insights. To achieve the objectives of the research, we have formulated specific research aims, which guide the three papers of the thesis.

- To systematize previous literature developed in the context of overlap between the domains of work–life research and innovation and creativity research, in the first paper we have developed a systematic literature review (Tranfield *et al.,* 2003) to clarify what is known about the relationship between WLB and innovation, and then we discuss the role of WLB in creativity and innovation management.

- Given that the systematic literature review has demonstrated that WLB impact mainly at the individual level of analysis and that the family–friendly workplace practices (FFWPs) represent a useful tool available to the employer to foster employees' work–life balance, the second paper focuses on the individual level of analyses, specifically on the last phase of the IWB, the innovation implementation phase and on the role of FFWPs. The implementation phase is traditionally under–researched (e.g., Anderson *et al.,* 2014), also if it is a challenging and risky task necessary to achieve innovative output (e.g., Michaelis, *et al.,* 2010). On account of this, in the second paper, based on the results of the literature review and building on the Social Cognitive Theory (Bandura, 1999), we developed a quantitative study to investigate how work–family balance (WFB) and the family–friendly work practices (FFWPs) adopted by an organization to enhance the balance between employees' work and family life impact the relationship between exploitative leadership style and innovation implementation. This paper is a collaborative effort with Dr. Darija Aleksić from the University of Ljubljana.

- The condition of the COVID–19 outbreak has introduced an extreme context in which people have been pushed and forced to work remotely from home, in a context where the boundary between work and life was totally disappeared. Thus, the COVID–19 emergency has opened

up an important opportunity for this research, presenting the possibility to investigate specific settings and conditions under which these boundaries between work and the other spheres of life that were already blurred are almost entirely disappeared. Specifically, the level of work–home conflict, the main obstacle to work–family balance, has been exacerbated due to the massive remote working situation. In view of this, in the third paper, another quantitative study developed with Prof. Matej Černe from the University of Ljubljana, we examined the contextual effects of the emergency situation that arose due to the COVID–19 outbreak. The data was collected during the period of lockdown (April–May 2020). We have investigated the impact of the widespread remote work situation, work–home conflict, and professional isolation on individuals' creative contributions. To understand if the employee's innovative work behavior (IWB) has persisted also during an unexpected and massive remote working situation.

1.3 Expected contributions

Based on the three papers, this thesis, from a theoretical point of view, is expected to contribute both to the innovation and creativity research and to the work–life literature, suggesting the crucial role of WLB as a paramount factor to enhances creativity and innovation.

- The first paper, systematizing existing literature about the relationship between WLB and creativity or innovation, is expected to shed light on the unclear relationship and clarify it. Then, on the basis of the results that emerged from the systematic review, it is expected to advance the theoretical debate about the theoretical basis of the relationship.

- The second paper is expected to contribute to the innovation literature by examining the role of the exploitative leadership style as an important driving force in the innovation implementation phase. In this way, it might expand the lacking literature on exploitative leadership and sheds light on its impact on the IWB's last phase. Additionally, the second expected contribution of the paper concerns the work–family literature. It is the first empirical study to address work–family–related topics and innovation implementation. It considers both FFWPs and WFB, and it is expected to demonstrate that due to the spillover effect of work–family enrichment, employees are more likely to accept an exploitative leader, and these positive feelings are also facilitators for the innovation implementation.

• The third paper, based on the grounds of the radical change due to the COVID–19 emergency, is expected to make several contributions to the literature on innovation, remote working, and work–family. This study is the first to investigate how creativity has been affected during the COVID–19 pandemic. Specifically, it assumes that IWB is positively related to creativity manifested during COVID–19. Namely, IWB will persists also during a massive remote working situation. Traditionally, the literature has considered IWB an output of creativity; however, in this contribution, we assumed the inverted relationship. We consider IWB as an attitude shaped over several years (e.g., De Jong & Den Hartog, 2007, 2010; Janssen, 2000), able to explain the range of creativity provided by workers during the pandemic, a very specific and unexpected period of time. At the same time, these estimated findings might be an important contribution to remote working literature, demonstrating that employees who engaged in a "massive experience" of remote work might not lose their IWB and in addition they exhibit more creativity. Moreover, this paper is expected to strengthen the knowledge base for work–family literature by demonstrating that, in the context of remote work, work–home conflict negatively impacts the relationship between IWB and creativity.

2. Introduction to the three papers of the thesis

The COVID–19 outbreak has impacted the research program given that the research deals with themes strictly connected with the WLB of individuals. During the health emergency and the lockdown implemented to reduce the spread of the virus, the balance between work and private life, which was already compromised as dated in the previous literature (e.g., Powell *et al.,* 2019), has been distorted. While this was happening, we assisted in an extensive adoption of remote working, to comply with the necessity of both economic activity and isolation to reduce contagion during lockdown (Molino *et al.,* 2020). Remote working is a flexible work arrangement (FWA) already adopted by the organizations, also if with a limited widespread (Politecnico di Milano, 2019), with the aim to improve the work–life balance of their employees (James, 2011).

Therefore, in the middle of March 2020, we decided to seize the research opportunity presented by the COVID–19 specific context, where were emerged even more evidently the issues that we had already investigated, as the need for individuals and organizations, to balancing the work with the others spheres of life. We alter the research program slightly; in particular, we adjusted the aim and structure of the third paper of this thesis we were developing. We decided to

investigate how the COVID–19 emergency, characterized by the massive adoption of remote work arrangements, has impacted the creative contributions of individuals. Additionally, given that the balance between work and family has been disrupted due to the lockdown and a blurring of the boundary between the two domains, we also investigated the consequences of the work–home conflict.

In this way, our thesis on one hand has practical implications for post–COVID–19 work management, and on the other hand it enlarges our understanding of the innovation and creativity dynamics. More specifically, we investigate the possibility that the traditional theories of innovation, developed in "normal" contexts in which creative contributions arise from knowledge sharing and are enhanced by face–to–face relationships, might change due to remote work. We argue that these theories could be impacted not only by the current emergency but also by how this will influence the future of work, given that we may not return to the pre–COVID–19 normal work conditions. The future of work may instead be hybrid, with both remote and onsite workplaces (Boston Consulting Group, 2020).

2.1 Paper 1. Executive summary

The first paper is a systematic literature review (Tranfield *et al.,* 2003) that was conducted using a twofold method. First, a keyword search was carried out through Scopus and Web of Science; this search was then complemented with a citation approach that selected literature from the reference lists of the articles identified in the first step. This paper revolves around the need to clarify the relationship between WLB and creativity or innovation, to systematize existing literature concerning the connection between these topics, and to further advance the theoretical debate about such a connection. Therefore, to avoid excluding some significant contributions, we have considered both the topics of creativity and innovation and have analyzed all the levels (individual, group, and organizational). Regarding the work–life balance theme, for the sake of completeness, we have considered all the aspects and terms that arise in the work–life literature (i.e., work–family balance, work–family conflict, work–family enrichment, and so on).

To achieve the aim of this contribution, we classified selected articles according to the type of relationship that existed, and four groups emerged: *consequential* relationship*, joined* relationship, *direct* relationship, and *blurred* or *inverted* relationship.

The main finding that emerged was that regardless of the type of relationship, WLB had a positive impact on creativity and innovation at different levels of analysis. In the majority of cases, this impact occurred at the individual level, with work–life balance affecting individual creativity or the IWB, which then went on to affect the overall process of organizational innovation.

Having demonstrated the potential that work–life balance initiatives have for promoting creativity and innovation, we provide managers with a better understanding of the importance of work–life balance as a strategic tool for innovation management. Our review has produced insights and suggestions for managers regarding how to facilitate a reconciliation between employees' working and private lives and which aspects are fundamental to consider in order to foster the creative and innovative work behavior of individuals through work–life balance initiatives.

2.2 Paper 2. Executive summary

The second paper is based on the findings of the systematic literature review. The results have shown that WLB impacts creativity and innovation mainly at the individual level and not only directly but also in a *consequential* (e.g., Woodman *et al.,* 1993) and in a *joined* way (e.g., Amabile, 1988) as a moderator of the relationship between other predictor variables and creativity or IWB as the output variable. In light of this, the second paper, which builds on the Social Cognitive Theory (SCT) (Bandura, 1999), proposes that innovation implementation behavior (the last phase of IWB) is influenced by the interaction of personal and environmental factors. In particular, we explore the possibility that WFB and FFWPs jointly moderate the relationship between exploitative leadership and innovation implementation.

A quantitative study of 440 employees from 38 companies based in Italy and Croatia was conducted, and an online survey was used to collect data. The proposed hypotheses were then tested using hierarchical regression analysis.

The results suggest that there is an inverted U–shaped relationship between exploitative leadership style (ELS) and the implementation phase of the IWB. This indicates that the ELS is not only negatively related to innovation but that an exploitative leader is not strictly bad because employees need an intermediate level of this kind of leadership to be encouraged to implement something new and risky. Furthermore, the findings supported the three–way interaction between the leadership style and the two work–family constructs: WFB and FFWPs. Our results suggest that the combination of high–level WFB and high–level FFWPs strengthens the relationship between

ELS² and innovation implementation, while the combination of low–level WFB and low–level FFWPs weakens the relationship between ELS² and innovation implementation.

Based on our findings, we provide several insights for managers that highlight the importance of meeting the growing need to balance work and other domains of life and the value of FFWPs and the importance of leaders' behaviors in predicting innovation implementation.

2.3 Paper 3. Executive summary

As mentioned above, the conceptual model for the third paper has arisen out of the COVID–19 emergency situation. Before the sudden outbreak, on the basis of the findings of the first paper, we expected to better investigate the role of remote work and how it impacts employees' WLB and IWB. On the basis of several calls to further adopt flexible work arrangements (FWAs) (James, 2011), also called WLB policies (Cegarra–Navarro *et al.,* 2015), WLB arrangements (Thompson *et al.,* 1999), or FFWPs (Bloom *et al.,* 2011), with the aim to favor the employee's need to meet work and other life responsibilities (Powell *et al.,* 2019), in this paper we aimed to obtain empirical evidence about the relationship between FWAs and WLB.

However, the unexpected emergency and the resulting widespread adoption of remote work arrangements have generated a new research aim: to examine the existing relationship between the general IWB of employees and their creativity as it was manifested during the COVID–19 outbreak in a widespread remote work situation.

Prior research focused principally on the relationship between creativity as a predictor of IWB (e.g., De Jong and Den Hartog, 2010). However, in some characteristic contextual situations, as the COVID-19 pandemic and in the massive remote working situation caused by the pandemic, it could be useful to overturn the relationship. To verify if an individual's attitude towards innovation (IWB) attained as a result of replicated innovative behaviors, could explain the individual's creativity manifested at a specific point in time. Therefore, in our study we focus attention on the reverse relationship, considering IWB as a general construct and creativity as "creative behavior during the COVID–19 emergency." Furthermore, this paper also investigates the joint impact on the IWB–creativity relationship of two variables strictly connected to remote working: work–home conflict and professional isolation. We chose work–home conflict because, as has been thoroughly investigated in the literature (e.g., Greenhaus & Beutell, 1985), it is the main obstacle to work–

family balance. At the same time, we considered professional isolation because it is widely discussed in the remote working literature, representing remote working's main drawback.

This paper presents the findings of a quantitative study for which empirical data were collected in a sample composed of four medium–and large–sized enterprises based in Northeast Italy. The data were collected during the COVID–19 outbreak, specifically during the lockdown period (April–May 2020). An internet–based survey was emailed to employees via company representatives, and to reach our target, the survey was limited to those with the most creative job positions who were working remotely. All 803 respondents exclusively worked remotely when they completed our survey. The hypotheses were then tested using hierarchical regression analysis.

To be precise, our research involved eight companies; however, for this study, we have included only four companies since, in these four companies, we also collected a sample of 300 supervisor–reported evaluations (more than one–third of the population). This allowed us to evaluate the IWB of employees (the input variable) in a more objective way in order to reduce the common method biases (Podsakoff, 2003).

Our results revealed a positive relationship between the IWB of employees and the creativity they manifested during COVID–19. Work–home conflict negatively affected the aforementioned relationship, and, therefore, inter–role conflict between work and family has to be managed and reduced to maintain creativity. Furthermore, IWB and creativity were most positively associated when employees' work–home conflict and professional isolation were low.

This paper provides useful insights into how remote work influences creativity management and is a resource for managers to better understand the elements directly connected to remote work that might negatively affect individuals' creative contributions.

References

Aleksić, D., Mihelič, K. K., Černe, M., & Škerlavaj, M. (2017). Interactive effects of perceived time pressure, satisfaction with work-family balance (SWFB), and leader-member exchange (LMX) on creativity. *Personnel Review, 46*(3), 662-679.

Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in organizational behavior, 10*(1), 123-167.

Amabile, T. M. 1996. *Creativity in context*. Boulder, CO: Westview.

Anderson, N., De Dreu, C. K., & Nijstad, B. A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of organizational Behavior, 25*(2), 147-173.

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of management, 40*(5), 1297-1333.

Bandura, A. (1999). A social cognitive theory of personality. In L. Pervin & O. John (Ed.), *Handbook of personality* (2nd ed., pp. 154-196). New York: Guilford Publications.

Bloom, N., Kretschmer, T., & Van Reenen, J. (2011). Are family-friendly workplace practices a valuable firm resource?. *Strategic Management Journal, 32*(4), 343-367.

Boston Consulting Group (2020), *What 12,000 Employees Have to Say About the Future of Remote Work.*

Cegarra-Navarro, J.-G., Sánchez-Vidal, M.-E., & Cegarra-Leiva, D. (2016). Linking Unlearning with Work-Life Balance: An Initial Empirical Investigation into SMEs. Journal of Small Business Management, 54(1), 373-391. https://doi.org/10.1111/jsbm.12151

Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of management studies, 47*(6), 1154-1191.

De Jong, J. P., & Den Hartog, D. N. (2007). How leaders influence employees' innovative behaviour. *European Journal of innovation management, 10*(1), 41-64.

De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and innovation management, 19*(1), 23-36.

Demerouti, E., Derks, D., Lieke, L., & Bakker, A. B. (2014). New ways of working: Impact on working conditions, work-family balance, and well-being. In *The impact of ICT on quality of working life* (pp. 123-141). Springer, Dordrecht.

Eagly, A. H., & Wood, W. (2016). Social Role Theory of Sex Differences. In *The Wiley Blackwell Encyclopedia of Gender and Sexuality Studies* (eds A. Wong, M. Wickramasinghe, R. Hoogland, N. A. Naples).

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they?. *Strategic management journal, 21*(10-11), 1105-1121.

Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of management review, 10*(1), 76-88.

George, J. M. (2007). 9 Creativity in organizations. *Academy of Management annals, 1*(1), 439-477.

George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: an interactional approach. *Journal of applied psychology, 86*(3), 513.

Grundy, E., & Henretta, J. C. (2006). Between elderly parents and adult children: a new look at the intergenerational care provided by the 'sandwich generation'. *Ageing & Society, 26*(5), 707-722.

Guest, D. E. (2002). Perspectives on the study of work-life balance. *Social Science Information, 41*(2), 255-279.

Hirst, G., Van Knippenberg, D., & Zhou, J. (2009). A cross-level perspective on employee creativity: Goal orientation, team learning behavior, and individual creativity. *Academy of management journal, 52*(2), 280-293.

James, A. (2011). Work-life (IM)'balance' and its consequences for everyday learning and innovation in the new economy: Evidence from the Irish IT sector. *Gender, Place and Culture, 18*(5), 655-684.

Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and organizational psychology, 73*(3), 287-302.

Lundberg, S., Pollak, R. A., & Stearns, J. (2016). Family inequality: Diverging patterns in marriage, cohabitation, and childbearing. *Journal of Economic Perspectives, 30*(2), 79-102.

Maqbool, S., Černe, M., & Bortoluzzi, G. (2019). Micro-foundations of innovation: Employee silence, perceived time pressure, flow and innovative work behaviour. *European Journal of Innovation Management, 22*(1), 125-145. https://doi.org/10.1108/ EJIM-01-2018-0013

Michaelis, B., Stegmaier, R., & Sonntag, K. (2010). Shedding light on followers' innovation implementation behavior. *Journal of Managerial Psychology, 25* (4), 408-429.

Molino, M., Ingusci, E., Signore, F., Manuti, A., Giancaspro, M. L., Russo, V., ... & Cortese, C. G. (2020). Wellbeing Costs of Technology use during Covid-19 remote working: An investigation using the italian translation of the technostress creators scale. *Sustainability, 12*(15), 5911.

Mone, M. A., McKinley, W., & Barker III, V. L. (1998). Organizational decline and innovation: Acontingency framework. *Academy of management review, 23*(1), 115-132.

Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology, 885*(879), 1010-1037.

Politecnico di Milano. (2019). *Annual research, Smart working Observatory*. https://www.som.polimi.it/lavoro-agile-presentati-i-dati-della-ricerca-dellosservatorio-smart-working/

Powell, G. N. (2019). *Women and men in management*. 5th edition. Los Angeles, CA: Sage Publications.

Powell, G. N., Greenhaus, J. H., Allen, T. D., & Johnson, R. E. (2019). Introduction to special topic forum: Advancing and expanding work-life theory from multiple perspectives. *Academy of management review, 44(*1), 54-71.

Rosing, K., and Zacher, H. (2017). Individual ambidexterity: the duality of exploration and exploitation and its relationship with innovative performance. *European journal of work and organizational psychology, 26*(5), 694-709.

Škerlavaj, M., Dysvik, A., Černe, M., and Carlsen, A. (2016). Succeeding with capitalizing on creativity: an integrative framework. In *Capitalizing on Creativity at Work*. Edward Elgar Publishing.

Schumpeter, J. A. 1942*. Capitalism, socialism, and democracy*. New York: Harper.

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here?. *Journal of management, 30*(6), 933-958.

Shalley, C. E., & Zhou, J. (2008). Organizational creativity research: A historical overview. *Handbook of organizational creativity*, NY: Lawrence Erlbaum Associates, pp. 3-31.

Thompson, C. A., Beauvais, L. L., & Lyness, K. S. (1999). When work-family benefits are not enough: The influence of work-family culture on benefit utilization, organizational attachment, and work-family conflict. *Journal of Vocational behavior, 54*(3), 392-415.

Torre, T. (2020). Smart working: soluzione ad ogni emergenza? Prospettive oltre l'emergenza. Impresa Progetto - *Electronic Journal of Management*, 1, 1-11. Doi: 10.15167/1824-3576/IPEJM2020.1.1270.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British journal of management, 14*(3), 207-222.

West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied psychology, 51*(3), 355-387.

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of management review, 18*(2), 293-321

Acknowledgements

I would like to thank my supervisor, prof. Chiarvesio for her support and guidance during the running of this thesis.

Furthermore, I would like to express my sincere gratitude to the co-author of my second paper, Dr. Darija Aleksić. She continuously provided encouragement and was always willing and enthusiastic to assist me in any way she could throughout the research project. At the same time, I would like to express my gratefulness and appreciation for the co-author of my third paper, Prof. Matej Černe, whose guidance, support, and encouragement has been invaluable through this study. These collaborations have represented a precious learning experience, and they have provided me valuable instructions and guidelines.

I wish to thank prof. Alvisa Palese, she gave me help and support me in a difficult and stressful situation, the collaboration with her was a meaningful source of inspiration.

Besides, many thanks to all the companies for their participation and employees that took part in the studies and enabled this research to be possible.

Last, but not least, from the bottom of my heart I would like to say a big thank you to my family for supporting me during the compilation of this thesis.

PAPER ONE

Discussing the Role of Work-Life Balance for Creativity and Innovation: Implications for Theory and Practice

Grazia Garlatti Costa

Abstract

Work-life balance is a topic of contemporary interest, and the need to balance work with other spheres of life is one of the main challenges and necessities facing individuals and organizations. At the same time, innovation has become key to the long-term survival of organizations. Since innovation is rooted in the creative contributions of individuals, it is crucial for organizations to understand how to encourage employees' creativity and innovative behavior at work. The relationship between work-life balance initiatives, which promote creativity and innovation, and the creative and innovative behavior of individuals at work remains unclear. This paper aims to clarify the relationship between work-life balance and creativity or innovation by systematizing existing literature concerning the connection between these topics and further advancing the theoretical debate regarding them. We developed a systematic literature review using a twofold method, which included a keyword search and a citation approach. The main finding that emerged was that work-life balance has a positive impact on creativity and innovation at different levels. In the majority of cases, this impact was observed first at the individual level, and it then went on to affect the overall process of organizational innovation. By systematizing existing literature, we shed light on the unclear relationship and advanced the theoretical debate regarding it. We also identified potential gaps in the literature that may stimulate new theories in the future. This paper offers a resource for managers to better understand the importance of work-life balance as a strategic tool for innovation management.

Keywords: Work-life balance, Flexible Work Arrangements, innovation, creativity, innovative work behavior.

1. Introduction

Innovation has become the key to ensuring the organization's long-term survival (Anderson *et al.,* 2004; Anderson *et al.,* 2014; Crossan & Apaydin, 2010). It is rooted primarily in the creative ideas of people (George & Zhou, 2001) who, more than ever, are contributing to the innovative processes of the organizations to which they belong (Amabile & Pratt, 2016; Oldham & Cummings, 1996). Consequently, organizing and managing the creativity of individuals and teams has become a matter of strategic importance to companies (Amabile, 1996; Hirst *et al.,* 2009; Shalley *et al.,* 2004; Woodman *et al.,* 1993). In this paper we consider both creativity and innovation, aware that the two concepts are distinct concepts, however, each incorporating a series of different but strictly related processes. Organizational innovation is built on the creative ideas of employees as the fundamental element (Amabile, 1988).

Over the past three decades, an increasing number of studies have investigated the determinants of the creative behavior of individuals and teams in the workplace (Amabile, 1988; George & Zhou, 2001). The goal was to understand which personal characteristics (psychological traits, values, beliefs, etc.), team dynamics (roles, diversity, demographic balance, etc.), and contextual elements (organizational culture, leadership styles, policies, and initiatives, etc.), or the interactions between the three, might trigger and empower the creative contribution provided by employees (George & Zhou, 2001, 2002; Shalley *et al.,* 2004; Zhou & George, 2001).

Research has shown that work-life balance (WLB) plays an essential role in boosting creativity. WLB is the need for employees to balance work time with the many spheres of private life. It represents one of the primary challenges and necessities for individuals and organizations because of the increasing conflict between work demands and the decline of work as a central life interest. This challenge applies especially to the youngest generations (Guest, 2002; Mihelič & Aleksić, 2017; Smith, 2010).

While the initial interest for WLB blossomed in industrial-organizational psychology, the topic is now well-developed in many disciplines, including strategic management, organizational behavior, human resources management, economics, family, and gender studies (Powell at al., 2019). The term *work-life balance* is frequently used in everyday life, where it is often invoked as a slogan to achieve an appropriate balance between work and other life commitments (Eikhof,2007; Greenhaus *et al.,* 2003).

In this paper, we consider the work-life phenomena in a broader sense, not focusing on the limited interface between family and work, as traditionally occurred in the literature, due to the supremacy and the role of family over all other spheres of the individual's private life (Frone, 2003; Powell *et al.,* 2019). As stated by Frone (2003), we argue that research should go beyond the balance between work and family to explore the balance between work and other nonwork or life roles. In their recent introduction to a forum on work-life theory, Powell *et al.,* (2019) emphasized the need for new theories that explain work-life phenomena in a broader sense. The authors observed that the family plays a vital role for many employees. For this reason, conceptualizing the family's interface with the work role is useful to understand a considerable part of the work-life interface. However, it is also crucial to incorporate non-family personal life roles. According to this point of view, presented here, the terms *work-life* and *work-family* are synonymous. We are interested in balancing the work and nonwork spheres of life, aware that life outside work is multidimensional. For our purpose, all dimensions are considered as a whole.

A considerable number of studies investigated the implications of WLB for employees' attitudes, behaviors, well-being, and satisfaction (Baral & Bhargava, 2010; Eby *et al.,* 2005; Greenhaus & Allen, 2011). Equal effort has been devoted to the implications of WLB policies for workforce productivity and company performance (Beauregard & Henry, 2009; Bloom *et al.,* 2011; Dex & Scheibl, 1999).

The relationship between WLB, creativity, and innovation is a theme of more recently developed. Only a small number of studies addressed that relationship. It is not clear whether WLB can translate into more creativity or innovation at different levels of analysis: individual, group, and organizational.

For example, in their research on the relationships between flow, satisfaction with work-life balance (SWLB), and creativity among millennials at the individual level, Mihelič and Aleksić (2017) demonstrated that SWLB elevates the experience of flow. This experience further contributes to individual creativity and plays a relevant role in contributing to creativity through flow (Mihelič & Aleksić, 2017).

At the group level, Howell *et al.,* (2005) focused their attention on multigenerational teams in medicine. They found that these teams are essential to increased team creativity. However, to achieve this result and avoid conflict, several challenges must be managed. Among these challenges,

the authors also included WLB reached through appropriate WLB policies (Howell, Servis, & Bonham, 2005).

In two studies at the organizational level of analysis, James (2011, 2014) focused attention on work-family practices and benefits, which the author named "WLB arrangements". He demonstrated that the employer who makes WLB arrangements available to employees can have a positive effect on organizational innovation (James, 2011, 2014).

At the same time, to understand the relationship between WLB, creativity, and innovation, it is necessary to consider the increasing advancements in information and communication technology (ICT), which has had a significant impact on working life. On the one hand, ICT allows people to collaborate on creative projects more flexibly from remote locations, including home (Demerouti *et al.,* 2014). Work has become more virtual. Telecommuting and *smart working* are increasingly adopted by organizations as the number of flexible work arrangements offered to employees has increased. On the other hand, longer working hours, the need for rapid response, and the increasing intensity of work make it more difficult for people to disconnect from work, even when they spend time with their loved ones. This blurs the boundaries between the work and nonwork life. Such trends could alter the WLB, potentially reducing individuals' creative contributions (Guest, 2002).

Therefore, the theme is still open. Available research does not confirm the positive impact that WLB could have on creativity or innovation because current studies are limited, and their results are sometimes inconsistent. They refer to different levels of analysis and consider both creativity and innovation without a well-defined distinction. Given this lack of coherence, it is necessary to systematize the available literature for greater clarity.

We argue that researchers interested in deepening such research could benefit from an organized body of existing evidence. This paper focuses on that need, to systematize the existing literature and answer the research question: How does WLB impact creativity and innovation? Based on a systematic review of the literature, we explore and assess all aspects of existing research and empirical evidence on the relationship between WLB and creativity and innovation at different levels of analysis. We seek to clarify what we know about these relationships and then discuss the role of WLB in creativity and innovation. A systematic review uses a precise algorithm, employing a transparent and reproducible procedure, to search and conduct a critical assessment of the existing literature (Tranfield *et al.,* 2003).

The remainder of this paper is organized as follows. In Section 2, we briefly review the evolution of the literature on WLB and innovation. In Section 3, we introduce the methodology adopted for conducting our review. We present the results and discuss the main findings emerging from our review in Section 4. We conclude our offering in Section 5 by discussing the potential theoretical contributions of this paper, its managerial implications, and some suggestions for future research.

2. Background

2.1 Work-life balance

2.1.1 Evolutionary perspectives in the work-life literature

Despite the broad interest in academic literature, the term *work-life balance* is inconsistently defined (Grzywacz & Carlson, 2007). In the literature of organizational psychology, WLB is conceived primarily at a perceptual level and refers to an individual's psychological well-being and the "perception of how well his or her life roles are balanced" (Russo *et al.,* 2016: 174). According to Greenblatt (2002: 179), WLB is "the absence of unacceptable levels of conflict between work and nonwork domains." Clark (2000: 751) focuses on a conflictual dimension defining WLB as *"satisfaction and good functioning at work and at home with a minimum of role conflict"* (Clark, 2000: 751). WLB is an extensive concept, *"while encompassing early 'family-friendly' perspectives, the term work-life balance was intended to broaden the debate beyond working mothers to include all workers, and hence a wider diversity of personal life needs, interests, and responsibilities such as religious attendance, sports, hobbies and community, and charity work"* (James, 2011: 656)

Two primary perspectives emerge from the literature on the evolution of the concept of WLB. The first is the transition from the family domain to the broader domain of life. The second is the relationship between the two domains, historically dominated by a conflictual relationship but gradually moving toward a more balanced approach that recognizes positive interdependencies between the two. Consequently, these perspectives influenced the definition of WLB, shifting the focus from a conflicting relationship with the family to a balance between work and the broader domain of life.

Concerning the first perspective, studies traditionally focused on the relationship between family and work, thus emphasizing the supremacy and the role of family over all other spheres of the individual's private life (e.g., Frone, 2003; Powell *et al.,* 2019). Greenhaus and Powell (2016)

justified this direction in work-family relationships, observing that in people's lives, work and family are the two roles in which people have the highest level of involvement and with which they identify the most. As early as 2003, Frone argued that research should go beyond the balance between work and family to explore the balance between work and other nonwork or life roles. The interplay between work and all other non-work domains is more complicated than the usual dichotomy suggests because life outside of work is multidimensional (Powell *et al.,* 2019). This suggests that, despite the increasing number of studies dealing with the more inclusive concept of WLB (Beauregard & Henry, 2009; Chang *et al.,* 2009; Guest, 2002; Lewis & Dyer, 2002), further research is needed on how to adapt to ongoing social changes.

Concerning the second perspective on the type of relationship between work and life, the literature has been typically characterized by a *conflict* perspective (Barnett, 1998; Frone *et al.,* 1997; Greenhaus & Beutell, 1985; Kopelman *et al.,* 1983). This perspective has its origin in 1964, when Khan *et al.,* guided by the role theory, identified the conflict between work and other life roles (Kahn *et al.,* 1964). Later, the role theory focused primarily on the work-family interface (Greenhaus & Beutell, 1985). Work-family conflict, negative spillover, and the negative consequences to quality of life, individuals' health, and organizational performance dominated the literature on the intersection of work and family (Eby *et al.,* 2005). Two decades ago, a more balanced approach was adopted, giving more attention to the benefits of combining work and the other spheres of life (Barnett & Hyde, 2001; Frone, 2003; Grzywacz & Marks, 2000). In the literature, concepts such as *enrichment*, *positive spillover*, *enhancement*, and *facilitation* emerged to emphasize positive interdependencies between work life and family life (Greenhaus & Powell, 2006). Then, as noted by Powell *et al.,* (2019), recent attempts have been made to clarify the concept of the WLB (Casper *et al.,* 2018; Greenhaus & Allen, 2011; Lewis & Beauregard, 2018; Wayne *et al.,* 2017). In summary, the literature about the work-life interface has been characterized by a conceptual evolution ranging from a *divergen*t and conflicting relationship to a *convergent* and balanced relationship.

2.1.2 Mechanisms linking the spheres of work and life

Numerous mechanisms linking the spheres of work and life have been identified and discussed in the literature. Reviews conducted in this area organized those mechanisms into six general categories: *spillover, compensation, segmentation*, *resource drain, congruence, and work-family conflict* (Edwards & Rothbard, 2000; Guest, 2002; Lambert, 1990; Zedek & Moiser, 1990). Such

mechanisms have been specifically conceived to connect the work and the narrow *family* domain. However, we are interested in the balance between the work and nonwork spheres of life. For this reason, by analogy, we expand these mechanisms to the broader sphere of life.

As defined by Edwards and Rothbard (2000), *spillover* means the effects of work and family on each other that generate similarities between the two domains. These similarities can be described as affect, values, skills, and overt behavior. Spillover can be positive or negative, depending on the type of effects it produces (Grzywacz & Marks, 2000). In the literature, two other forms of spillover have been analyzed. In the first one, similarities occurred between a construct in the work domain and a different but related construct in the family domain. In the second interpretation, spillover is an experience transferred intact between the domains (Edwards & Rothbard, 2000).

The second mechanism is *compensation*, which refers to all efforts to compensate for dissatisfaction in one domain by seeking satisfaction in another domain. In the literature, authors have distinguished two forms of compensation: 1) a person can decrease involvement in the dissatisfying domain and increase it in the satisfying domain; or 2) in contrast, a person can respond to dissatisfaction in one domain achieving rewards in the other. According to the authors, the latter has been further differentiated into two forms: supplemental compensation, which occurs when rewards that are insufficient in one domain are searched in the other, and reactive compensation, in which unwanted experiences in one domain are remedied by contrasting experiences from the other domain (Edwards & Rothbard, 2000).

With *segmentation*, there is a separation of work and family, such that the two domains do not affect one another. Segmentation is viewed as an active process to preserve a border between the two domains. Given the interconnections between the two domains, the transfer of time, energy, attention, and other finite personal resources from one domain to another is called *resource drain*. It is analogous to some forms of compensation; however, the latter responds to dissatisfaction in one domain. Instead, the resource drain happened regardless of the motivation for the transfer.

Congruence happens when there is a similarity between work and family due to a third variable that acts as a common cause. This variable can be represented by personality traits, genetic factors, general behavioral styles, or social and cultural forces. It is similar to spillover, but with congruence, the similarities happened because of a third variable affecting both domains.

Lastly, *work-family conflict* is the interrole conflict in which work and family demands are mutually incompatible. It occurs when satisfying one sector's needs makes it difficult to meet the

demands of the other sector (Edwards & Rothbard, 2000). This form of interrole conflict received significant attention from scholars such as Greenhaus and Beutell (1985). They identified three forms of work-family conflict: *time-based conflict*, *strain-based conflict*, and *behavior-based conflict*. Furthermore, work-family conflict consists of two broad dimensions: *work-to-family* conflict and *family-to-work* conflict (Frone *et al.,* 1997).

2.2 Innovation and creativity

2.2.1 Definitions

The fact that the boundaries between innovation and creativity are not clear has caused considerable confusion among researchers. The first step is to clarify their definitions.

Sometimes, these terms are considered by researchers to be synonymous (Damanpour, 1991), or the definition of innovation is close to the definition of creativity (Drucker, 2014). We agree with Anderson *et al.,* (2004). They agreed with the idea that creativity and innovation are nuanced concepts, each incorporating a series of different but strictly related processes leading to different but often related results.

For the aim of this paper, it is essential to distinguish creativity from innovation. The definition of creativity proposed by Amabile (1988: 126) is widely shared by other scholars in the field (Drazin *et al.,* 1999; George & Zhou, 2001; Shalley *et al.,* 2004; Van de Ven, 1986; Zhou & George, 2001, 2002): "Creativity is the production of novel and useful ideas by an individual or a small group of individuals working together." Afterward, Amabile (1988: 126) continued with a definition of innovation built on creative ideas as the fundamental element: "Organizational innovation is the successful implementation of creative ideas within an organization," also specifying that "the ideas in question can be anything from ideas for new products, processes, or services within the organization's line of business to ideas for new procedures or policies within the organization itself". In this definition, the term *implementation* is used broadly to incorporate developing ideas and putting them to use (Amabile, 1988). Creativity is the development of novel and potentially useful ideas that individuals can share with each other. However, only when these ideas are successfully implemented at the organizational level will they constitute innovation (Amabile, 1996; Shalley *et al.,* 2004). When moving from the concept of creativity to the concept of innovation, the difference between generation and implementation of novel and useful ideas is essential.

Given that creativity consists of generation and innovation in the implementation of ideas, creativity is often considered as the first step in innovation (Amabile, 1996, 1997). In contrast, Anderson *et al.,* (2014) found that creativity does not happen only at the first stage of the innovation process; on the contrary, there might be a cyclical process of idea generation and implementation.

On the source of these new ideas, Anderson *et al.,* (2014) observed that, if employees generate new ideas in the organization, new ideas and practices may have been generated externally by individuals outside the organization (Zhou & Shalley, 2010).

Additionally, some authors argue that not all creative ideas move through the implementation process and that not all innovation processes require creativity. Hence, creativity remains crucial for organizational innovation; it is not enough on its own (Hughes *et al.,* 2018).

2.2.2 Multi-level approach

According to the literature, creativity and innovation are multi-level concepts that might occur at the individual, work, or organizational levels and be combined at additional levels (Amabile, 1988; Anderson *et al.,* 2014; Woodman *et al.,* 1993).

We agree with the statement by Amabile (1988), shared by most scholars of organizational creativity and innovation (George & Zhou, 2001; Shalley *et al.,* 2004; Zhou & George, 2001) that the process of individual creativity is an essential element in the process of organizational innovation; thus, employees' creativity is often the starting point for innovation. There is a mutual influence between the individuals and the organization. Working alone or in a small group produces new and useful ideas that might be implemented by the organization. At the same time, individual creativity is influenced by the organization's situational factors (Amabile, 1988; Woodman *et al.,* 1993).

Assuming that creativity at the individual level is essential for organizational innovation, innovation, and idea implementation have also emerged at the individual level. Innovative work behavior (IWB) conceptualizes individual innovation (Scott & Bruce, 1994; Janssen, 2000). It consists of the intentional creation, introduction, and application of new ideas, processes, products, or services representing a specific key asset for company success in a fast-changing business environment (Janssen, 2000). IWB is a multifaced construct based on multiple dimensions: idea generation, idea championing, and idea application (De Jong & Den Hartog, 2007, 2010; Scott & Bruce, 1994; Jassen, 2000).

Even if employee creativity is strictly related to creative behavior, the former is less target-oriented than IWB (Abstein *et al.,* 2014). Creativity can appear spontaneously and without a specific purpose. Moreover, creative behavior emphasizes the generation of new ideas and not the development and application of innovative solutions. For this reason, employee creativity can, therefore, be considered as a component of IWB, the first phase of the innovation process (Abstein, 2014; Janssen, 2000; West, 2002). Therefore, creativity is a fundamental driver for individuals, groups, and organizations to achieve innovative outputs.

Innovation and creativity are different constructs, but considering that they are strictly related and that the boundaries in the literature between the two concepts are too blurred to be clearly and unanimously defined. Consistent with our contribution and for the sake of completeness, we aim to consider both creativity and innovation and all the levels of analysis. Thus, avoiding the exclusion of some significant contributions.

3. Methodology

Despite the relevant number of studies that have been developed in the two fields examined above, little attempt has been made to systematize the research about the relationship between them. Therefore, the relationship between WLB and innovation is unclear. This paper aims to fill that gap through a systematic review, examining and evaluating all facets of current literature about the relationship between WLB and creativity and innovation at different levels of analysis.

Systematic reviews, traditionally used in medical sciences, but increasingly adopted in management studies, are literature reviews that closely adhere to a set of scientific methods that explicitly aim to limit systematic error, mainly by attempting to identify, appraise and synthesize all relevant studies to answer a particular question, it is ''fit for the purpose'' (Petticrew & Roberts, 2008). "Systematic reviews differ from traditional narrative reviews by adopting a replicable, scientific, and transparent process" (Tranfield *et al.,* 2003: 209); therefore, improving the quality of the review process and outcome (Tranfield *et al.,* 2003).

3.1 Research question, review protocol, and selection criteria

The question we address in this review is the following: How does WLB impact creativity and innovation?

Following the protocol for conducting a systematic review of the literature established by Petticrew and Roberts (2008), we focused our literature review on academic studies available online in full text and published in English. The search included articles, reviews, and book chapters published in academic journals in a selected range of disciplinary areas reflecting the cross-disciplinary nature of WLB: business, management, accounting, social sciences, engineering, psychology, economics, econometrics, finance, and decision sciences. To identify articles relevant to the systematic review, a twofold method was used: first, a keyword search was conducted using two databases: Scopus and Web of Science. Second, the search was complemented with a citation search of the reference lists from relevant articles identified in the first step.

The query for this article was run on 21th January 2021, first on Scopus. Then, for thoroughness, the research was conducted using the Web of Science databases without disciplinary area limitations. Articles not identified by Scopus were added, and duplicates were removed. Relevant contributions were identified through a keyword search by title, abstract, and keywords without limitations of publication's year (updated until the end of 2020). Keywords were identified using a form of brainstorming and then constructed in the following string: (*work-life* OR *work-family* OR *work-nonwork* OR *family-friendl*y OR *flexible work arrangements* AND *creativity* OR *innovation*)

For completeness, we also included the terms *flexible work arrangements* (FWA) because many studies of work-life address FWA. The primary assumption is that employers adopt FWA to help employees manage the balancing between work and the other aspects of life.

Articles in which any of the above combinations appeared in the title, abstract, or keywords were selected. Through the first step, 330 abstracts were retrieved. All abstracts were read by the authors and classified into two categories:

- Abstract accepted: specific reference to at least one WLB theme (e.g., *work-life* or *work-family* or *work-nonwork* or *family-friendly* or *FWAs)* and simultaneously to one innovation theme (*innovation* or *creativity*). At least both topics (WLB theme and Innovation theme) must have been mentioned in the abstract or the title. If at least one of the two domains was mentioned only in the article's keywords, it was not sufficient for acceptance. Specifically, if it was only mentioned in the keywords without appearing to be relevant to the content of the abstract and the authors' interest, a more detailed review of the full article was conducted.

- Abstract excluded: no simultaneous reference to WLB and innovation or creativity.

Following this step in the classification, a total of 105 articles were selected. This considerable reduction in the number of articles chosen occurred despite the inclusion in the search string of the operator "AND" to consider the two domains *work-life* and *innovation*. A large number of papers dealt only with one of them. Further, *innovation* appeared in many articles but was used in a broad and generic sense, with no reference to organizational innovation or individual creativity. In other cases, the term *work-life* was used out of context, for example, referring to working life or quality of work life.

The 105 selected articles were then reviewed. Of the 105 articles, 65 were excluded from use. In those cases, both themes of WLB and innovation were mentioned. However, the theoretical or empirical contribution did not address the relationship between the two themes.

Finally, to reduce the risk of overlooking relevant contributions, we checked whether the references in the 40 selected relevant articles could meet our selection criteria. Four additional articles fulfilled the criteria and were hence included in our review. Thus, out of the 335 articles initially reviewed through keyword search (330 articles) and citation selection (5 articles), 45 articles were considered relevant and included in the analysis. Figure 1 summarizes the selection process.

Figure 1. Article selection process

Articles identified (keyword search) **330**

Abtracts read and excluded **- 225**

Step 1: KEYWORD SEARCH

1st screening

Articles read entirely (keyword search) **105**

Articles read entirely and excluded **- 65**

Step 1: KEYWORD SEARCH

2nd screening

Selected articles (keyword search) **40**

Articles selected from citations **+ 5**

Step 2: CITATIONS

Selected articles

45
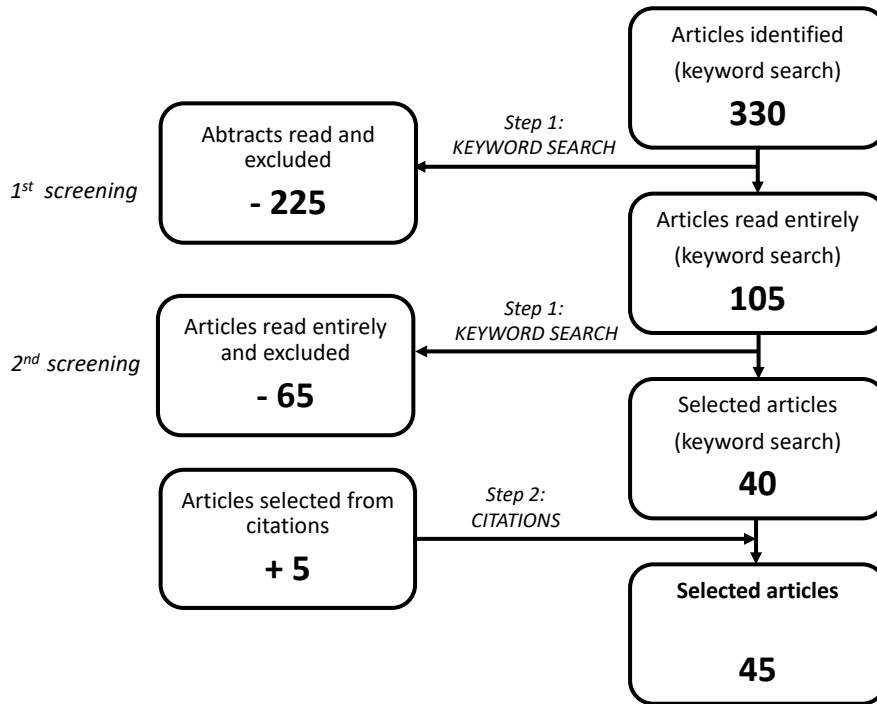
Source: author

3.2 Development of a coding framework

After the articles were selected, an ad-hoc classification framework was developed to identify the relationship between the two topics (WLB theme and Innovation theme), and the literature. The selected papers were coded using the following criteria:

- Baseline information: authors, title, journal, year of publication, and several citations.
- Article type: empirical, theoretical/conceptual, or review.
- For empirical articles, the methodology: qualitative, quantitative, or mixed methods.
- For empirical articles, the research method: survey, case study, multiple case study, interview, ethnography, experimental design, mixed methods, etc.
- Geographic location.
- Industry of firm/firms analyzed.
- Sample characteristics: field sample and gender of the sample.
- Research question or focus: full description.
- Findings of the article relating to WLB and innovation/creativity: full description.
- Relationship of WLB to innovation/creativity, if applicable: full description.

- WLB relationship: work-family conflict/balance/enrichment, work-life conflict/balance, or work-nonwork conflict/balance/enrichment.

- Specific WLB aspect as a focus of the article: yes or no. If yes, its focus (e.g., FWA, teleworking, family-friendly workplace practices (FFWP), etc.

- WLB topics addressed in the article: FFWPs, FWAs, supportive supervisors, etc.

- Type of work-life linking mechanism, if applicable: positive or negative, and full description.

- Innovation/creativity: innovation, creativity, or both.

- Phase of the process: idea generation, idea implementation, or both (Amabile, 1988).

- Innovation/creativity level of analysis: individual, team, organization, or multi-level (Anderson *et al.*, 2014).

- Innovation/creativity topic: full description.

- Role of gender: primary focus, secondary focus, marginal topic, or not mentioned.

4. Results

The results were critically analyzed to understand the state of the literature, how the WLB theme and Innovation theme were investigated, and potential insights for future research.

4.1 Descriptive results

This section presents a descriptive analysis of the selected materials. The criteria aforementioned, used in the coding framework, were applied to the 45 selected articles, and from them, we have extrapolated useful information.

Research on the work-life interface was a key area of interest in a variety of disciplines. The classification of the selected articles by journal and subject area was confirmed using the list in the *Association of Business Schools Academic Journal Guide March 2018* (ABS, 2018). To verify the presence or absence of the topic in high-quality top journals, the ranking proposed in the ABS list was considered. On the basis of the areas indicated in the ABS list was confirmed the interdisciplinarity of the theme, selected papers belong to several subject areas. The major contributions of the journals were recorded in the following areas: general management, ethics and social responsibility (5), human resource management and employment studies (5), psychology (organizational) (5), strategy (3), psychology (general) (2), entrepreneurship and small business

management (2), innovation (2), organization studies (2), information management (1), operations and technology management (1), and social sciences (1). Stands out the presence of articles published in high ranked journals (according to the ABS 2018 rank interpretation: 4*: word elite journals; 4: top journals; 3: highly regarded journals; 2: well-regarded journals; 1: recognized journals): 4* (2), 4 (7), 3 (4). These results confirmed the work-life topic and its academic relevance. They also confirmed that there is no preferential channel to address WLB and creativity (or innovation). They are discussed in different journals regarding various areas of research.

Figure 2 shows how the 45 selected articles were allocated over time. One-fourth of them (24,4%) were published in the first decade of the 2000s; three-fourths (75,6%) were published after 2010. In 2020 (the last year), there were nine publications about the relationship between WLB and creativity (or innovation). This confirms its relevance and the increasing interest among researchers in the relationship between the two domains.

Figure 2. Articles by year of publication
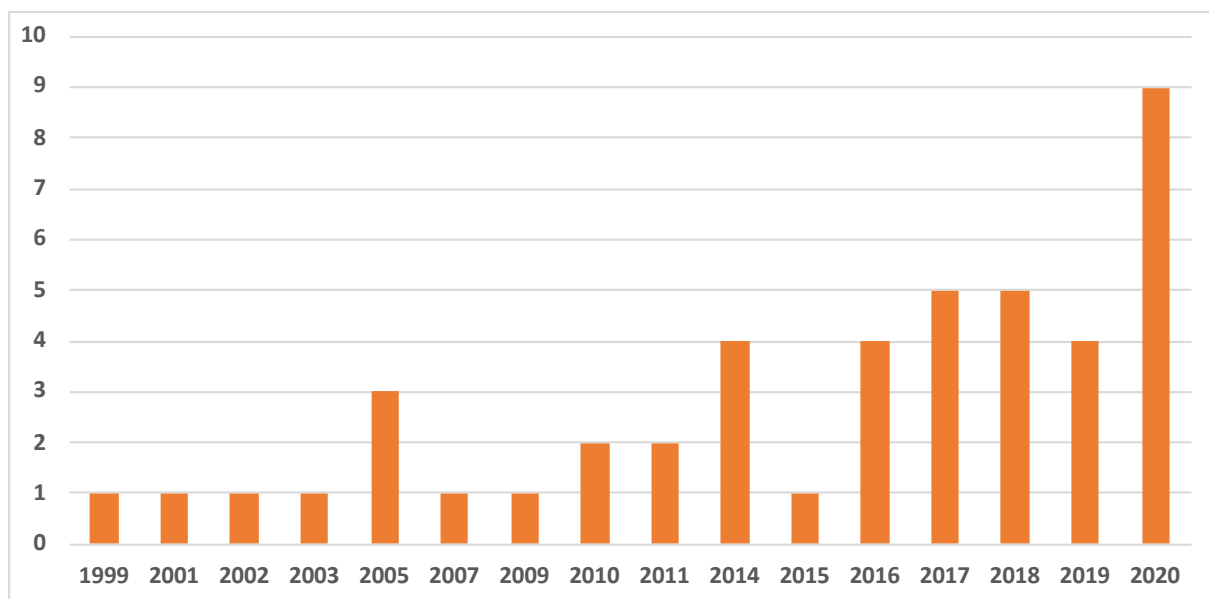
Source: author

The results of the analysis show that 91% of the selected papers are empirical, 7% are reviews, and the remaining are theoretical. Among the empirical papers, 67% are quantitative, 16% are qualitative, and the remaining represent a mixed methodology. Regarding the methods used, more than half of the papers used surveys (64%), followed by mixed methods (13%) and case studies (4%). Other less common methods included interviews, ethnographies, and observations. The majority of

the respondents in the empirical studies were employees (56%), followed by managers or professionals (13%). There are also mixed samples, which included employees and employers (4%) or employees and managers (4%). The samples were almost entirely gender-balanced, composed of both male and female (71%). Selected papers analyzed evidence primarily from the USA (16%), China (13%), and European countries (24%), including Ireland and the UK, Bulgarian, Germany, Luxembourg, Slovenia, Spain. Organizations included in the studies represent various sectors, primarily IT (13%), manufacturing (9%), banking (4%), and insurance (4%). Of the studies, 29% did not focus on a single sector but considered evidence from multiple sectors (Table 1).

Table 1. Descriptive results of selected articles

Category		N
Paper type	Empirical	41
	Review	3
	Theoretical	1
Methodology	Quantitative	30
	Qualitative	7
	Mixed	4
	N.A.	4
Research methods	Survey	29
	Mixed	6
	Case study	2
	Ethnography	1
	Interviews	2
	Observation	1
	N.A.	4
Composition of sample	Employees	25
	Employees and employers	2
	Employees and managers	2
	Entrepreneurs	1
	Managers or professionals	6
	Scientists	2
	Students	1
	N.A.	6
Gender of sample	Both	32
	Mainly female	1
	N.A.	12
Country	US	7
	China	6
	Ireland and UK	3
	Korea	3
	India	2
	Germany	2
	Several European Countries	2
	Singapore	2
	Brazil	1
	Bulgarian	1
	Dubai	1
	Egypt	1
	Luxembourg	1
	Slovenia	1
	Spain	1
	N.A.	11
Industry	Several fields	13
	IT	6
	Manufacturing	4
	Banking	2
	Insurance	2
	Architectural design	1
	Basic science	1
	Creative industries	1
	Education	1
	European university	1
	Hair salon stylists	1
	Knitewear	1
	Law-firms (professional service firms)	1
	Medicine	1
	Metal	1
	Nonprofit organizations	1
	Services	1
	N.A.	6

Source: author

4.2 Features of work-life balance and innovation/creativity

In the innovation/creativity domain, more than half of the selected articles referred to creativity (58%), 24% dealt with innovation, and the remaining (18%) addressed both topics. Further insights were gained by classifying the level of analysis: *individual*, *work team*, *organizational*, and *multi-level*. Most of the selected articles (62%) addressed the individual level. Only one article (2%) dealt with the organizational level and another (2%) with the work team level. The multi-level approach is adopted in 33% of the papers.

The work-life interface can be classified as either *domain* or *relationship*. Concerning the *domain*, the majority deal with the *work-life interface* (24 out of 45 articles, 53%), followed by the *work-family interface* (17 out of 45 articles, 38%). Less diffuse is the *work-nonwork interface* (4 out of 45 articles, 9%). For the relationship among the two domains, most of the papers (33 out of 45 articles, 73%) adopt the *balance* perspective rather than the *conflict* perspective (10 out of 45 articles, 22%). Only 4% of the papers focus on *enrichment* (2 out of 45 articles).

The long-awaited evolution in the literature to pass from the *family* domain to an extensive *life* domain, more inclusive of multiple spheres of life, is not definitively confirmed by our results. After a stop of publications concerning the family domain from 2006 to 2014, there has been an increase of publications on the *work-family* interface since 2015. This evidence indicates that the dichotomy of *work-family* is still relevant in the literature, although social trends have increased the prominence of other life roles beyond the family. This might be explained by the fact that, in the last years, the *family* domain is considered in a broader perspective, including new structures of the family, which differ from the traditional patriarchal family. However, in 2020 there was a significant revival of publications on the *work-life* interface (Figure 3).

Figure 3. Domain interface: family vs life
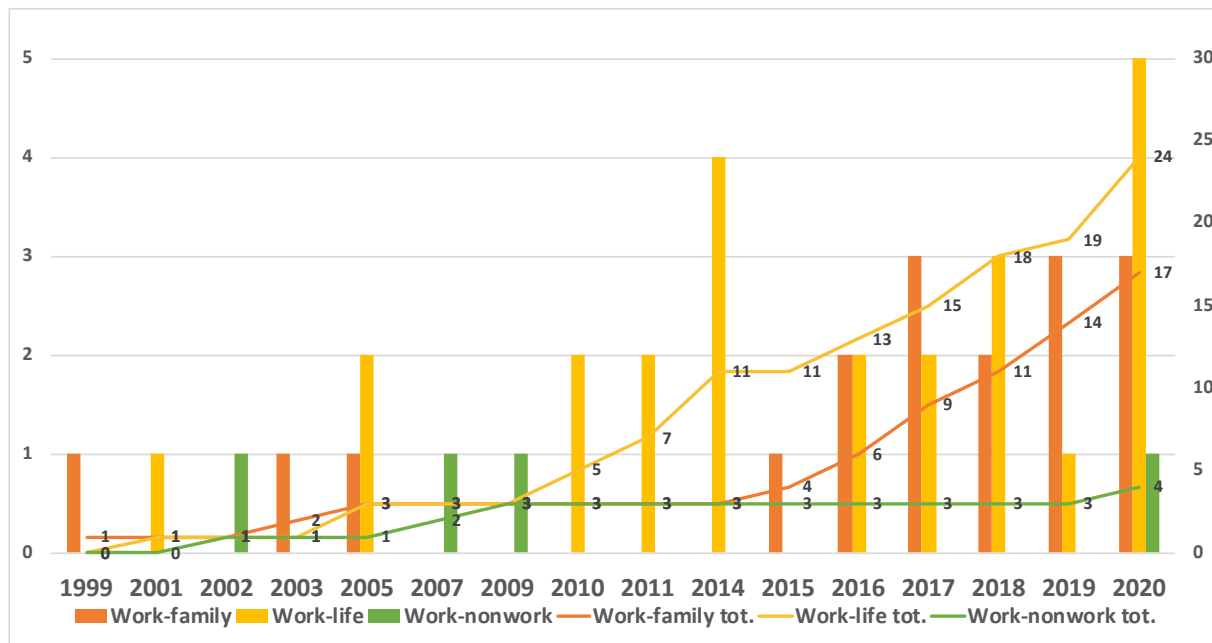
Source: author

The evolution in the type of relationship between the two spheres of life, representing the interdependencies between them, passed from conflict and divergent approach to a more balanced and convergent approach. Our results confirm this trend. There is a prevalence of publications about the *balance* perspective rather than the *conflict* perspective (33 vs 10). However, this trend was not continually growing but fluctuating. Significant was the year 2017, which is predominant in the convergence between the family and life domains. Of the five selected articles published in 2017, four dealt with *balance,* and the other one dealt with *enrichment*, the more extreme view of convergence. No publications concerning the *conflict* domain. Additionally, the year 2020 was notable, with the maximum number of publications about the *balance* perspective. However, since 2014, there has been a revival of publications that emphasize *conflict*. This demonstrates how topical the divergent perspective is in the literature. Although there is a growing interest in the positive effects of combining work and life roles, the adverse effects are still a relevant issue for scholars due to their impact on employees and organizations (Figure 4).

Figure 4. Relationship perspective: conflict vs balance
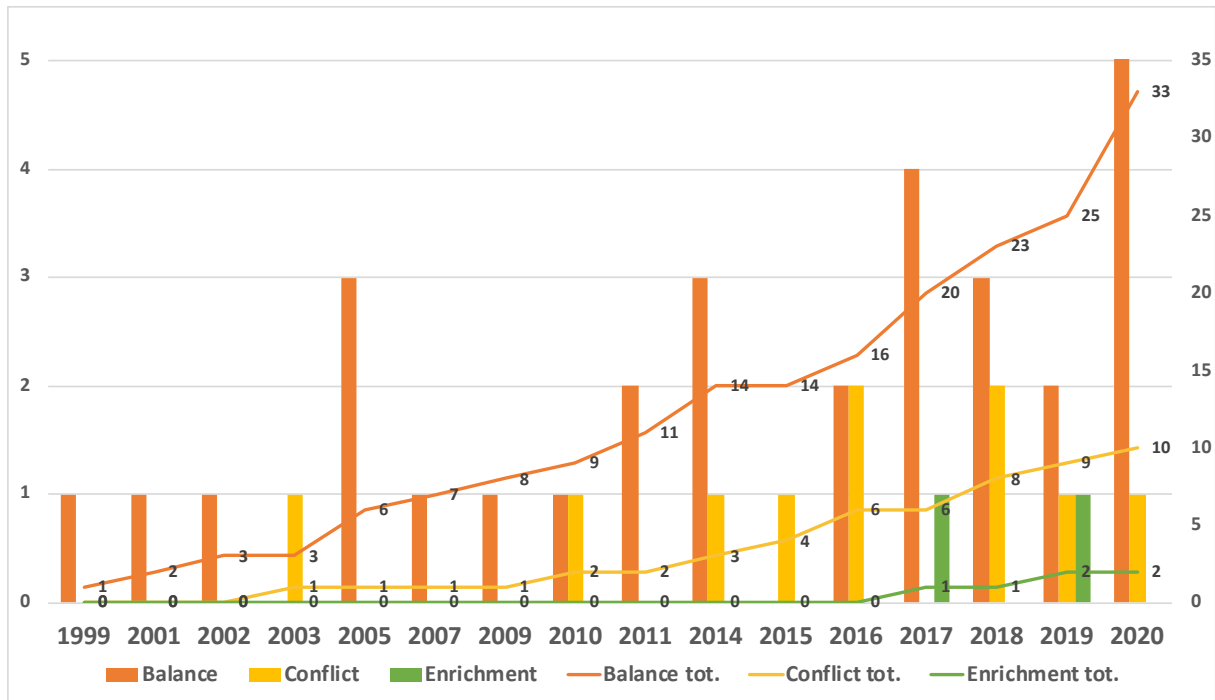
Source: author

4.3 Types of relationships: the four groups

For the 45 selected articles that emerged from the coding procedure, the selected literature was classified according to the type of relationship existing between WLB and creativity, or the innovation interface. Using these classification criteria, we identified four groups corresponding to the different ways WLB affects innovation or creativity: *consequential*, *joined*, *direct*, and *blurred or inverted* (Figure 5).

Group 1. Consequential relationship

Papers in this group examined a consequential relationship between WLB and creativity or innovation. Therefore, the WLB topic does not impact directly on creativity or innovation but it impacts directly before on another variable that in turn impacts on creativity or innovation. We identified eleven articles belonging to this category, 24% of the total. However, two of them are multiple studies that were included simultaneously in two groups (Group 1 and Group 3).

Group 2. Joined relationship

Papers belonging to this group dealt with a joined relationship among WLB, other variables, and innovation/creativity. In this case, WLB not alone but combined jointly with other

variables impact the creativity/innovation output variable. Eleven articles were in this group, 24% of the total.

Group 3. Direct relationship

Papers in this group examined a direct relationship between WLB and creativity/innovation. WLB directly affects innovation or creativity. Sixteen articles are included in this category, corresponding to 36% of the selected literature. However, two of them are multiple studies, included simultaneously in Group 1 and Group 3.

Group 4. Blurred, inverted, or no relationship

In this group, we included three study themes. There are papers in which the relationship between WLB and innovation is *blurred* because the two domains are related only through some features and not comprehensively. Then, the *inverted* theme is composed of papers in which authors inverted the relationship or investigated how creativity (or innovation) affects WLB and not vice versa. The last theme in this group includes articles in which authors have not addressed a relationship between WLB and innovation. However, the authors examined both topics separately due to their importance for the context examined. This theme was represented in nine papers, corresponding to 20% of the selected literature.

Figure 5. The relationship between WLB and creativity (or innovation): four groups
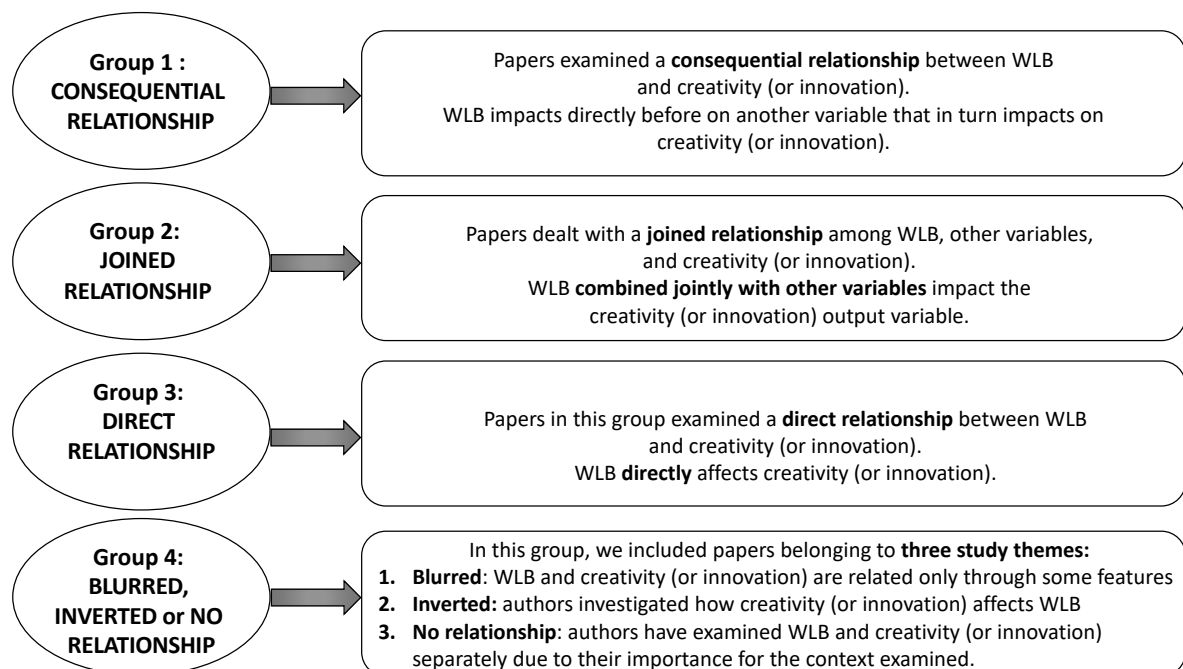
Source: author

In Table 2 (appendix), we classified the 45 selected papers among these categories, summarizing the primary findings. To ensure a clear understanding, the table is structured as follows: the group in which the papers belong, the authors' names, and the year of publication. After that, there are some specifications of the topics addressed in the article, as the specific WLB concept (e.g., WLB, work-family conflict, etc.) and the innovation topic (innovation, creativity, or both). After that, connected to the innovation topic, there is the level of analysis (individual, work team, or organization). There are two descriptive columns. The first summarizes the aim of the paper, and the second summarizes the primary findings connected to the relationship between WLB, creativity, and innovation.

Figure 6. How work-life balance impacts creativity and innovation: key findings
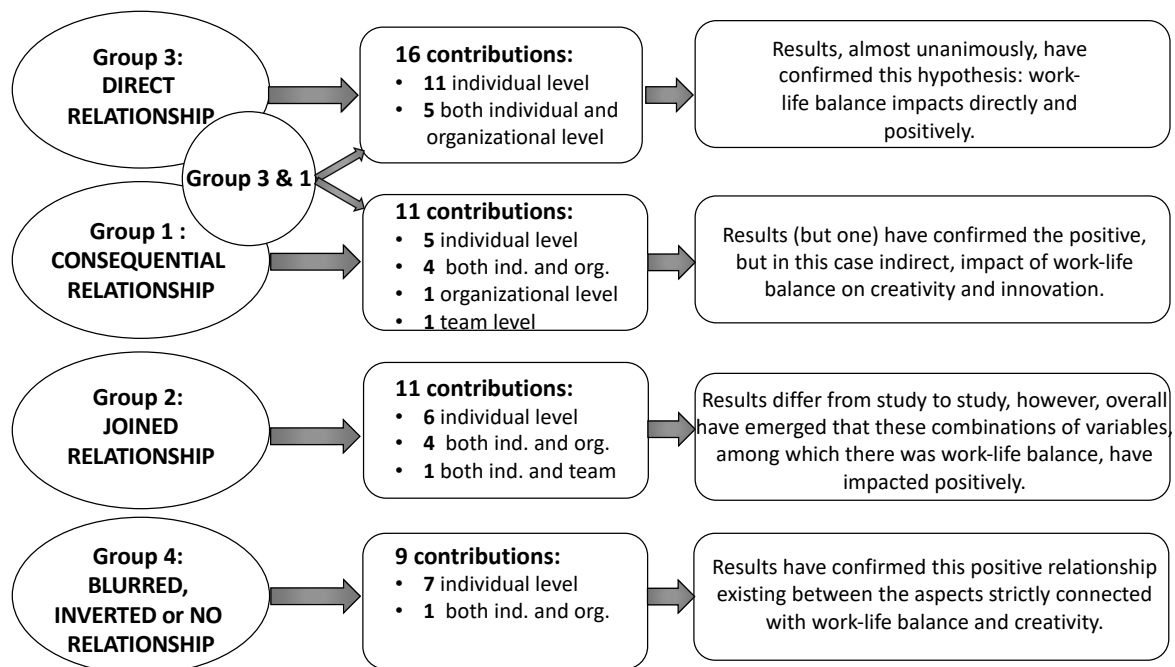
Source: author

4.3.1 Group 1: Consequential relationship

Group 1 studies focused on the consequential relationship. They differ from each other both for the effects they have reported and for the variables they have considered. Considering both the firm's innovativeness and creativity in the workplace, an article that critically reviewed previous innovativeness assessments were developed by Alegre and Pasamar (2017). The results demonstrated a predominance of technology-based indicators in comparison to human resources-

based indicators. For this reason, the authors proposed a new approach to assess innovativeness, focused on WLB benefits and its connections with motivation, engagement, and creativity in the workplace. They argued that WLB benefits represent an effective way to assess a firm's innovativeness. Regarding the relationship between WLB and innovation, the authors assumed that it is a probabilistic and not deterministic causation and that innovation is not an automatic consequence of WLB. The latter is a facilitating condition (Alegre & Pasamar, 2017).

James (2014) addresses individual creativity and organizational innovation and documents the effects of WLB provision on employees in shaping the workers' cross-firm mobility and the tacit knowledge, skills, and competencies they embody. In this way, James extended the impact of WLB arrangements outside the firm, suggesting that these arrangements can improve the learning and innovation process between firms. This happens because the WLB provisions enhance the mobility of skilled labor. In turn, mobility plays a crucial role in accelerating the transfer of embodied knowledge, expertise, and technological capabilities between firms. Firms adopting WLB arrangements enhance the possibility of attracting mobile workers who deliberately leave companies with no or limited WLB policies and move to firms with more comprehensive WLB provisions. Therefore, the author argued that WLB arrangements do not directly impact innovation, but through workers, knowledge, skills, competence, and cross-firm mobility. In turn, creativity and innovation increase (James, 2014).

In another study, Gomes *et al.,* (2020) explored the relationship between WLB and service innovation through organizational learning. Authors consider two different measures of WLB: WLB/flexibility (WLB arrangements in terms of flexible policies to enhance temporal e spatial flexibility) and WLB/ family-life (the mere adoption of WLB practices). The results demonstrated that WLB/flexibility is positively related to organizational learning capability and consequently positively impacts service innovation. On the other hand, in contrast with the previous papers examined in this section (Alegre and Pasamar 2017 and James, 2014), WLB practices alone do not increase the organizational learning capability and therefore do not impact service innovation (Gomes *et al.,* 2020).

Another empirical contribution, dealing with creativity both at the individual and organizational level, is developed by Zhang and colleagues (2020). In their study, authors aim to expand the research on work-family conflict (WFC) and creative performance based on a sustainable development perspective. The findings support their Hypothesis and demonstrated that WFC

conflict positively and indirectly influences sustainable creative performance, while job crafting plays a mediating role. Additionally, they found that a high level of promotion regulatory focus enhances the relationship between WFC and job crafting (Zhang *et al.,* 2020).

For innovation at the organizational level, Secret (2005) investigated the relationship between parenting under workplace childcare options (PIW) and workplace innovation. WLB is an antecedent of this relationship because PIW is one of the childcare options typically included in WLB arrangements. If an organization adopts this type of childcare option, it offers a WLB benefit for employees. The findings demonstrated that organizations adopting PIW, compared with businesses that do not provide them, reported no disadvantages for workplace innovation. At the same time, more positive attitudes toward work-family integration increased. Therefore, there is a positive relationship between PIW and workplace innovation (Secret, 2005).

At the individual level, the impacts on IWB were investigated by Chen & Huang (2016). The authors demonstrated that personal engagement (PE) could increase innovative behavior (IB) and deteriorate WFC at the same time. Moreover, the authors suggested that to achieve high PE without the adverse effects of WFC, managers must develop work-family programs to achieve a balance between engagement and family life, thus alleviating WFC. Therefore, low WFC is associated with high IB (Chen & Huang, 2016).

With another empirical contribution, Mishra *et al.,* (2017) explored the relationship between work-family enrichment (work-to-family and family-to-work), psychological capital, and supervisor support in promoting IWB. The findings demonstrated that psychological capital fully mediates the relationship between work-family enrichment (work-to-family and family-to-work) and IWB. The latter is positively and significantly related to IWB. Supervisor support moderates the relationship between psychological capital and IWB and is directly and entirely associated with IWB. The authors concluded that bi-directional work-family enrichment benefits the individual by building psychological capital and benefits the organization by encouraging IWB (Mishra *et al.,* 2017).

The remaining studies focused on individual creativity. In an empirical study, Van Dyne *et al.,* (2003) developed and tested a model of the relationship between psychological strain and work performance. They considered two types of strain (work strain and home strain) and two types of work performance (quantity of sales performance and creativity). WLB, to be precise WFC, is an antecedent of home strain because the literature on job-related strain has emphasized the connection with role conflict, role ambiguity, and role overload; those are all aspects of WFC. In this

way, WFC contributes to home strain, which impacts creativity. The results demonstrated that home strain is negatively related to creativity. Home strain is more strongly related to creativity than work strain; thus, creativity seems to be especially sensitive to home strain and its antecedents. We can assume that WFC has a consecutive negative impact on creativity (Van Dyne *et al.,* 2003).

Howell *et al.,* (2005) developed a paper about multigenerational challenges in academic medicine, from which they concluded that WLB policies represent a useful tool to reduce conflict in multigenerational teams. This conflict, among other sources, is a consequence of the worst balancing of work and life. In this way, WLB reduces conflict and leads to higher creativity (Howell *et al.,* 2005).

Mihelič & Aleksić (2017) developed multistudy design research on individual creativity in which they analyzed the relationships between flow, SWLB, and creativity. The first Study did not confirm a direct impact between SWLB and creativity. In Studies 2 and 3, the authors investigated the relationship between SWLB and creativity, mediated by the flow. The findings demonstrated that SWLB elevates the experience of flow, further contributing to individual creativity. Thus, the results did not confirm that SWLB directly elevates creativity. However, they did reveal that it plays a relevant role as a factor contributing to creativity through flow (Mihelič & Aleksić, 2017).

McKersie *et al.,* (2019) recently developed a twofold case study and, in the second empirical study, demonstrated that meaningfulness and intrinsic motivation mediate the relationship between FFS and creativity. FSS is a crucial element for WLB and, at the same time, it serves as an explanatory mechanism linking supervisor support to enhance employee creativity, as demonstrated in Study 1 (McKersie *et al.,* 2019).

4.3.2 Group 2. Joined relationship

Group 2 studies focus not only on the relationship between WLB and innovation or creativity but address a different set of variables in each study. These studies differ both for the variables they have selected and for the impacts they have demonstrated. In these studies, the mere presence of WLB is not a sufficient condition to foster innovation. However, the simultaneous presence of other elements joined with the WLB effect on creativity and innovation is indispensable.

The first three papers focused on innovation at the individual and organizational levels. Johri (2010) focused on engineering firms and argued that the successful creation and implementation of open organizing could result in better WLB for engineers that foster productivity and innovation.

Thus, all of the changes connected with the adoption of open organizing, such as teleworking, geographically dispersed work, collective intelligence, and WLB, contribute to increasing productivity and innovation (Johri, 2010).

Chen *et al.,* (2018) focused on high-commitment work systems (HCWSs) and innovation performance. They demonstrated that HCWSs activate middle managers' innovative behavior (IB) and, in turn, improve organizational innovation performance. The authors measured the WFC's effect that negatively moderates the relationship between HCWSs and middle managers' IB. However, another variable they considered is the work climate for sharing family concerns, which mitigates WFC's effect. In this study, WLB measured relative to the negative aspect of WFC, which, joined with other elements, negatively influence innovation outcomes (Chen *et al.,* 2018).

The third contribution, developed by Choi and colleagues (2020) investigates the role of technology startups on employment quality, work-life balance, and consequently on innovative performance. Work-life balance, combined with other variables (e.g., working hours) determines the level of employment quality. According to the result of this study, technology startups have a greater level of employment quality compared to non-technology startups, and the innovative performance (due to individual innovative contributions) may be higher with a major employment quality and therefore a higher WLB (Choi *et al.,* 2020).

Allen *et al.,* (2015) focused their attention on telecommuting; a specific FWA included in the WLB practices. They reviewed the implications of telecommuting for work-family issues and work outcomes, including individual and group creativity and innovation. From empirical evidence, they found a minimal relationship between telecommuting and WFC and offered some possible explanations. The authors concluded that telecommuting is associated with less creativity because it reduces face-to-face interactions. They argued that knowledge sharing is critical for innovation. However, when employees work remotely, virtual teams might substitute for face-to-face teams, facilitating creativity (Allen *et al.,* 2015).

Dediu and colleagues (2018) dealt with both creativity and innovation at the individual level. The study aims to investigate the relationship between several job design variables (e.g., work demand) and innovative work behavior (IWB), considering both idea generation (creativity) and idea implementation behaviors. The variable work demand is composed of overtime which impacts WLB. Therefore, WLB combined with the other elements impacts IWB. Results demonstrated that long working hours were positively associated with both idea generation and idea implementation.

However, long working hours bring to a situation of unbalance between work and private life, reducing WLB. Therefore, as suggested by authors this result must be interpreted with caution because they do not think that employees that worked overtime and become overworked are more likely to innovate (Dediu *et al.,* 2018).

Florida and Goodnight (2005) addressed creativity at the individual and organizational level, describing how an organization could maximize creativity by describing step by step the unique framework for creativity management adopted by a successful company. They explained how to manage organizational creativity following a specific framework that includes several elements to be joined. Among those elements is WLB because the two spheres of life are not mutually exclusive. Therefore, WLB arrangements, such as flexibility and childcare assistance, must be adopted, and employers must pay attention to achieve employees' WLB. In this way, WLB pooled with other elements, fosters organizational creativity (Florida & Goodnight, 2005).

Martin (2017) focused on the work environment and the work practices adopted in organizations. The author investigated the relationship between innovative work practices and employees' motivation and confirmed the positive role of innovative work practices, such as family-friendly policies, on employees' positive attitudes and motivation. Specifically, family-friendly policies are positively associated with employee attitudes and motivation. Family-friendly policies facilitate working-time arrangements, which, in turn, help employees find a favorable WLB that strengthens their autonomous motivations. Intrinsic motivation is a confirmed antecedent of creativity (Martin, 2017).

Lazăr *et al.,* (2010) demonstrated that some factors of organizational work-life culture might compromise the availability and use of WLB initiatives and practices. When work-life initiatives are provided in the context of supervisor and organizational support, they can reduce WLC and increase the organization's positive appraisals. These initiatives can also increase productivity and creativity. WLB initiatives combined with other organizational work-life culture factors affect creativity; if these factors act to reduce WLC, they also increase creativity (Lazăr *et al.,* 2010).

Aleksić *et al.,* (2017) focused on employee's perceptions and explored a three-way interaction of perceived time pressure, SWFB, and leader-member exchange (LMX) on individual creativity. The findings demonstrated that the interdependency of these factors determines two conditions that cause high creativity. In the first case, employees demonstrate high creativity when perceived time pressure and the quality of the LMX relationship were low, and SWFB was high. In the second case,

when perceived time pressure was high, the quality of both LMX and SWFB was low. These results contributed to understanding how personal and contextual factors interact to foster creativity. Furthermore, SWFB appeared as an important condition for an individual's creative activities. (Aleksić *et al.,* 2017).

Othman and Khalil (2018) in their study aims to develop a Learn Talent Management Framework to maximize creativity in architectural Design Firms (ADFs). Talent management is an innovative approach not only for fostering creativity but also for balancing work-life commitment, enhancing WLB. Therefore, WLB combined with the other variables needed for Talent Management may contribute to enhance individual creativity. The results suggest that the adoption of TM in ADFs, and therefore also ensuring a good level of WLB, will foster individual creativity (Othman & Khalil 2018).

In their recent contribution, Yang *et al.,* (2019) examined which factors affect and how they affect the servant leadership's influence on employee creativity. Among these factors, they considered work-family conflict, differentiating between work-to-family conflict (WFC) and FWC. They found that follower's psychological empowerment could partially mediate the relationship between servant leadership and employee creativity. The effectiveness of servant leadership could depend on the level of employee work-family conflict; hence, they concluded that WFC moderates the relationship between servant leadership and follower's psychological empowerment. This moderating role positively affects the relationship. In contrast, FWC is not as significant as a mediator. WFC is a boundary condition for the impacts of servant leadership on employees' creativity (Yang, Gu & Liu, 2019).

4.3.3 Group 3. Direct relationship

Articles in Group 3 are significant because they dealt explicitly with the direct impact of WLB on creativity or innovation. Among them, we also decided to include articles in which the study results did not confirm the hypothesis of direct relationship.

In their empirical paper, Thompson *et al.,* (1999) developed a measure of work-family culture based on three dimensions: managerial support for WLB, career consequences associated with utilizing work-family benefits, and organizational time expectations that might interface with family responsibilities. They have focused their attention on perceptions of a supportive work-family culture related to employees' use of work-family practices. Their assumptions were derived from

the idea that, by not fostering a more balanced work-family life for employees, organizations contribute to strains in employees' personal lives. The result is employees' ability to concentrate and be productive and creative on the job. The authors assumed a direct relationship between work-family balance and employee creativity, contemplating the negative effect resulting from an imbalances work-family life (Thompson, Beauvais & Lyness, 1999).

In two different studies, James (2011, 2014) focused attention on work-family practices and benefits, referred to as WLB arrangements. Observing the impact of these arrangements on organizational innovation, James supported the idea that the employer who makes available to employees those kinds of WLB arrangements can positively affect institutionalized learning and innovation environments within the firm. In this way, organizational innovation is fostered by the adoption of WLB policies. These policies allow workers to determine the temporal and spatial location of work and a self-identified improvement in worker's concentration, motivation, engagement, and creativity. At the same time, these policies are identified by workers as offering meaningful amelioration of everyday work-life conflicts (James, 2011, 2014).

Even the empirical study developed by Ong and Jeyaraj (2014) addressed the impact of work-life interventions on individual creativity at work. The authors investigated the differences between two WLB approaches that can be adapted to implementing work-life initiatives: work-life balance (WLB) and work-life harmony (WLH). WLH differs from WLB. In WLH, work and life are seen as integrated rather than competing domains; the complementary aspects of work and life are emphasized. The authors started with the idea that work-life initiatives enhance creativity and that individual creativity can be a measure of the efficacy of work-life initiatives. They argued that work-life initiatives affect creativity differently, depending on the approach adopted. Moreover, employees' self-perceptions of creativity were divided into two components: creativity self-efficacy (CSE) and creative personal identity (CPI). The authors' findings suggest that work-life initiatives adopting a WLH approach have a more significant facilitative impact on creative performance at work than WLB (Ong & Jeyaraj, 2014).

Cegarra-Navarro *et al.,* (2016) emphasized the importance of a WLB culture in small-medium enterprises (SMEs). The authors argued that organizational support for WLB, conceptualized as WLB culture, has a significant impact on employees' and organizational outcomes, extending beyond the mere implementation of formal WLB initiatives. A WLB culture positively influences innovation-related outcomes (IROs) such as the quality of new products or services and development capacity,

particularly in SMEs. They observed that to be innovative, someone needs to generate creative ideas; addressing individual creativity is the first step to innovation. However, organizational stress and workload, aspects of an unbalanced WLB culture, constrain creative thinking, and might inhibit innovative thinking. To adopt a WLB culture, organizations may create a *family-friendly* environment, which may stimulate the achievement of IROs. The authors assumed a direct impact of WLB culture on individual creativity and, following that, IROs (Cegarra-Navarro *et al.,* 2016).

Connected with the WLB culture is the recent paper written by McKersie *et al.,* (2019). They report on a two-part case study focusing on a specific aspect of WLB culture: family-supportive supervision (FSS). In the first empirical study, the authors revealed the value of FSS for organizations, examining the connection between FSS and creativity. FSS is a critical element of WLB and, at the same time, it serves as an explanatory mechanism linking supervisor support to enhanced employee creativity. The study results provided evidence that FSS improved employee creativity (McKersie *et al.,* 2019).

Support for employee creativity from work (supervisors/coworkers) and non-work (family/friends) sources was the subject of an article by Madjar *et al.,* (2002). The article concluded that support for creativity from an employee's family members and friends made independent contributions to employees' creative performance. Those contributions were over and above those made by supervisors or coworkers in the workplace who are not family or friends. Perceived support from family and friends contributes to employee's WLB perception. In contrast to the WFC, it represents a type of work-family enrichment to the extent it improves the quality of life at work. In this case, WLB directly impacts creative performance; non-work support is considered an antecedent of WLB (Madjar *et al.,* 2002).

Focusing on individual creativity, Prabu and Kalaiarasi (2020) in their empirical study examined the importance of work-life balance with respect to the productivity and creativity of the employees. According to the authors, a satisfactory balance between work and private life helps people to have an excellent working life. Consequently, this helps to increase employee's productivity and creativity (Prabu & Kalaiarasi 2020).

In a recent qualitative study, Lebuda and Csikszentmihalyi (2020) investigated the meaning that highly creative individuals (creators, scientists, and artists) attribute to intimate relationships with a romantic partner or a spouse and then discussed the significance of the work-life relationship for highly creative individuals' well-being and sense of success. Findings demonstrated that the

interactions of family life are significantly associated with creative work. More specifically, the functioning of the work-family mesosystem that creators see as normal enables, facilitates, or in other cases is a necessary condition for efficient creative work (Lebuda & Csikszentmihalyi, 2020).

The Innovative performance of scientists was investigated in the study developed by Ko *et al.,* (2020). The authors empirically explore how scientists' attitudes valuing gender equality and work-life balance might affect their innovative research performance. As a result, the scientists which believe that work–life balance is important, produce qualitatively superior innovative research outcomes. Therefore, this finding supports the importance of a satisfactory work-life balance to enhance the quality of the researcher's performance and consequently, the potential to create novel innovations (Ko *et al.,* 2020).

In their qualitative study of young professionals in law firms, Malhotra *et al.,* (2016) observed how career paths, initially made by organizations to address WLB outcomes, also enhance organizational innovation. Career paths represented antecedents of WLB. The authors demonstrated how changing career paths create win-win solutions, foster work-life preferences for employees, and to improve innovation capacity for the firm. In this way, it is possible to observe a direct impact of WLB on innovation. The degree of impact depends on supported career paths (Malhotra, Smets & Morris, 2016).

Unique is the relationship examined in the quantitative study by Tang *et al.,* (2017), in which the authors addressed the effects of a good marriage on workplace creativity. Employees' marital satisfaction can increase family-work resource spillover, thereby enhancing their workplace creativity. Family-work resource spillover is another concept referring to family-work enrichment. It represents the extent to which experiences in one role improve the quality of life in the other role. Family-work enrichment is included in the WLB concept. The authors also found that when an employee's spouse is satisfied with the marriage, the effect of the employee's marital satisfaction in family-work resource spillover is more pronounced and, thus, enriches workplace creativity. According to these findings, family-work enrichment directly impacts employee creativity (Tang *et al.,* 2017).

Spousal relationships at home and creativity at work were also studied by Harrison and Wagner (2016). In contrast to the study above, this paper examined how creativity at work affects relationships at home. For that reason, we have included it in Group 4.

An unexpected result emerged from an empirical study by Abstein *et al.,* (2014). The authors argued that HR systems could potentially foster IWB and affect WLB, thereby reducing work-life conflict (WLC). Specifically, the authors found that the HR system enhances IWB and reduces feelings of WLC, improving WLB. Beyond this finding is another impressive result. The authors found an unexpected positive effect of WLC on IWB. WLC was proven to affect IWB positively. However, the authors suggested that future research investigates the circumstances under which this relationship occurs to better understand this surprising effect (Abstein *et al.,* 2014).

In Group 3, we included all articles in which the authors hypothesized a direct relationship between the IWB domain and the Innovation domain. We also included three studies in which the hypothesis that WLB directly affects creativity was not confirmed. The first paper was written by Mihelič and Aleksić (2017), a multistudy research design developed to analyze the relationships between flow, SWLB, and creativity among millennials. In Study 1, the authors examined the direct relationship between SWLB and creativity. However, the findings did not confirm that SWLB is significantly related to creativity (Mihelič & Aleksić, 2017).

The second article, written by Choi *et al.,* (2017), examined the impact of WFC on employees' innovative behaviors and assessed the mediating role of organizational commitment and job satisfaction on that relationship. The authors hypothesized that WFC has a negative impact on IB. However, their findings did not demonstrate a direct effect. Instead, the authors found that WFC has a consequential negative impact on IB by reducing the organizational commitment. The authors concluded, therefore, that organizational commitment mediates the relationship of WFC to IB (Choi *et al.,* 2018).

The third article, recently developed by Kühnel *et al.,* (2020), aims to demonstrate that the use of personal social media at work help employees to coordinate work and nonwork demands, increasing the work-nonwork balance, which should in turn increase work-related creativity. The authors hypothesized that personal social media use was associated with better work-nonwork balance and that work-nonwork balance mediates the relationship between personal social media use and creativity. Findings support the first Hypothesis demonstrating that the use of social media at work was positively associate with work-nonwork balance. Instead, the other hypothesis was not supported. Work-nonwork balance did not mediate the relationship between personal social media use and creativity. Work-nonwork balance is not directly related to creativity (Kühnel *et al.,* 2020).

4.3.4 Group 4. Blurred, inverted, or no relationship

Group 4 is a bundle of different components: the one in which the relationship between WLB and innovation has been considered *blurred*; the curious *inverted* strand is one in which the relationship examined is the opposite, or the one in which the relationship between the two themes has not been clearly analyzed.

Three articles addressed the blurred relationship between WLB and innovation. Jaussi *et al.,* (2010) focused their attention on creative personal identity (CPI), an aspect not previously considered in empirical investigations of creativity at work. The authors found a positive relationship between CPI and creativity at work. They demonstrated that the relationship is stronger when individuals applied nonwork experiences in efforts to solve work-related problems. Thinking about all domains of his or her life, when happening cross-apply situations (between and nonwork), an individual will exhibit his or her CPI more completely. Thus, in this case, there is a positive spillover from life to work that connected the two spheres of life and improved the quality of work through creativity (Jaussi *et al.,* 2014).

Through a longitudinal study, Binnewies *et al.,* (2009) investigated relations between positive and negative nonwork experiences (feeling recovered and thinking about the positive and negative aspects of one's work during leisure time) and different job performance dimensions among which there is creativity. The findings demonstrated that the feelings recovered during leisure time do not predict an increase in creativity. Positive work reflection predicts an increase in creativity, while negative work reflection is unrelated to job performance in general, which also includes creativity. Overall, the results emphasized the role of positive non-work experiences for employees' job performance and, thus, creativity (Binnewies *et al.,* 2009).

In the third article, Knudsen and Schleimer (2020) examined the relationship existing between the flexible work arrangements (FWAs) and innovation performance. According to the results, there is a positive relationship between flexible working arrangements (FWAs) and innovation performance. Therefore, as explained by the authors, FWAs hold several benefits for the organization including higher individual productivity and higher creative and innovative outcomes. At the same time, FWAs are strictly connected with WLB, are antecedents of WLB. Due to this, through the availability and use of FWAs the employees may achieve a better balance between work and private life (Knudsen & Schleimer, 2020).

The inverted strand included two papers. In the first, Harrison and Wagner (2016) examined how creativity at work impacts relationships at home. The authors identified two types of creative behaviors based on the phases of the innovation process. The first is *variance-focused creative behaviors*, which includes problem identification, information searching, and idea generation. The second is *selection-focused creative behaviors* or idea validation. The results demonstrated a direct connection between creative behaviors and relationships at home. Variance-focused creative behaviors predicted less time spent with a spouse at home. In contrast, selection-focused creative behaviors predicted more time spent with a spouse (Harrison & Wagner, 2016).

In the other article, the relationship was less direct or clear. The authors investigated whether the need for work-life equilibrium, together with additional needs, influences the creative entrepreneur's intention to quit. The findings underscored the importance of entrepreneurial creativity, which reduces the creative entrepreneurs' intent to quit by reinforcing their motivation for career achievement and the need for work-life equilibrium. However, entrepreneurial creativity does not directly affect the creative entrepreneurs' need for WLB (Chen *et al.,* 2017).

The last strand in Group 4 included four articles. The first, developed by Sirgy *et al.,* (2001), presents a new measure of the QWL. It is designed to capture the extent to which employees' work environment, job requirements, supervisory behavior, and ancillary programs are perceived by employees to meet their needs within an organization. Among employees' needs, the authors included family needs, balancing work and life needs, aesthetics needs, and maintaining creativity at work. WLB and creativity are communized by the implication to be critical needs for an employee (Sirgy *et al.,* 2001).

In the second article Michel (2011) developed a nine-year ethnography to investigate the dynamic relationship between organizational control and body action roles in two investment banks. He explored how the bankers' relations to their bodies evolve and the organizational consequences. The results demonstrated that WLB is affected by the type of organizational control; visible cognitive controls target the mind and highlight autonomy and WLB. In contrast, less visible embodied controls encourage indiscriminate overwork, erasing distinctions between work and leisure. Creativity was examined because it was considered an essential aspect of performance. Accordingly, the author concluded that creativity is affected by evolving body action roles (Michel, 2011).

In the third article Lacan (2019) addressed management in our postmodern society and included WLB and creativity as fundamental elements. Postmodern management practices must create well-being and a cooperative and convivial atmosphere at work. Further, it must encourage collaborators to express emotions, both for greater personal performance and the interest of the organization. Individual creativity has made a comeback and has become more valuable (Lacan, 2019).

Finally, Parameswaran (2020) focusing on the importance of strategic human resource development (SHRD) and related practices in organizations, investigated the existing relationship between four independent variables and SHRD. Among these four variables the author considers individual creativity and also the ability to balance work and private life (focusing on its impact on career planning). Results demonstrated that all the selected variables showed a positive relationship with strategic HRD activities. Therefore, both creativity and WLB are strictly connected with SHRD. Furthermore, the author suggested that for an employee, to achieve and maintain a good WLB and perform well in his/her various roles (e.g., parent, citizen, and worker) it is needed training and development programs from organizations, learning assistance programs, and adequate mentoring. (Parameswaran, 2020).

4.3.5 How does work-life balance impact creativity and innovation?

The most significant contributions to understanding how WLB impacts creativity and innovation have emerged from articles included in Group 3 (16 out of 45). These contributions hypothesized that WLB and other related concepts directly affect innovation or creativity. The results confirmed, almost unanimously, this hypothesis: WLB impacts directly and positively on the innovation topic. There are only three exceptions, which challenged the existence of a direct relationship between the two domains, but later confirmed a consequential relationship (Choi *et al.,* 2018; Kühnel *et al.,* 2020; Mihelič & Aleksić, 2017). However, creativity and innovation are different but strictly related constructs. For a clear understanding of that relationship, the two concepts must be distinguished. Among the papers included in this group, nine dealt with creativity; eight at the individual level and one at both the individual and organizational level. All of them confirmed that work-life-balance affects individual creativity directly and positively. Four papers focused on innovation, two on innovative work behavior (IWB), one on the individual innovative performance, and one on the capacity for organizational innovation. It is interesting to note that the two articles about IWB

investigated the relationship between WFC (work-family conflict) and IWB, demonstrating that WFC inhibits innovation. The last three articles dealt with individual creativity and organizational innovation, concluding that WLB enhances individual creativity and boosts innovation at the corporate level.

Consistent with this positive relationship, studies that rely on a consequential relationship between the two domains (11 out of 45), have confirmed the positive, but in this case consequent, impact of WLB on creativity and innovation. Differentiating between the two concepts, only three contributions, have dealt with both: individual creativity which affects the organizational innovation, confirming a positive and consequential relationship. Four articles confirmed that WLB positively and in a consequential way affects creativity; three focused on the individual level and one on the group level. Another article dealt with work-family conflict (WFC) and creativity both at the individual and organizational level. The remaining three (of eleven) papers addressed innovation; two at the individual level (IWB) and one at the organizational level. All of these results confirmed that positive and consequential relationship. Two cases demonstrated the consequent and negative impact of WFC on individual creativity and IWB because WFC means an imbalance between work and private life (Chen & Huang, 2016; Van Dyne *et al.,* 2003). On the contrary, only one article (Zhang *et al.,* 2020) demonstrated that WFC conflict positively and indirectly influences sustainable creative performance through job crafting.

Focusing on the joined relationship between WLB and innovation or creativity, the results in Group 2 (11 out of 45) differed from study to study due to the number of variables contemplated. Overall, however, these combinations of variables, including WLB, have had a positive impact. Six of the eleven articles dealt with creativity, five at the individual level, and one at both the individual and organizational levels. Three of the papers addressed innovation at both the individual and organizational levels. The last two articles considered both individual creativity and organizational innovation. The positive impact of these many variables, also including WLB, was confirmed by results. In four of the eleven articles, WFC was the focus. It was found to inhibit creativity and the innovativeness of individuals and organizations.

The articles in Group 4 (9 out of 45), which identified the blurred or inverted relationship between the two domains, confirmed the positive relationship between WLB and creativity. Eight articles addressed creativity at the individual level, and only one article dealt with innovation both at the individual and organizational level (Knudsen & Schleimer).

Based on the study results, and regardless of the type of relationship, WLB was found to impact creativity and innovation at different levels of analysis positively (Figure 6). In most cases, the positive impact occurred at the individual level (43 out of 45), it has affected the individual creativity (33 out of 45) or the innovative work behavior (10 out of 45), and then has moved the overall process of organizational innovation.

5. Discussion

This systematic literature review sheds light on the relationship between WLB and creativity and innovation to understand how WLB affects these two closely-related traits. There is a vast amount of research on the consequences of WLB, especially the adverse effects, which impact individual work, life satisfaction, well-being, physical and mental health, and work performance (Guest, 2002; Kelly *et al.,* 2008). Some authors have also considered creativity at the individual level and innovation at both the individual and organizational levels. Therefore, it was worthwhile to determine if creativity and innovation are included among these consequences; that means to verify if WLB might enhance individual creativity and contribute to fostering organizational innovation as proposed in previous studies (Alegre & Pasamar, 2018; Aleksić *et al.,* 2017; James, 2011, 2014; Mihelič & Aleksić, 2017).

Consistent with the goal of this paper, we classified 45 selected articles according to the type of existing relationship; four groups emerged. Based on the theoretical perspectives of the studies included in Groups 1 and 2, we concluded that two theories on innovation and creativity were appropriate for describing the existing relationships.

The consequential relationships identified in the Group 1 articles were reminiscent of the *interactionist* perspective of organizational creativity developed by Woodman *et al.,* (1993). In the *interactionist model of organizational creativity*, Woodman *et al.,* proposed that "creativity is the complex product of a person's behavior in a given work situation" (1993: 294). The work situation is characterized by contextual (e.g., physical environment) and social (e.g., rewards) influences that foster or inhibit creative accomplishment. In addition, a person is also affected by antecedent conditions (e.g., biographical variables), cognitive style, and abilities (e.g., divergent thinking and practical ideational fluency), personality factors (e.g., locus of control, self-esteem), relevant knowledge, and intrinsic motivation. This complex interaction of person and situation is repeated at several levels: individual, team, and organizational. In this model, creativity at the individual level

is a function of antecedent conditions and individual and contextual factors. The antecedent conditions have a twofold role: 1) influencing the personality and cognitive characteristics of the individual and 2) helping to determine the current situation in which the individual finds himself or herself (Woodman *et al.,* 1993).

We assume that WLB could be included in this model among the antecedent conditions, located in every employee's background and influencing, both positively and negatively, the employee's personality and cognitive characteristics as argue in the literature (Greenhaus & Beutell, 1985; Greenhaus & Powell, 2006). In this way, WLB in a consequential way affects individual creativity, impacting cognitive styles and abilities, personality traits, motivation, or knowledge. These impacts could affect organizational creativity. At the organizational level, creativity is a function of individual and group creativity outcomes and contextual influences (e.g., organizational culture, reward systems, and resource constraints) (Woodman *et al.,* 1993). However, for the aim of in this paper we don't consider the environmental dimension, focusing our attention mainly on the managerial aspects, at all the level of analysis: individual, group, organization. In this way, we exclude from our review the contextual influences that, on the contrary, are contemplated in the model of Woodman and colleagues.

For the studies in Group 2, which promoted a *joined* impact on innovation or creativity, we believe this relationship is similar to the *componential theory of organizational creativity and innovation* developed by Amabile in 1988. This theory is grounded on the premise that "in considering how innovation happens in an organization, it is essential to understand how creativity happens in the individual" (Amabile, 1988: 150). Individuals, working alone or in groups, produce new and useful ideas that may be implemented by the organization. Amabile introduced the *creativity intersection*, which represents the area of overlap between three necessary components of individual creativity: resources (domain-relevant skills), techniques (creativity-relevant skills), and motivation (intrinsic motivation). The area of overlap is the "area of highest probability of individual creativity" (Amabile, 1988: 156). The higher the level of each of the three components, the greater the final level of individual creativity. According to this theory, creativity is the intersection of many components influenced by the environment. Creativity emerges at the intersection of these components. We assume that WLB could be a potential factor that, together with other features, could lead to creativity. In this case, WLB would not directly impact creativity but, combined with other components, could influence creativity.

Both the theories developed by Amabile (1998) and Woodman *et al.,* (1983), are included among the six influential theoretical perspectives and models identified and discussed by Anderson *et al.,* (2014) in their review of creativity and innovation. Additionally, the interactionist model of organizational innovation is one of the most frequently used conceptual frameworks to explain the interactions between the contextual and individual factors that might affect creativity at work (Anderson *et al.,* 2014). The componential theory of organizational creativity is the oldest and still widely cited theory to attempt a comprehensive description of both individual creativity and organizational innovation (Amabile & Pratt, 2016). By giving a clear definition of individual creativity and organizational innovation, Amabile differentiates these two strictly related concepts, emphasizing that in the organizational innovation's process, the entire process of individual creativity must be considered as a crucial element (Amabile, 1988). That role supports our decision to investigate the impact of WLB on both innovation and creativity at both the individual and corporate level of analysis. Among the studies on individual creativity or organizational innovation that we reviewed, almost all referred to Amabile's definitions.

Another theoretical contribution emerged from our classification with respect to articles in Group 3, which have assumed a direct impact. Although more than one-third of authors (16 out of 45 articles) have advanced this direct relationship, to our knowledge, this collection of literature has no theoretical foundation on existing creativity and innovation theories. Closely analyzing the theoretical framework from these studies showed a lack of theoretical references that could justify direct connections between WLB and innovation. Regarding the motivations used by the authors to support this type of direct relationship, there are no references to theories that support this direct relationship. However, given empirical evidence of this relationship, the theoretical basis of this direct impact might be investigated more accurately. It might be possible to find an opportunity for future advancements of the theory or possible explanations leading to psychological theories rather than innovation theories.

The primary finding that emerged from our classification, regardless of the type of relationship, is the positive impact of WLB on creativity and innovation at the different levels of analysis. For the sake of completeness, we consider WLB to be an umbrella term covering all the concepts developed in the work-life literature. The conflict perspective differs from the others (Guest, 2002); *WFC* and *WLC* focus attention on sources of conflict, leading to an *imbalance* between work and the rest of life (Frone *et al.,* 1997; Greenhaus & Beutell, 1985; Kelly *et al.,* 2008). For this reason, studies that

dealt with this conflict perspective (10 articles out of 45), focusing at the individual level, revealed a negative impact on individual creativity or innovative work behavior (IWB) (Chen & Huang, 2016; Chen *et al.,* 2018; Lazăr *et al.,* 2010; Yang *et al.,* 2019). We found only two exceptions, in the first one, findings proved WLC's positive effect on innovative work behavior (IWB) (Abstein *et al.,* 2014). In the second, WFC is indirectly and positively related with a sustainable creative performance (Zhang *et al.,* 2020). However, to better understand these surprising effects, the authors have suggested further research to understand the circumstances in which this relationship occurs (Abstein *et al.,* 2014), and to better explain these inconsistencies with previous studies on the negative consequences of work-family conflict (Zhang *et al.,* 2020).

Considering the goal of this paper, to explore how WLB affects creativity and innovation, it is interesting to consider how the 45 selected articles dealt with these two related constructs and if or how the authors have differentiated them. The majority of the studies focused on creativity (26 articles out of 45) rather than innovation (11 articles out of 45). Eight articles dealt with both attributes. However, papers that dealt with both creativity and innovation have not given a clear definition of the two traits; and often have not specified the connection between them (Allen *et al.,* 2015, Cegarra-Navarro, 2016; Dediu *et al.,* 2018; Gomes *et al.,* 2020; James, 2011, 2014). Therefore, there has been no clarity about how WLB affects creativity and, in turn, organizational innovation. For this reason, more clarity in definitions is required when examining this relationship.

A more accurate approach was adopted by authors addressing creativity at the individual level. When the authors discussed creativity, in most cases, they have defined it clearly. They generally have referred to Amabile's definition, widely used in the literature: "Creativity is the production of novel and useful ideas by an individual or a small group of individuals working together." (Amabile, 1988: 126). They generally specified that employee creativity significantly contributed to organizational innovation, effectiveness, and survival. Additionally, they argued the increasing importance for organizations to understand how to foster employee creativity (Aleksić *et al.,* 2017; Calvin Ong & Jeyaraj, 2014; Harrison & Wagner, 2016; Jaussi *et al.,* 2007; Kühnel *et al.,* 2020; Madjar *et al.,* 2002; McKersie *et al.,* 2019; Othman& Khalil, 2018; Tang *et al.,* 2017).

In the articles on innovation, a distinction must be made between those that addressed innovation at the organizational level and those that addressed it at the individual level: innovative work behavior (IWB). Papers focusing on the organizational level have taken the definition of

innovation for granted, focusing primarily on its importance for surviving in a competitive environment (Chen *et al.,* 2018; Choi *et al.,* 2020; Johri, 2010; Knudsen & Schleimer, 2020; Malhotra *et al.,* 2016). In contrast, when authors have referred to innovation at the individual level, which in our selected articles always corresponded to IWB, they have defined the trait and distinguished IWB from the quality of individual creativity. Authors have contended that creativity is an essential element of IWB; it is the first phase of the innovation process focusing only on the production of new and useful ideas, but not their implementation (Abstein *et al.,* 2014; Choi *et al.,* 2018; Dediu *et al.,* 2018; Mishra *et al.,* 2019).

Although most studies examined the relationship at an individual level, with a primary focus on creativity rather than innovation, we believe the authors also supported the idea that today, individual creativity is essential in fostering an organization's innovative potential (e.g., Aleksić *et al.,* 2017; Dediu *et al.,* 2018; Kühnel *et al.,* 2020). This, in turn, is significant for the organization's survival in more competitive markets (Shalley *et al.,* 2004). Individual creativity represents *"one of the individual characteristics paramount for achieving organizational success"* (Aleksić *et al.,* 2017: 662). Due to the strategic relevance of individual creativity, the findings in our review contribute significantly to several studies that examined personal and contextual factors to enhance or inhibit creativity (Shalley *et al.,* 2004). Those factors support the positive relationship that exists between WLB and individual creativity.

Based on our results, we assume that the positive impact of WLB on creativity occurs primarily at the individual level. It represented the first step in IWB, after which it could foster organizational innovation. We believe that contributions made to WLB and organizational innovation, without the mediation of creativity or IWB, have generalized this impact due to the lack of clarity in the definition of innovation at the organizational level (Secret, 2005). However, WLB also represents a driver of the organization's innovation if it does not impact it directly. Accordingly, we assume that if an employer pays considerable attention to an employee's WLB, they might enhance individual creativity and increase the possibility of enhancing organizational innovation.

In adopting a subjective point of view of WLB based on employee's perception of balance between work and other spheres of life, how does an employer foster WLB? In the effort to answer this question, some suggestions and insights have emerged from the reviewed articles, especially those that confirmed a direct relationship between the two domains (Cegarra-Navarro *et al.,* 2015; James, 2011, 2014; Thompson *et al.,* 1999).

From an employer's point of view, to facilitate employees' reconciliation between working and private life, the first aspect to consider, emphasized in several contributions, is the adoption of WLB arrangements "to help workers integrate work with a variety of other life responsibilities, interests, and commitments" (James, 2014: 275). In a previous paper, the same author provided a list of these arrangements, which, according to the WLB literature, are classified into four categories:

1. FWAs, designed to give workers greater flexibility in the scheduling and location of work (e.g., flextime, telecommuting, and job sharing).

2. Policies to reduce total working hours (e.g., part-time and compressed workweeks).

3. Policies and benefits providing leave for family caregiving and other personal commitments (e.g., extra paternity and maternity leave, study leave, and leave for caring for elder relatives).

4. Policies providing workplace support for parents (e.g., in-side or off-side employer-subsidized childcare) (James, 2011).

According to James (2011), many studies measured various relationships between the implementation of specific WLB arrangements and specific firm performance outcomes. They included increased productivity, improved employee retention and recruitment, and reduced turnover and absenteeism. However, creativity and innovation were not considered (James, 2011).

Aside from the potential benefits of these arrangements, it is essential to remember that the mere adoption of these policies is not sufficient to support WLB. As observed by Gomes *et al.,* (2020) WLB practices alone do not impact innovation (Gomes *et al.,* 2020). This statement is better explained by Cegarra-Navarro *et al.,* (2015) which argued that the existence of these arrangements does not guarantee their use. The organizational support for WLB affects employee and organizational outcomes rather than the implementation of formal WLB policies. This organizational support comprises the WLB culture, which becomes essential for employees and their families (Cegarra-Navarro *et al.,* 2015).

The organizational culture plays an essential role in facilitating or hampering employees' attempts to balance work and family responsibilities by acting on the employee's perception of WLB. Thompson *et al.,* defined the work-family culture as "the shared assumptions, beliefs, and values regarding the extent to which an organization supports and values the integration of employees' work and family lives" (Thompson *et al.,* 1999). Employees' perceptions of the organization's work-family culture influence their attitudes and decisions about using WLB arrangements. For this reason, organizations interested in improving their innovativeness and

employees' creativity must emphasize the work-family culture. As suggested by Thompson *et al.,* (1999) in their widely cited paper, there are at least three primary components of work-family culture: the managerial support and sensitivity to employees' family responsibilities; the career consequences associated with utilizing work-family benefits, and the organizational time demands or expectations compel employees to prioritize work over family and possibly interfere with family responsibilities (Thompson *et al.,* 1999).

There are three essential aspects to consider when enhancing employees' WLB perceptions. Prominent among them is managerial support for work-family balance. That support is closely linked with the concept of FSS, defined as supervisor empathy and actions that help employees manage work and family (Thomas & Ganster, 1995). Among our articles, the one written by McKersie *et al.,* addresses FFS and employee creativity. Their findings showed that FSS is positively associated with employee creativity and that intrinsic motivation and meaningfulness act as explanatory process variables linking FSS to creativity.

These findings and insights provide managers with a better understanding of the importance of managerial support for employees' WLB perceptions and how to enhance individual creativity. Implementing a WLB culture is the first step to consider in fostering the adoption of WLB arrangements. Their practical use can enhance the employee's perceived balance between work and life, which might foster individual creativity and promote organizational innovation.

6. Conclusions, limitations, and directions for future research

In this ever-changing world, creativity is a crucial driver of organizational innovation and the capacity to survive in competitive markets. Our review highlighted WLB as a critical element available to employers to foster individual creativity. With this paper, we aim to reinforce the importance of an appropriate balance between work and the other aspects of life, not only for employees' well-being, as the literature has amply demonstrated (Eby *et al.,* 2005; Greenhaus & Allen, 2011), but for organizational innovation. The relationship between WLB and innovation might represent a probabilistic and not deterministic causation, and WLB may not be a necessary or sufficient condition for innovation (Alegre & Pasamar, 2017). However, this review supports the idea that WLB is a paramount facilitator of innovation.

It is also necessary to point out the limitations of this paper to interpret our results. First, we conducted this systematic review using two major databases, Scopus and Web of Science. However,

it could be performed on other databases such as PsycINFO, which is associated more with behavioral science and mental health. Second, the authors' selection criteria and the keyword search were subjectively designated; other researchers might have made different selections. Third, the choice to consider both creativity and innovation at all levels of analysis (individual, group, and organization) could lead to some confusion among the findings. Nevertheless, the choice was made in the interest of thoroughness. Finally, given the limited number of articles selected, it might appear risky to generalize findings concerning the types of relationships and their impacts. In the end, we believe this gap will encourage further investigation of these relationships through additional research.

We acknowledge the limited number of studies and the potential gaps identified in this review of the existing literature. In response, we suggest that further research is needed to expand the results of this literature review, i.e., including additional keywords for the keyword search and enlarge the selection criteria choosing the most important articles in the field, known as the "citation classics" approach (Massaro *et al.,* 2016).

Additionally, we believe that empirical contributions are desirable to determine if positive employee perceptions of WLB correspond to high levels of creative and innovative contributions. Future studies might also explore whether adopting a WLB culture affects employees' attitudes and intentions to use WLB arrangements (Thompson *et al.,* 1999). Those studies might also assess individual creativity before and after adopting WLB arrangements in an organization in which a work-life culture is embedded.

In the interest of better investigating the overarching theories of WLB, we recommend that future theoretical exploration might be undertaken on how the mechanisms linking work and family (Edwards & Rothbard, 2000) could also affect creativity at work. Worthwhile for additional theoretical exploration is the second part of the paper by Edwards and Rothbard (2000).

It may also be of interest to investigate how our results may affect different segments of the population; to test the hypotheses that females (James, 2011, 2014) and millennials (Mihelič & Aleksić, 2017) are more responsive to an appropriate balance between work and life.

Additionally, based on our results, it would be useful to examine further how different leadership styles (Alblooshi *et al.,* 2020) influence the relationships between WLB, creativity, and innovation.

Alegre and Pasamar recommended future qualitative research to assess the connection between WLB and other objective assessments of innovativeness, as the number of R&D patents or new products developed (Alegre & Pasamar, 2017). That research could provide the means to support or disconfirm the assumption that WLB is a new way to assess firm innovativeness.

Moreover, we argue that the two innovation theories (Amabile, 1988; Woodman *et al.,* 1993) we identified as possible theoretical foundations for the *consequential* and *joined* relationships are not sufficient to explain the effect of WLB on creativity. Further research may better illuminate the theoretical foundations from which this relationship arose, especially the *direct* relationship. A possible outcome may be that a new theory will advance from this gap in the literature, as called for by Powell *et al.,* (2019), in their recent introduction to a special topic forum about new work-life theory.

This systematic literature review is the first out of three contributions that composed the "three papers" format Ph.D. thesis. More specifically, the literature review shed light on the state of the art of the literature concerning the relationship between WLB and creativity or innovation. The second and the third paper of this thesis revolve around the need to fulfill the gaps emerged from this literature review. The systematic literature review has demonstrated that WLB impacts mainly at the individual level of analysis. From an employer's point of view, to facilitate employees' reconciliation between working and private life, the first aspect to consider, is the adoption of WLB arrangements, also named family-friendly workplace practices (FFWPs) (Bloom *et al.,* 2011). However, previous contributions that have dealt with WLB arrangements have focused mainly on organizational innovation (e.g., Cegarra-Navarro *et al.,* 2015; James, 2011, 2014), bypassing the impact at the individual level. Therefore, to fulfill this gap the second paper of this thesis will focus on the individual level of analysis and investigate how FFWPs impact the employee's innovative work behavior.

Additionally, to narrow the scope of the research, in the third paper of this thesis we will focus our attention on a specific Flexible Work Arrangement (FWA): remote working (i.e., telecommuting). Remote working is strictly related with the changes in the nature of work, specifically in the place, time, and way of working, bringing to a situation in which the boundaries between work and family might be even more blurred. However, the existing research does not confirm that remote working has a negative impact on work-home conflict, and the studies' results are inconsistent. At the same

time, to our best knowledge, no previous studies considered innovation or creativity in the context of remote working. Therefore, on the lack of previous literature, the third paper aims to investigate how the employee's innovative work behavior persists during a remote working situation.

References

Abstein, A., Heidenreich, S., & Spieth, P. (2014). Innovative Work Behaviour: The Impact of Comprehensive HR System Perceptions and the Role of Work-Life Conflict. *Industry and innovation, 21*(2), 91–116. https://doi.org/10.1080/13662716.2014.896159

Alblooshi, M., Shamsuzzaman, M., & Haridy, S. (2020). The relationship between leadership styles and organisational innovation. *European Journal of Innovation Management*. DOI 10.1108/EJIM-11-2019-0339

Alegre, J., & Pasamar, S. (2018). Firm innovativeness and work-life balance. *Technology Analysis and Strategic Management, 30*(4), 421–433. https://doi.org/10.1080/09537325.2017.1337091

Aleksić, D., Mihelič, K. K., Černe, M., & Škerlavaj, M. (2017). Interactive effects of perceived time pressure, satisfaction with work-family balance (SWFB), and leader-member exchange (LMX) on creativity. *Personnel Review, 46*(3), 662–679. https://doi.org/10.1108/PR-04-2015-0085

Allen, T. D., Golden, T. D., & Shockley, K. M. (2015). How effective is telecommuting? Assessing the status of our scientific findings. *Psychological Science in the Public Interest, 16*(2), 40–68.

Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview.

Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in organizational behavior, 10*(1), 123-167.

Amabile, T. M. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. *California management review, 40*(1), 39-58.

Amabile, T. M., & Pratt, M. G. (2016). The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. *Research in Organizational Behavior*, *36*, 157-183.

Anderson, N., De Dreu, C. K., & Nijstad, B. A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of organizational Behavior, 25*(2), 147-173.

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of management, 40*(5), 1297-1333.

Baral, R., & Bhargava, S. (2010). Work-family enrichment as a mediator between organizational interventions for work-life balance and job outcomes. *Journal of managerial psychology*, 25(3), 274-300.

Barnett, R. C. (1998). Toward a review and reconceptualization of the work/family literature. *Genetic Social and General Psychology Monographs, 124*(2), 125-184.

Barnett, R. C., & Hyde, J. S. (2001). Women, men, work, and family: An expansionist theory. *American psychologist, 56*(10), 781.

Beauregard, T. A., & Henry, L. C. (2009). Making the link between work-life balance practices and organizational performance*. Human resource management review, 19*(1), 9-22.

Binnewies, C., Sonnentag, S., & Mojza, E. J. (2009). Feeling Recovered and Thinking About the Good Sides of One's Work. *Journal of Occupational Health Psychology, 14*(3), 243–256. https://doi.org/10.1037/a0014933

Bloom, N., Kretschmer, T., & Van Reenen, J. (2011). Are family-friendly workplace practices a valuable firm resource?. *Strategic Management Journal, 32*(4), 343-367.

Calvin Ong, H. L., & Jeyaraj, S. (2014). Work–life interventions: Differences between work–life balance and work–life harmony and its impact on creativity at work. *SAGE Open, 4*(3). https://doi.org/10.1177/2158244014544289

Casper, W. J., Vaziri, H., Wayne, J. H., DeHauw, S., & Greenhaus, J. (2018). The jingle-jangle of work–nonwork balance: A comprehensive and meta-analytic review of its meaning and measurement. *Journal of Applied Psychology, 103*(2), 182.

Cegarra-Navarro, J.-G., Sánchez-Vidal, M.-E., & Cegarra-Leiva, D. (2016). Linking Unlearning with Work-Life Balance: An Initial Empirical Investigation into SMEs. *Journal of Small Business Management, 54*(1), 373–391. https://doi.org/10.1111/jsbm.12151

Chang, A., McDonald, P., & Burton, P. (2009). Methodological choices in work-life balance research 1987 to 2006: a critical review. *The International Journal of Human Resource Management, 21*(13), 2381-2413.

Chen, M.-H., Chang, Y.-Y., Wang, H.-Y., & Chen, M.-H. (2017). Understanding Creative Entrepreneurs' Intention to Quit: The Role of Entrepreneurial Motivation, Creativity, and Opportunity. *Entrepreneurship Research Journal, 7*(3). https://doi.org/10.1515/erj-2016-0001

Chen, Y.-S., & Huang, S. Y. J. (2016). A conservation of resources view of personal engagement in the development of innovative behavior and work-family conflict. *Journal of organizational change management, 29*(6), 1030–1040. https://doi.org/10.1108/JOCM-11-2015-0213

Chen, Y., Jiang, Y. J., Tang, G., & Cooke, F. L. (2018). High-commitment work systems and middle managers' innovative behavior in the Chinese context: The moderating role of work-life conflicts

and work climate. *Human Resource Management, 57*(5), 1317–1334. https://doi.org/10.1002/hrm.21922

Choi, S. B., Cundiff, N., Kim, K., & Akhatib, S. N. (2018). The Effect of Work-Family Conflict and Job Insecurity On Innovative Behaviour of Korean Workers: The Mediating Role of Organisational Commitment and Job Satisfaction. *International Journal of Innovation Management, 22*(1). https://doi.org/10.1142/S1363919618500032

Choi, D. S., Sung, C. S., & Park, J. Y. (2020). How does technology startups increase innovative performance? The study of technology startups on innovation focusing on employment change in Korea. *Sustainability, 12*(2), 551.

Clark, S. C. (2000). Work/family border theory: A new theory of work/family balance. *Human relations, 53*(6), 747-770.

Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of management studies, 47*(6), 1154-1191.

Dediu, V., Leka, S., & Jain, A. (2018). Job demands, job resources and innovative work behaviour: a European Union study. *European Journal of Work and Organizational Psychology, 27*(3), 310-323.

Demerouti, E., Derks, D., Lieke, L., & Bakker, A. B. (2014). New ways of working: Impact on working conditions, work–family balance, and well-being. In *The impact of ICT on quality of working life*. Springer, Dordrecht, 123-141.

Dex, S., & Scheibl, F. (1999). Business performance and family-friendly policies. *Journal of general management, 24*(4), 22-37.

Drazin, R., Glynn, M. A., & Kazanjian, R. K. (1999). Multilevel theorizing about creativity in organizations: A sensemaking perspective. *Academy of management review, 24*(2), 286-307.

Eikhof, D. R. (2007). Introduction: what work? What life? What balance?. *Employee relations, 29*(4), 325-333 https://doi.org/10.1108/er.2007.01929daa.001

Eby, L. T., Casper, W. J., Lockwood, A., Bordeaux, C., & Brinley, A. (2005). Work and family research in IO/OB: Content analysis and review of the literature (1980–2002). *Journal of vocational behavior, 66*(1), 124-197.

Edwards, J. R., & Rothbard, N. P. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *Academy of management review, 25*(1), 178-199.

Florida, R., & Goodnight, J. (2005). Managing for creativity. *Harvard Business Review, 83*(7–8), 124-131+193. Retrieved from https://www.scopus.com/inward/record.uri?eid=2-s2.0-21944449156&partnerID=40&md5=110de471b1c594dac781f0d563022222

Frone, M. R. (2003). Work-family balance. *Handbook of occupational health psychology, 7*, 143-162.

Frone, M. R., Russell, M., & Cooper, M. L. (1997). Relation of work–family conflict to health outcomes: A four-year longitudinal study of employed parents. *Journal of Occupational and Organizational psychology, 70*(4), 325-335.

George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: an interactional approach. *Journal of applied psychology, 86*(3), 513.

George, J. M., & Zhou, J. (2002). Understanding when bad moods foster creativity and good ones don't: the role of context and clarity of feelings. *Journal of applied psychology, 87*(4), 687.

Gomes, G., Seman, L. O., & De Montreuil Carmona, L. J. (2020). Service innovation through transformational leadership, work-life balance, and organisational learning capability. *Technology Analysis & Strategic Management*, 1-14.

Greenblatt, E. (2002). Work/life balance: Wisdom or whining. *Organizational Dynamics, 31*(2), 177-193.

Greenhaus, J. H., Allen, T.D. (2011). Work-family balance: A review and extension of the literature. In Tetrick L., Quick J.C. (Eds.), *Handbook of occupational health psychology* (2nd ed., pp. 165–183). Washington, DC: American Psychological Association.

Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. Academy of management review, 10(1), 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*(3), 510-531.

Greenhaus, J. H., & Powell, G. N. (2006). When work and family are allies: A theory of work-family enrichment. *Academy of management review, 31*(1), 72-92.

Greenhaus, J. H., & Powell, G. N. (2016). *Making work and family work: From hard choices to smart choices.* Routledge.

Grzywacz, J. G., & Carlson, D. S. (2007). Conceptualizing work—family balance: Implications for practice and research. *Advances in developing human resources, 9*(4), 455-471.

Grzywacz, J. G., & Marks, N. F. (2000). Reconceptualizing the work–family interface: An ecological perspective on the correlates of positive and negative spillover between work and family. *Journal of occupational health psychology, 5*(1), 111.

Guest, D. E. (2002). Perspectives on the study of work-life balance. Social Science Information, 41(2), 255-279.

Harrison, S. H., & Wagner, D. T. (2016). Spilling outside the box: the effects of individuals' creative behaviors at work on time spent with their spouses at home. *Academy of management journal, 59*(3), 841–859. https://doi.org/10.5465/amj.2013.0560

Hirst, G., Van Knippenberg, D., & Zhou, J. (2009). A cross-level perspective on employee creativity: Goal orientation, team learning behavior, and individual creativity. *Academy of management journal*, *52*(2), 280-293.

Howell, L. P., Servis, G., & Bonham, A. (2005). Multigenerational challenges in academic medicine: UCDavis's responses. *Academic Medicine, 80*(6), 527–532. https://doi.org/10.1097/00001888-200506000-00003

Hughes, D. J., Lee, A., Tian, A. W., Newman, A., & Legood, A. (2018). Leadership, creativity, and innovation: A critical review and practical recommendations. *The Leadership Quarterly*, *29*(5), 549-569.

James, A. (2011). Work-life (IM)'balance' and its consequences for everyday learning and innovation in the new economy: Evidence from the Irish IT sector. *Gender, Place and Culture, 18*(5), 655–684. https://doi.org/10.1080/0966369X.2011.601805

James, A. (2014). Work-life "balance" and gendered (im)mobilities of knowledge and learning in high-tech regional economies. *Journal of Economic Geography, 14*(3), 483–510. https://doi.org/10.1093/jeg/lbt002

James, A. (2014). Work-Life "Balance", Recession and the Gendered Limits to Learning and Innovation (Or, Why It Pays Employers To Care). *Gender, Work and Organization, 21*(3), 273–294. https://doi.org/10.1111/gwao.12037

Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and organizational psychology*, 73(3), 287-302.

Jaussi, K. S., Randel, A. E., & Dionne, S. D. (2007). I am, I think I can, and I do: The role of personal identity, self-efficacy, and cross-application of experiences in creativity at work. *Creativity Research Journal, 19*(2–3), 247–258. https://doi.org/10.1080/10400410701397339

Johri, A. (2010). Open Organizing: Designing Sustainable Work Practices for the Engineering Workforce. *International journal of engineering education, 26*(2), 278–286.

Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). Organizational stress: Studies in role conflict and ambiguity.

Kelly, E. L., Kossek, E. E., Hammer, L. B., Durham, M., Bray, J., Chermack, K., ... & Kaskubar, D. (2008). 7 Getting There from Here: Research on the Effects of Work–Family Initiatives on Work–Family Conflict and Business Outcomes. *Academy of Management annals, 2*(1), 305-349.

Ko, Y., Ko, H., Chung, Y., & Woo, C. (2020). Do gender equality and work–life balance matter for innovation performance?. *Technology Analysis & Strategic Management*, 1-14.

Kopelman, R. E., Greenhaus, J. H., & Connolly, T. F. (1983). A model of work, family, and interrole conflict: A construct validation study. *Organizational behavior and human performance, 32*(2), 198-215.

Kühnel, J., Vahle-Hinz, T., de Bloom, J., & Syrek, C. J. (2020). Staying in touch while at work: Relationships between personal social media use at work and work-nonwork balance and creativity. *The International Journal of Human Resource Management, 31*(10), 1235-1261.

Knudsen, M. P., & Schleimer, S. (2020). The role of prevailing individual absorptive capacity versus absorptive capacity development for different innovation outcomes. *Knowledge Management Research & Practice*, 1-15.

Lacan, A. (2019). Think tank: Meaningful management in a postmodern society. *Global Business and Organizational Excellence, 38*(3), 6–10. https://doi.org/10.1002/joe.21917

Lambert, S. J. (1990). Processes linking work and family: A critical review and research agenda. *Human relations, 43*(3), 239-257.

Lazăr, I., Osoian, C., & Raţiu, P. (2010). The role of work-life balance practices in order to improve organizational performance. *European Research Studies Journal, 13*(1), 201–213.

Lebuda, I., & Csikszentmihalyi, M. (2020). All You Need Is Love: The Importance of Partner and Family Relations to Highly Creative Individuals' Well-Being and Success. *The Journal of Creative Behavior, 54*(1), 100-114.

Lewis, S., & Beauregard, T. A. (2018). The meanings of work-life balance: a cultural perspective In *The Cambridge Handbook of the Global Work-Family Interface*; Johnson, R., Shen, W., Shockley, K.M., Eds.; Cambridge University Press: Cambridge, UK, 720–732.

Madjar, N., Oldham, G. R., & Pratt, M. G. (2002). There's no place like home? The contributions of work and nonwork creativity support to employees' creative performance. *Academy of Management Journal, 45*(4), 757–767. https://doi.org/10.2307/3069309

Malhotra, N., Smets, M., & Morris, T. (2016). Career pathing and innovation in professional service firms. Academy of Management Perspectives, 30(4), 369–383. https://doi.org/10.5465/amp.2012.0108

Martin, L. (2017). Do Innovative Work Practices and Use of Information and Communication Technologies Motivate Employees? *Industrial Relations, 56*(2), 263–292. https://doi.org/10.1111/irel.12173

Massaro, M., Dumay, J., & Guthrie, J. (2016), "On the shoulders of giants: undertaking a structured literature review in accounting", *Accounting, Auditing & Accountability Journal, 29* (5), 767-801.

McKersie, S. J., Matthews, R. A., Smith, C. E., Barratt, C. L., & Hill, R. T. (2019). A process model linking family-supportive supervision to employee creativity. *Journal of Occupational and Organizational Psychology*. https://doi.org/10.1111/joop.12276

Michel, A. (2011). Transcending Socialization: A Nine-Year Ethnography of the Body's Role in Organizational Control and Knowledge Workers' Transformation. *Administrative Science Quarterly, 56*(3), 325–368. https://doi.org/10.1177/0001839212437519

Mihelič, K. K., & Aleksić, D. (2017). "Dear Employer, Let Me Introduce Myself"–Flow, Satisfaction with Work–Life Balance and Millennials' Creativity. *Creativity Research Journal, 29*(4), 397–408. https://doi.org/10.1080/10400419.2017.1376503

Mishra, P., Bhatnagar, J., Section, R. G., & Wadsworth, S. M. (2019). How work-family enrichment influence innovative work behavior: Role of psychological capital and supervisory support. *Journal of management & organization, 25*(1), 58–80. https://doi.org/10.1017/jmo.2017.23

Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of management journal, 39*(3), 607-634.

Othman, A. A. E., & Khalil, M. H. M. (2020). A lean talent management framework for maximizing creativity in architectural design firms. *International Journal of Construction Management, 20*(5), 520-533.

Parameswaran, H. (2020). Strategic human resource development: A manoeuvre for future competencies. *Serbian Journal of Management, 15*(2), 353-370.

Petticrew, M., & Roberts, H. (2008). *Systematic reviews in the social sciences: A practical guide*. John Wiley & Sons. Oxford.

Powell, G. N., Greenhaus, J. H., Allen, T. D., & Johnson, R. E. (2019). Introduction to special topic forum: Advancing and expanding work-life theory from multiple perspectives. *Academy of Management Review*, *44*(1), 54-71.

Prabu, G. &, Kalaiarasi, K. (2020). Work-Life Balance Among Migrant Employees In Chennai City. *International Journal of Scientific & Technology Research, 9* (2), 1034-1038.

Russo, M., Shteigman, A., & Carmeli, A. (2016). Workplace and family support and work–life balance: Implications for individual psychological availability and energy at work. *The Journal of Positive Psychology, 11*(2), 173-188.

Secret, M. (2005). Parenting in the workplace: Child care options for consideration. *Journal of Applied Behavioral Science, 41*(3), 326–347. https://doi.org/10.1177/0021886305276386

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here?. *Journal of management, 30*(6), 933-958.

Sirgy, M. J., Efraty, D., Siegel, P., & Lee, D.-J. (2001). A new measure of quality of work life (QWL) based on need satisfaction and spillover theories. *Social Indicators Research, 55*(3), 241–302. https://doi.org/10.1023/A:1010986923468

Tang, Y., Huang, X., & Wang, Y. (2017). Good marriage at home, creativity at work: Family–work enrichment effect on workplace creativity. *Journal of Organizational Behavior, 38*(5), 749–766. https://doi.org/10.1002/job.2175

Thomas, L. T., & Ganster, D. C. (1995). Impact of family-supportive work variables on work-family conflict and strain: A control perspective. *Journal of applied psychology, 80*(1), 6.

Tranfield, D., Denyer, D., & Smart, P. (2003). Towards a methodology for developing evidence-informed management knowledge by means of systematic review. *British journal of management, 14*(3), 207-222.

Van Dyne, L., Jehn, K. A., & Cummings, A. (2003). Differential effects of strain on two forms of work performance: Individual employee sales and creativity. *Journal of Organizational Behavior, 23*(1), 57–74. https://doi.org/10.1002/job.127

Wayne, J. H., Butts, M. M., Casper, W. J., & Allen, T. D. (2017). In search of balance: A conceptual and empirical integration of multiple meanings of work–family balance. *Personnel Psychology, 70*(1), 167-210.

West, M. A. (2002). Ideas are ten a penny: It's team implementation not idea generation that counts. Applied Psychology: *An International Review*, 51, 411-424.

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of management review, 18*(2), 293-321.

Yang, J., Gu, J., & Liu, H. (2019). Servant leadership and employee creativity: The roles of psychological empowerment and work–family conflict. *Current Psychology.* https://doi.org/10.1007/s12144-019-0161-3

Zhang, M., Wang, F., & Das, A. K. (2020). Work–Family Conflict on Sustainable Creative Performance: Job Crafting as a Mediator. *Sustainability, 12*(19), 8004.

Zhou, J., & George, J. M. (2001). When job dissatisfaction leads to creativity: Encouraging the expression of voice. *Academy of Management journal, 44*(4), 682-696.

Appendix

Table 2. Classification of selected articles and primary findings

Groups	Authors	Year	WLB concept	Creativity/innovation /both	Level of analysis	Aim of the paper	Findings connected with WLB and creativity/innovation
GROUP 1: CONSEQUENTIAL	Van Dyne L., Jehn K.A., Cummings A.	2003	Work-family Conflict	Creativity	Individual	The authors developed and test a model on the link between psychological strain and work performance. The model includes two types of strain (work strain and home strain) and two forms of work performance (quantity of individual sales performance and creativity), considering leader-member exchange (LMX) as moderator.	The study results demonstrate contrasting effects of the two forms of performance. Work strain and home strain were positively related to sales performance and home strain was negatively related to creativity. The LMX moderates the effects of work strain and home strain on creativity. There is no relation between work strain and creativity for those with high LMX, and the relation is negative for those with low LMX. Creativity is lowest when work strain is high and LMX is low. Home strain was more strongly related to creativity (than work strain) and home strain was also more strongly related to creativity (than to sales performance). Thus, creativity seems to be especially sensitive to home strain. The intangible aspects of creativity seem to make it especially vulnerable to high levels of home strain.
GROUP 1: CONSEQUENTIAL	Secret M.	2005	Work-family Balance	Innovation	Organizational	The authors introduce parenting in the workplace (PIW) childcare options and consider such arrangements within the context of changing work and family life relationships and boundaries.	The findings demonstrate that, compared with 67 businesses who do not offer PIW, the PIW business representatives reported no disadvantage in business outcomes, more regard for workplace innovation and collegial relationships, and more positive attitudes toward work-family integration.
GROUP 1: CONSEQUENTIAL	Howell L.P., Servis G., Bonham A.	2005	Work-life Balance	Creativity	Work Team	The authors support the idea that in academic medicine, multigenerational teams are key to fulfilling its mission and increasing creativity. However, several multigenerational challenges have to be managed, among which is WLB.	Multigenerational teams can lead to increased creativity but also conflict. This leads to multigenerational challenges. Among appropriate solutions to these challenges are policy changes related to WLB.

GROUP 1: CONSEQUENTIAL	**James A.**	2014	Work-life Balance	Both	Individual and Organizational	The authors document everyday experiences of work-life conflict based on female and male worker knowledge, the role of WLB across IT employers in shaping the cross-firm mobility of workers, and the tacit knowledge, skills, and competencies they embody.	The findings suggest that WLB considerations are actively shaping workers' decision-making processes around cross-firm job-to-job mobility in ways previously unexplored in the regional learning and innovation literature. Considering the processes of WLB-informed cross-firm mobility, and embodied knowledge transfer, it is easy to understand why employers indicated "an improved corporate environment for learning and creativity" as a function of their WLB provision.
GROUP 1: CONSEQUENTIAL	**Chen, YS; Huang, SYJ**	2016	Work-family Conflict	Innovation	Individual	This paper examines how personal engagement (PE) may be related to work-family conflict (WFC) and innovative behavior (IB) at the same time.	Findings reveal that PE can increase IB and reduce WFC. These findings suggest that managers not only must inspire and enable employees to apply their full energy to their work (e.g. PE) but must also alleviate the WFC.
GROUP 1: CONSEQUENTIAL	**Alegre J., Pasamar S.**	2018	Work-life Balance	Both	Individual and Organizational	Authors critically review previous innovativeness indicators and propose a new approach to assess firm innovativeness that is based, not on the role of technology, but on that of people. This new approach focuses on the existence of WLB benefits that are connected with motivation, engagement, and creativity in the workplace.	Findings support the idea that the relationship between WLB and innovation is to be understood as a probabilistic, and not a deterministic, causation. The likelihood of there being a connection between WLB and innovation is expected to be significant, but it is not an automatic consequence. WLB is not a necessary or a sufficient condition for innovation, but a relevant facilitating condition. Due to the implementation of WLB benefits, employees might concentrate better and be more creative in the workplace because they are less concerned about nonwork life issues.

GROUP 1: CONSEQUENTIAL	Mishra, P; Bhatnagar, J; Section, RG; Wadsworth, SM	2019	Work-family Enrichment	Innovation	Individual	The authors examined the relationship between bi-directional work-family enrichment (work-to-family and family-to-work), psychological capital, and supervisor support in promoting IWB.	Findings suggest that psychological capital plays a significant mediating role between work-to-family enrichment, family-to-work enrichment, and IWB. Supervisor support is an essential moderator between psychological capital and IWB. They also demonstrate that bi-directional work-family enrichment not only benefits an individual by building on his/her psychological capital but can also benefit the organization by leading to IWB.
GROUP 1: CONSEQUENTIAL	Gomes G., Seman L.O., De Montreuil Carmona L.J.	2020	Work-life Balance	Both	Individual and Organizational	This study aims at evaluating the association of transformational leadership and WLB on service innovation through organizational learning.	Findings demonstrated that WLB/flexibility is positively related to organizational learning capability and consequently positively impacts service innovation. On the other hand, WLB practices alone (WLB/ family life) do not increase the organizational learning capability and therefore do not impact service innovation.
GROUP 1: CONSEQUENTIAL	Zhang, M; Wang, F; Das, AK	2020	Work-family Conflict	Creativity	Individual and Organizational	This study integrates a moderated-mediation model to examine the relationship between work–family conflict and sustainable creative performance.	Findings support their Hypothesis and demonstrated that WFC conflict positively and indirectly influences sustainable creative performance, while job crafting plays a mediating role. Additionally, they found that a high level of promotion regulatory focus enhances the relationship between WFC and job crafting.
GROUP 2: JOINED	Florida R., Goodnight J.	2005	Work-life Balance	Creativity	Individual and Organizational	The authors described how an organization could maximize creativity by describing step by step the unique framework for creativity management adopted by a successful company.	Managing an organization with a framework like company SAS, produces a corporate ecosystem in which creativity and productivity flourish, where profitability and flexibility go hand in hand, and where hard work and work/life balance aren't mutually exclusive.

GROUP 2: JOINED	**Johri, A**	2010	Work-life Balance	Innovation	Individual and Organizational	The authors argue that, to grow professionally, engineers need to design sustainable work environments for themselves through the productive use of information technology.	The findings reveal that successful creation and implementation of open organizing can result in better WLB for engineers and increase productivity and innovation.
GROUP 2: JOINED	**Lazăr I., Osoian C., Raţiu P.**	2010	Work-life Conflict	Creativity	Individual	The authors determined whether WLB initiatives and practices can be considered as strategic human resource management decisions that can translate into improved individual and organizational performance.	The results show that the availability and use of WLB practices, when provided in the context of supervisor and organizational support, can reduce work-life conflict, and increase positive appraisals of one's organization. These effects are often associated with employee attitudes such as increased job satisfaction and enhanced control over their work schedule. The results include reduced absenteeism, tendency for turnover, job stress levels, and work-life conflict. The results also include increased productivity and creativity. Reducing work-life conflict can also reduce also costs associated with low productivity and creativity.
GROUP 2: JOINED	**Allen T.D., Golden T.D., Shockley K.M.**	2015	Work-family Conflict	Both	Individual and Work Team	The authors reviewed existing research on telecommuting in an effort to better understand what the scientific community knows about telecommuting and its implications.	The implications for telecommuting employees' work-family issues, attitudes, and work outcomes were discussed. Also, contextual issues might influence or alter the impact of telecommuting, including interpersonal processes such as knowledge sharing, creativity, and innovation.
GROUP 2: JOINED	**Aleksić D., Mihelič K.K., Černe M., Škerlavaj M.**	2017	Work-family Balance	Creativity	Individual	This paper investigated a curvilinear relationship between employee's perceived overall time pressure and creativity. The paper explores a three-way interaction of perceived time pressure, satisfaction with work-family balance (SWFB), and leader-member exchange (LMX) on creativity.	The authors identified a three-way interaction between time pressure, SWFB and LMX, and creativity. These findings broaden understanding of how personal and contextual factors interact to foster creativity. They contribute to the work-family literature by providing the first empirical examination of the linkage between SWFB and creativity.

GROUP 2: JOINED	Martin L.	2017	Work-family Balance	Creativity	Individual	The authors investigated the impact of innovative work practices and ICT use on employee's motivations.	The results confirm the positive role of innovative work practices, such family-friendly policies, on employees' positive attitudes and motivation. Specifically, family-friendly policies are associated positively with employee attitudes and motivation. Family-friendly policies facilitate working-time arrangements, which help employees to find a convenient WLB that strengthens their autonomous motivations.
GROUP 2: JOINED	Chen Y., Jiang Y.J., Tang G., Cooke F.L.	2018	Work-family Conflict	Innovation	Individual and Organizational	The authors advanced the field of research on high-commitment work systems (HCWSs) and organizational innovation by examining how the configuration of middle managers' work-family issues (i.e., WFC and work climate for sharing family concerns) shape the relationship between HCWSs and innovation performance.	Findings show that HCWSs activate middle managers' IB and, in turn, improve innovative performance. WFC negatively moderates the relationship between HCWSs and middle managers' IB, while the work climate for sharing family concerns mitigates the effect of WFC.
GROUP 2: JOINED	Dediu, V., Leka, S., & Jain, A.	2018	Work-life Balance	Both	Individual	This study aims to investigate the relationship between several job design variables (e.g., long working hours) and innovative work behavior (IWB), considering both idea generation (creativity) and idea implementation behaviors.	The findings revealed that long working hours were positively associated with both idea generation and idea implementation. However, long working hours bring to a situation of unbalance between work and private life, reducing WLB. Therefore, as suggested by authors this result must be interpreted with caution.
GROUP 2: JOINED	Othman A.A.E., Khalil M.H.M.	2018	Work-life Balance	Creativity	Individual	This study aims to develop a Learn Talent Management Framework to maximize creativity in architectural Design Firms (ADFs). Talent management (TM) is an innovative approach not only for fostering creativity but also for balancing work-life commitment, enhancing WLB.	The results suggested that the adoption of TM in ADFs will ensure a good level of WLB, and accordingly, WLB together with other beneficial contributions of the TM will foster individual creativity.

GROUP 2: JOINED	Yang J., Gu J., Liu H.	2019	Work-family Conflict	Creativity	Individual	The authors investigated the relationship between servant leadership and employee creativity, considering the mediating roles of follower's psychological empowerment and the moderating role of WFC. The also intend to investigate the moderating influences of WFC and family-to-work conflict (FWC) on the effectiveness of servant leadership on followers' psychological empowerment.	The findings revealed that servant leadership is positively related to employee creativity. Followers' psychological empowerment partially mediates the relationship between servant leadership and employee creativity. WFC moderates the relationship between servant leadership and follower psychological empowerment; the relationship is more positive when WFC is high, rather than low. FWC does not significantly affect this relationship.
GROUP 2: JOINED	Choi D.S., Sung C.S., Park J.Y.	2020	Work-family Balance	Innovation	Individual and Organizational	Considering the recent interest in work-life balance, and the related quality of employment, this study investigates the role of technology startups on employment, work-life balance, and consequently on innovative performance.	The findings revealed that technology startups have a greater level of employment quality compared to other non-technology startup companies, and the innovative performance (due to individual innovative contributions) may be better with a major employment quality and therefore a higher WLB.
GROUP 3: DIRECT	Thompson C.A., Beauvais L.L., Lynes K.S.	1999	Work-family Balance	Creativity	Individual	The authors developed a measure of work-family culture and examined its relationship to work-family benefit utilization, organizational attachment, and WFC.	The findings demonstrated that, by not fostering a more balanced work-family life for employees, organizations are contributing to tensions in employees' personal lives. The repercussions affect employees' ability to concentrate and be productive and creative on the job. Perceptions of a supportive work-family culture are related to employees' use of work-family benefits. Both work-family benefit availability and supportive work-family culture are positively related to effective commitment and negatively related to WFC and intentions to leave the organization.

GROUP 3: DIRECT	Madjar N., Oldham G.R., Pratt M.G.	2002	Work-nonwork Balance	Creativity	Individual	The authors examined relations between creative performance and the extent to which employees received support for creativity from both work (supervisors/coworkers) and nonwork (family/friends) sources. They also examined whether (1) employees' mood states mediated the support-creativity relations, and (2) creative personality characteristics moderated these relationships.	The results demonstrated that support from an adult individual's family members and friends contributed to his or her creativity at work and made a contribution to creativity over and above that made by support from people inside the work place (supervisors/coworkers). Positive moods mediate the relationship and make a positive, significant contribution to creativity. Employees' creative personalities (CPS rating) moderate the relationship between nonwork support and creativity but not the relationship involving work support. Employees with less creative personalities responded most positively to nonwork support. The authors also found that the married employees exhibited higher creativity, despite receiving less nonwork support than their unmarried counterparts. This result suggests that marriage may provide unique experiences or may influence psychological states conductive to creativity.
GROUP 3: DIRECT	James A.	2011	Work-life Balance	Both	Individual and Organizational	This article rejects the narrow economism of conventional WLB business case analyses, and proposes an alternative socioeconomic analysis focused on (i) gendered experiences of work-life conflict in the Irish IT industry; (ii) the arrangements that different groups of IT workers and their families find most useful in ameliorating those work-life conflicts; and (iii) the mechanisms through which workers' use of those preferred WLB arrangements help foster and support routine learning and innovation processes within knowledge-intensive firms.	The results suggest that by making available the kinds of WLB arrangements (particularly reduced work weeks and working from home) identified by workers as offering meaningful amelioration of everyday work – life conflicts, employers can have a positive impact on institutionalized learning and innovation environments within the firm.

GROUP 3: DIRECT	Abstein, A; Heidenreich, S; Spieth, P	2014	Work-life Conflict	Innovation	Individual	The authors developed and tested a model that focuses on the relationships between comprehensive human resource (HR) system perceptions, experienced work-life conflict (WLC), and IWB, to examine the role of WLC for the relationship between comprehensive HR system perceptions and IWB.	Comprehensive HR systems significantly enhance IWB and reduce feelings of WLC. It had a significant yet positive effect of WLC on IWB. By including the intervening variable WLC, the relationship between perceived HR systems and IWB is strengthened. Employees may respond to WLC constructively by being innovative, improving their environment and making the work-life interface manageable. By promoting IWB, HR systems might also help employees deal with residual—and, perhaps, unavoidable—levels of WLC.
GROUP 3: DIRECT	Calvin Ong H.L., Jeyaraj S.	2014	Work-life Balance	Creativity	Individual	The authors investigated the differences between the constructs of WLB and work-life harmony (WLH) using a cognitive dissonance approach. It assesses the impact of work-life interventions based on these approaches, on individual creativity at work.	Participants in the WLB condition elicit higher levels of cognitive dissonance compared with participants in the WLH condition. Findings also suggest that work-life interventions adopting a WLH approach will have a more positive impact on individuals' creativity at work compared with interventions targeted at achieving balance.
GROUP 3: DIRECT	James A.	2014	Work-life Balance	Both	Individual and Organizational	This paper explores the learning and innovation advantages that can result from work-life balance (WLB) provisions in knowledge-intensive firms as part of a WLB *mutual gains* research agenda.	The findings suggest that by making available the kinds of WLB arrangements self-reported by workers as offering meaningful reductions in gendered everyday work-life conflicts, employers can also enhance the kinds of learning and innovation processes that are widely recognized as fundamental to firms' long-term sustainable competitive advantage. WLB is recognized as a significant factor that can enhance the competitiveness of knowledge-intensive firms, rather than an unnecessary luxury.

GROUP 3: DIRECT	Cegarra-Navarro J.-G., Sánchez-Vidal M.-E., Cegarra-Leiva D.	2016	Work-life Balance	Both	Individual and Organizational	The authors focus on the importance of developing a WLB culture within small and medium enterprises (SMEs) that foster employee outcomes. In this way, they demonstrate that it is the positive employee outcomes stemming from a WLB culture that improve organizational outcomes.	WLB culture has a significant impact on employee and organizational outcomes. To strengthen a WLB culture and positively influence innovation-related outcomes, SMEs meet the challenge of developing an unlearning context to counteract the negative effects of the outdated knowledge in relevant areas and to facilitate the replacement of out-of-date or obsolete knowledge.
GROUP 3: DIRECT	Malhotra N., Smets M., Morris T.	2016	Work-life Balance	Innovation	Individual and Organizational	The authors start a new conversation about how career paths affect innovation capacity in PSFs (professional service firms).	The findings demonstrate that changes in career paths, initially made to address work-life balance concerns of young professionals, have had the beneficial effect of enhancing innovation capacity. Changing career paths creates win-win solutions to accommodate work-life preferences of staff and enhance innovation capacity for the firm.
GROUP 3: DIRECT	Tang Y., Huang X., Wang Y.	2017	Work-family Enrichment	Creativity	Individual and Organizational	The authors investigate the effect of a good marriage on workplace creativity. Drawing on family-work enrichment theory, they propose and test the idea that a satisfying marriage boosts a spillover of psychological resources from family-to-work that enhances employees' workplace creativity.	Employees' marital satisfaction can increase family-work resource spillover, thereby enhancing their workplace creativity. When an employee's spouse is also satisfied with the marriage, the effect of the employee's marital satisfaction on family-work resource spillover is more pronounced and, thus, more powerfully enriches workplace creativity.
GROUP 3: DIRECT	Choi S.B., Cundiff N., Kim K., Akhatib S.N.	2018	Work-family Conflict	Innovation	Individual	The authors investigate the effect of two job stressors, WFC and job insecurity, on IB and assess the mediating role of organizational commitment and job satisfaction on the relationship between WFC, job insecurity, and employee IB.	The findings demonstrate that WFC and job insecurity negatively affect organizational commitment and job satisfaction. WFC has a consequential negative effect on IB, and job insecurity has a direct and consequential negative effect on IB. Organizational commitment and job satisfaction are found to mediate the effect between WFC and job insecurity on IB. WFC obstructs positive job attitudes and innovative behaviors.

GROUP 3: DIRECT	Ko Y., Ko H., Chung Y., Woo C.	2020	Work-life Balance	Innovation	Individual	This study investigates the effects of scientists' attitudes on gender equality and work–life balance on their innovative performance.	The results showed that scientists who believe that work–life balance is important produce qualitatively superior research outcomes. Therefore, work-life balance is positively related with the quality of innovative research outcomes.
GROUP 3: DIRECT	Kühnel J., Vahle-Hinz T., de Bloom J., Syrek C.J.	2020	Work-nonwork Balance	Creativity	Individual	The authors aim to demonstrate that the use of personal social media at work help employees to coordinate work and nonwork demands, increasing the work-non work balance, which in turn will increase work-related creativity.	The findings demonstrated that the use of social media at work was positively associate with work-nonwork balance. Instead, the third hypothesis was not supported. Work-nonwork balance did not mediate the relationship between personal social media use and creativity. Work-nonwork balance is not directly related to creativity.
GROUP 3: DIRECT	Lebuda I., Csikszentmihalyi M.	2020	Work-family Balance	Creativity	Individual	This study aims to present the meaning that highly creative individuals (creators, scientists, and artists) attribute to intimate relationships with a romantic partner or a spouse and to discuss the significance of the work–life relationship for highly creative individuals' well-being and sense of success.	The functioning of the work-family mesosystem that creators see as normal enables, facilitates, or in other cases is a necessary condition for efficient creative work. Therefore, these findings demonstrated that the interactions of family life are significantly associated with creative work.
GROUP 3: DIRECT	Prabu G., Kalaiarasi K.	2020	Work-life Balance	Creativity	Individual	Authors aim to understand which factors impact the migrant employees' work-life balance. They also investigate the importance of WLB with respect to the productivity and creativity of the employees.	Focusing on the importance of work-life balance, the authors demonstrated that a satisfactory balance between work and private life helps people to have an excellent working life. Consequently, this helps to increase employee's productivity and creativity.

GROUP 4: BLURRED, INVERTED, NO	Sirgy M.J., Efraty D., Siegel P., Lee D.-J.	2001	Work-life Balance	Creativity	Individual	The authors develop a new measure of quality of work life (QWL) based on both need satisfaction and spillover theories. The measure is designed to define the extent to which the work environment, job requirements, supervisory behavior, and ancillary programs in an organization are perceived to meet the needs of an employee.	The results support the hypotheses and thus lent some support to the nomological validity of the new measure. Need satisfaction results in satisfaction with the job as well as other life domains, thus satisfaction with life in general. There is no relationship between WLB and creativity, but both are needs considered in the new measure of QWL. Indeed, this QWL measure considers, among other needs, the satisfaction with family needs and aesthetic needs (creativity at work and personal creativity).
GROUP 4: BLURRED, INVERTED, NO	Jaussi K.S., Randel A.E., Dionne S.D.	2007	Work-nonwork Balance	Creativity	Individual	The authors examine creativity at work by considering a new construct, creative personal identity, in conjunction with creative self-efficacy and a problem-solving strategy.	Findings demonstrate that creative personal identity explained the variance in creativity at work above and beyond creative self-efficacy, but that the two did not interact. The positive relationship between creative personal identity and creativity at work was stronger when individuals applied non-work experiences in efforts to solve work-related problems. Thus, creative performance at work is enhanced when an individual has both a strong creative personal identity and often cross-applied experiences to unrelated settings.

GROUP 4: BLURRED, INVERTED, NO	Binnewies C., Sonnentag S., Mojza E.J.	2009	Work-nonwork Balance	Creativity	Individual	The authors of this longitudinal study investigate relations between positive and negative nonwork experiences (i.e., feeling recovered, thinking about the positive and negative aspects of one's work during leisure time) with different job performance dimensions such as task performance and three types of contextual performance (personal initiative, creativity and organizational citizenship behavior).	Feeling recovered during leisure does not predict an increase in contextual performance, among which there is also creativity. Because contextual performance (creativity) is a discretionary behavior, it should strongly depend on an individual's motivation, which is not determined by the state of being recovered. For work reflections, the findings demonstrate that positive work reflection is found to predict an increase in proactive behavior (personal initiative, creativity) and negative work reflection is unrelated to job performance in general (also creativity). The results emphasize the role of positive nonwork experiences for employees' job performance. Creativity is related to a decrease in feeling recovered and an increase in negative work reflection during leisure time over time. An explanation may be that developing and bringing new ideas at work may be exhausting.
GROUP 4: BLURRED, INVERTED, NO	Michel A.	2011	Work-life Balance	Creativity	Individual	The authors with a nine-year ethnography investigate the dynamic relation between organizational control and body action roles in two investment banks and how the bankers' relations to their bodies evolved, and what the organizational consequences were.	WLB is affected by the type of organizational control; visible cognitive controls targeted the mind and highlighted autonomy and WLB. Less visible embodied controls bypassed the mind to target the body, they encouraged indiscriminate overwork, erasing distinctions between work and leisure. The resulting low control affected performance positively. Creativity was affected by the evolving body action roles.
GROUP 4: BLURRED, INVERTED, NO	Harrison, SH; Wagner, DT	2016	Work-family Conflict	Creativity	Individual	The authors want to understand how daily creative behaviors at work might impact the spousal relationship at home.	"Variance-focused creative behaviors" (problem identification, information searching, idea generation) predict less time spent with a spouse at home. In contrast, "selection-focused creative behaviors" (idea validation) predict more time spent with a spouse. Further, openness to experience moderates these relationships.

GROUP 4: BLURRED, INVERTED, NO	**Chen M.-H., Chang Y.-Y., Wang H.-Y., Chen M.-H.**	2017	Work-life Balance	Creativity	Individual	This paper is the first attempt to investigate how creative entrepreneurial creativity and opportunity recognition reduce withdrawal intention by satisfying the four types of entrepreneurial motivation: the need for basic finance, the need for work-life equilibrium, the need for social reputation, and the need for career achievement.	The findings underscore the importance of entrepreneurial creativity and opportunity recognition, which reduce creative entrepreneurs' intention to quit by strengthening their motivation for career achievement and need for work-life equilibrium. However, entrepreneurial creativity does not directly affect creative entrepreneurs' need for work-life equilibrium.
GROUP 4: BLURRED, INVERTED, NO	**Lacan A.**	2019	Work-life Balance	Creativity	Individual	The authors discuss the new managerial practices required in today's postmodern environment to ensure that business processes render organizations meaningful.	Managers must tailor their approach to employee expectations and concentrate on the regulation of human relationships rather than individual performance control. Postmodern management practices must create well-being and a cooperative and convivial atmosphere at work. It must also allow collaborators to express emotions for greater personal performance in the service of a higher collective efficiency and the interest of the organization. Postmodern managers have several roles to play in these practices. In this context, balance in personal and work life and creativity at work are increasingly central values.
GROUP 4: BLURRED, INVERTED, NO	**Knudsen, MP; Schleimer, S**	2020	Work-life Balance	Innovation	Individual and Organizational	The authors aim to investigate the relationship existing between flexible work arrangements (FWAs) and innovation performance.	Findings demonstrated that there is a positive relationship between flexible working arrangements (FWAs) and innovation performance. FWAs are antecedents of WLB. Through the availability and use of FWAs the employees may achieve a better balance between work and private life.

GROUP 4: BLURRED, INVERTED, NO	**Parameswaran H.**	2020	Work-life Balance	Creativity	Individual	The author focuses on the importance of strategic human resource development (SHRD) and related practices in organizations and therefore aims to investigate the existing relationship between four independent variables (among which there are individual creativity and work-life balance) and SHRD.	Results demonstrated that all the selected variables showed a positive relationship with strategic HRD activities. Therefore, both individual creativity and WLB are strictly connected with SHRD. Moreover, for an employee to achieve and maintain a good WLB and perform well in his/her various roles (e.g., parent, citizen, and worker) it is needed training and development programs from organizations, learning assistance programs, and adequate mentoring.
GROUP 1 AND GROUP 3	**Mihelič K.K., Aleksić D.**	2017	Work-life Balance	Creativity	Individual	This article analyzes the relationships between flow, SWLB, and creativity among Millennials.	The findings demonstrate that SWLB elevates the experience of flow, which further contributes to individual creativity. Job crafting positively influences both flow and SWLB. Although the results do not show that SWLB directly elevates creativity, they do reveal that it plays a relevant role as a factor h contributing to creativity through flow.
GROUP 1 AND GROUP 3	**McKersie S.J., Matthews R.A., Smith C.E., Barratt C.L., Hill R.T.**	2019	Work-family Balance	Creativity	Individual	The authors examine whether effective leaders, defined as those who develop high-quality leader-member exchange (LMX) relationships with an employee, boost worker creativity due to their engagement in family-supportive supervision (FSS) through the provision of family-supportive behaviors.	In Study 1, the findings provide evidence that FSS is positively associated with employee creativity. In Study 2, the results suggest that employees who feel their supervisors support and provide resources to manage their work and family lives experience more meaningfulness at work. This is positively related to intrinsic motivation and subsequent creativity at work.

Source: author

PAPER TWO

The Power of Balance: Interplay Effects of Exploitative Leadership Style, Work–Family Balance, and Family-Friendly Workplace Practices on Innovation Implementation

Grazia Garlatti Costa, Darija Aleksić

Abstract

The purpose of this paper is to investigate the inverted U-shaped relationship that exists between exploitative leadership styles and innovation implementation. In addition, drawing on the Social Cognitive Theory, the paper explores the effect of the three-way interaction between exploitative leadership style (ELS), work-family balance (WFB), and family-friendly workplace practices (FFWPs) on innovation implementation. A quantitative study of 440 employees from 38 medium and large companies based in Italy and Croatia was conducted, using an online survey to collect data. The proposed hypotheses were tested using moderated hierarchical regression analysis. The results show that there is an inverted U-shaped curvilinear relationship between ELS and innovation implementation. Furthermore, the findings support the existence of the three-way interaction and suggest that the combination of high-level WFB and high-level FFWPs strengthens the relationship between ELS^2 and innovation implementation, while the combination of low-level WFB and low-level FFWPs weakens the relationship between ELS^2 and innovation implementation. Our results suggest that individuals who perceive a high level of WFB and who work in an organization with family-friendly practices are more accepting of an exploitative leader, and that the positive feelings from the family domain encourage the implementation of innovation. Therefore, the exploitative leadership style is not strictly negative. These results may change the attitudes of managers and other key stakeholders and encourage them to consider WFB and FFWPs as important for the implementation of innovation. Implications for practice and future research are also discussed in the paper.

Keywords: work-family balance, family-friendly workplace practices, exploitative leadership style, innovation implementation, innovative work behavior

1. Introduction

Organizational innovation is a key factor for competitive advantage (e.g., Crossan & Apaydin, 2010), based on the innovation process at the micro or individual level (Škerlavaj *et al.,* 2019), which consists of generating and implementing novel and useful ideas (e.g., Amabile, 1996; Axtell *et al.,* 2000). Therefore, grounding on the crucial role of micro-innovation process, this paper aims to examine the relationship between two underestimated topics: exploitative leadership style and innovation implementation. Namely, how a destructive leadership style that has received relatively little research attention as the exploitative leadership style might enhance the innovation implementation phase. With a further investigation on how this contribution to the innovation process might being strengthen by a satisfactory balance between working and family life.

Most research on organizational innovation has focused attention on the creativity (i.e., idea generation) phase and has highlighted the importance of interaction between creativity and personal and contextual factors at work to foster creativity (e.g., Amabile, 1996; George & Zhou, 2001; Shalley & Gilson, 2004). The implementation phase, although traditionally under-researched (e.g., Anderson *et al.,* 2014; Škerlavaj *et al.,* 2019), is a challenging and risky task necessary to achieve innovative output (e.g., Michaelis *et al.,* 2010). This points to the need to better understand the conditions under which implementation of innovation occurs (e.g., Michaelis *et al.,* 2010).

Previous studies have shown that many different factors influence the implementation of innovation, with leadership playing a significant role (e.g., Fontana & Musa, 2017). Leadership is one of the main determinants of organizational innovation and is becoming even more important as a skill that supports individual innovation process (e.g., Alblooshi *et al.,* 2020). Leadership behavior is an important component of the work context (e.g., Černe *et al.,* 2013; Michaelis *et al.,* 2010), and that has been shown to be an important predictor of employee creativity and organizational innovation (e.g., Hughes *et al.,* 2018). Similarly, the process of idea implementation is rooted in social contexts, including the behavior of leaders (e.g., Somech & Drach-Zahavy, 2013). Available research has examined the relationship between leadership styles, creativity and innovation (for some comprehensive reviews, see Hughes *et al.,* 2018; Kesting *et al.,* 2015). With regard to the implementation phase of ideas, few contributions have addressed the relationship between a particular leadership style and the implementation of innovation (e.g., Michaelis *et al.,* 2010). Traditionally, leadership literature has focused on "positive" leadership styles and overlooked the "dark side" of leadership known as "destructive leadership" (for an overview, see Schyns & Schilling, 2013). However, destructive leadership is becoming increasingly important because its impacts are

considerable, and some authors argue that they are even higher than the impacts of "positive" leadership styles (e.g., Baumeister *et al.,* 2001; Einarsen *et al.,* 2007).

Existing empirical evidence suggests that positive leadership styles are an important predictor of innovation (Hughes *et al.,* 2018). However, our understanding of the impact of destructive leadership styles on innovation remains limited (Lopes Henriques *et al.,* 2019). In this paper, we therefore examine the relationship between exploitative leadership (i.e., an underestimated leadership style) and innovation implementation. Exploitative leadership is defined as "leadership with the primary intention to further the leader's self-interest by exploiting others" (Schmid *et al.,* 2019, p. 1426). Previous studies have demonstrated the negative influence of exploitative leadership on organizationally relevant outcomes such as job satisfaction, knowledge hiding, increased turnover intention, burnout and workplace deviance (Schmid *et al.,* 2018, 2019; Guo *et al.,* 2020). Schmid *et al*. (2018), however, argue that in some situations, leader's self-interested behaviors may benefit the organization. For example, if a leader's goals are aligned with the goals of the organization, the leader may use seemingly friendly ways to push the followers to achieve higher targets. Considering that innovation implementation is a challenging and risky phase, in order to implement innovative ideas and leave their comfort zone, employees must have a goal in mind, follow a clear direction and be persistent in order to achieve this goal. This situation is very stressful and uncertain, and the employees may feel uncomfortable and frustrated, because they face many challenges that they did not foresee. We argue that a moderate level of exploitative leadership can be beneficial for implementing innovation. Exploitative leaders may push their followers to achieve higher goals even in challenging, unpredictable situations. Therefore, we examine the curvilinear relationship between exploitative leadership and innovation implementation and argue that an intermediate level of exploitative leadership style (ELS) may empower, support and guide employees during the innovation implementation, thereby proving that exploitative leadership has a positive effect on innovation implementation.

Furthermore, we argue that the degree to which employees actually respond to elevated intermediate exploitative leadership with higher level of innovation implementation may depend on two conditions. The first is the work–family balance (WFB), which may help employees to cope better with the stressful elements that both innovation implementation and ELS entail. Previous studies argue that a satisfactory WFB could have important implications for organizational innovation (e.g., James, 2011, 2014). When dealing with WFB, leaders play a crucial role in helping employees to better balance the demands between work and personal life (e.g., Hammond *et al.,* 2015). On the other hand, we argue that the family can provide resource gains that lead to better

functioning of the individual in the workplace (Crouter, 1984). The second condition is the extent to which WFB is encouraged by the organization. Powell *et al*. (2019) postulate that due to the increasingly blurred boundaries between work and private life, organizations today are faced with the task of maintaining and improving the WFB of their employees. Given this growing need, employers who want to help employees manage the balance between work and the other areas of life should provide with family-friendly workplace practices (FFWPs) at the organizational level. Altogether, we argue that individuals with a high level of WFB and FFWPs may be more tolerant to accepting an exploitative leader, and the positive feelings from the family domain could facilitate the innovation implementation. The relationship between FFWPs, WFB and innovative work behavior (IWB) has been partially overlooked in the literature to date (e.g., Alegre & Pasamar, 2018; James 2014), as has the relationship between these work–family issues and exploitative leadership.

Therefore, this paper grows around the need to fill the gaps in the literature with the aim to examine the impact on innovation implementation of the ELS, the WFB, and the FFWPs. First, investigating the possibility of an inverted U-shaped relationship between the ELS and the implementation phase of the IWB is examined. Then, in order to increase our knowledge of the relationship between these two topics, we propose, based on the Social Cognitive Theory (SCT) (Bandura, 1977, 1999), that innovation implementation behavior is influenced by the interaction of personal and environmental factors. In particular, we explore the possibility that WFB and FFWPs jointly moderate the relationship between exploitative leadership and innovation implementation.

This study aims to present several intended theoretical contributions. The first concerns the expansion of the innovation literature by examining the role of an ELS as an important driving force in the innovation implementation phase. We attempted to establish a link between these two under-researched topics: ELS and innovation implementation. We also complemented and expanded the missing literature on exploitative leadership (Schmid *et al.,* 2018, 2019) and shed light on its impact on the final phase of IWB. The second intended contribution of this study concerns the work–family literature. We contributed to the existing body of knowledge by dealing with both FFWPs adopted at the organizational level and WFB. We suggested that a high level of WFB and more FFWPs available at the organizational level contribute to an overall sense of harmony in life. Because of spillover effect of work–family enrichment, employees are more likely to tolerate an exploitative leader, and at the same time these positive feelings could act as a catalyst for innovation. Our study is the first empirical study to address work–family-related topics and innovation implementation. Finally, the paper proposes and empirically examines the three-way interaction between ELS, WFB and FFWPs that facilitates innovation implementation. We proposed

that the relationship between ELS[2] and innovation implementation might be strengthening by the combination of high-level WFB and high-level FFWPs. The findings of this paper could change the attitudes of managers and other key stakeholders to consider moderate level of exploitative leadership, work–family balance and FFWPs as important indicators for the innovation implementation.

2. Theoretical background and hypotheses development

2.1 Innovation implementation

The innovation process consists of several stages (exploration, generation, championing and implementation of ideas) (e.g., De Jong, & Den Hartong, 2010); however, innovation theories commonly describe two main phases: idea initiation and idea implementation (e.g., Axtell *et al.,* 2000; De Jong, & Den Hartong, 2007). The first phase, also known as creativity or idea generation, which was formally defined by Amabile (1996) as the generation of novel and useful ideas, can be seen both as an outcome and a process (Shalley and & Zhou, 2008). This phase is a determinant of innovation, a necessary precursor of innovation implementation at the individual level (Amabile, 1988).

According to De Jong and Den Hartong (2007), the point that separate the two phases is the point at which the decision to implement the innovation is made. In this way, the implementation phase begins after the idea is produced and ends when the idea is implemented.

Traditionally, literature has mainly focused on creativity, the generation of ideas and underestimated their implementation (e.g., Amabile, 1996; McAdam & McClelland, 2002; Woodman *et al.,* 1993). Recently, however, more attention has been paid to the implementation of ideas (e.g., Bear, 2012; Mumford, 2003). This step forward, where attention is paid to the implementation phase, it is necessary to have a complete vision of the IWB and its expected outcome: the innovative output. Conversely, many authors have not made a clear distinction between the two phases (e.g., Reuvers *et al.,* 2008) and have included both the idea generation and implementation in a single measure of the IWB of individuals (e.g., Janssen, 2000; Scott & Bruce, 1994; Van de Ven, 1986). On the contrary, as noted by De Jong and Den Hartong (2010), idea generation and implementation contribute to an overall construct of IWB, but are two different dimensions of this construct. Since idea generation and implementation are different activities, associated with different behaviors, a clear distinction between them improves the understanding of the innovation process and leads to useful practical implications.

Existing research suggests that many different factors influence the innovation implementation, including leadership (e.g., Perry-Smith & Mannucci, 2017). The behavior of leaders embodies an important element of the work context (e.g., Černe *et al.,* 2013). Leaders act not only as behavioral role models for innovative ideas, but also as key actors in improving innovative behavior and changing attitudes that are helpful for innovative activities and their implementation (Oke *et al.,* 2009).

Previous studies have examined the effects of different (positive) leadership styles, such as authentic leadership (e.g., Černe *et al.,* 2013; Rego *et al.,* 2012); transformational leadership (e.g., Gong *et al.,* 2009; Shin, & Zhou, 2003); participative leadership (e.g., Axtell *et al.,* 2000); supportive supervision (e.g., George & Zhou, 2007; Oldham & Cummings, 1996), on individual innovation and creativity, and found mixed results. For example, Černe *et al.,* (2013) found that perceived authentic leadership has a positive statistically significant effect on individual creativity. In terms of transformational leadership and creativity, both Gong *et al.,* (2009) and Shin and Zhou (2003) showed that transformational leadership is positively related to employee creativity.

Despite the emphasis on and interest in leadership-related factors when studying the phenomena related to innovation implementation, there is still a limited number of publications that examine the relationship between a specific leadership style and innovation implementation.

Among the limited available research, Škerlavaj *et al.,* (2014), who examined the relationship between idea generation and idea implementation, found that perceived supervisor support acts as a mediator and thus affects the implementation phase. Moreover, Michaelis and colleagues (2010) showed that this leadership style is strongly related to innovation implementation behavior of followers (Michaelis *et al.,* 2010).

2.2 Exploitative leadership style

Although leadership has both "positive" and "negative" leadership styles, the majority of researchers focused their attention more on the "positive" leadership styles, neglecting the "dark side" of leadership. Einarsen *et al.,* (2007) argue that not all leadership styles are extremely good or bad, but that there are also leadership styles that can include destructive and constructive behavior, thus emphasizing the need to also examine "moderated" level of leadership and not to focus only on the extremes (i.e., good or bad).

By exploring the "dark side" of leadership, a more accurate view of leadership may emerge (e.g., Conger, 1990). This negative side of leadership is known as "destructive leadership" (for a

review, see Schyns & Schilling, 2013). Academic attention to the characteristics of destructive leadership documents that this type of leadership occurs in many forms and includes a variety of behaviors that are not just limited to the absence of constructive and positive leadership behavior (e.g., Ashforth, 1994; Einarsen *et al.,* 2007; Tepper, 2000).

Researchers have proposed several concepts that could be considered as destructive leadership styles, including "abusive supervisors" (Tepper, 2000), "petty tyrants" (Ashforth, 1994) and "toxic leaders" (Lipman-Blumen, 2005). Einarsen *et al.,* (2007, p. 208) proposed a common definition of destructive leadership: "the systematic and repeated behavior by a leader, supervisor or manager that violates the legitimate interest of the organization by undermining and/or sabotaging the organization's goals, tasks, resources, and effectiveness and/or the motivation, well-being or job satisfaction of subordinates". In addition, the authors have proposed conceptual model of destructive leadership that includes both destructive and constructive behavior (Einarsen *et al.,* 2007). This suggests that among the nuances of the concept of destructive leadership, not all leadership styles are extremely good or bad, but that there are leadership styles that can include destructive and constructive behavior. Exploitative leadership could be perceived as such.

The concept of exploitative leadership was introduced by Schmid *et al.,* (2019) with the aim to better investigate a common but under-researched feature of leadership behavior: their achievement of self-interest. After empirically demonstrating that exploitative leadership is analytically different from other forms of destructive leadership, the authors defined it as leadership with the primary intention to further the leader's self-interest by exploiting others, reflected in five dimensions: genuine egoistic behaviors, taking credit, exerting pressure, undermining development, and manipulating (Schmid *et al.,* 2019, p.1426).

Exploitative leaders are self-interested and treats their followers as a means to achieve their goals. In other words, they use their power to benefit themselves (Williams, 2014). This statement, which at first glance may be perceived as negative, may also be perceived as positive when the leader's goals are consistent with those of the organization.

According to Schmid *et al.,* (2018), we can imagine situations in which the self-interested behaviors of leaders can also be beneficial for the organization. If the goal of the leader and the organization are aligned, the leader can encourage his or her followers to achieve higher goals (Schmid *et al.,* 2018). Moreover, an exploitative leader is not inherently hostile or aggressive like other abusive forms of leadership (e.g., Ashforth, 1994; Tepper, 2000). Exploitative leader tends to behave in an over-friendly manner, behaving in an extremely pleasant manner to ensure that his or her interests are met. These characteristics clearly distinguish this construct from many other forms

of destructive leadership and reinforce the good first impression that the leader makes on his/her followers (Schmid *et al.,* 2019).

Despite the importance of understanding exploitative leadership, empirical research on exploitative leadership is still limited (only two contributions: Schmid *et al.,* 2017, 2019), and the existing researches have focused their attention only on the downsides of this construct. However, the need to also consider "moderated" levels of an ELS and not just its extremes is evident. Previous studies have explored the relationship between exploitative leadership and some organizationally relevant outcomes, such as job satisfaction, organizational commitment, well-being, burnout and workplace deviance. These studies provided evidence of a negative relationship between exploitative leadership and job satisfaction, organizational commitment and well-being, and a positive relationship with the latter two variables: burnout and workplace deviance (Schmid *et al.,* 2019). In their studies, Schmidt and colleagues proposed a direct and linear relationship between the exploitative leadership and the dependent variables, without considering the possibility of a curvilinear relationship between this leadership style and output variables. Thereby, the authors disregarded the likelihood that moderate levels of exploitative leadership (as in the case of an inverted U-shaped relationship) could affect the independent variables (Schmid *et al.,* 2019).

2.3 The relationship between exploitative leadership and innovation implementation

Prior research provides empirical evidence that the success of innovation depends on employees, their result-oriented behavior and their willingness to invest considerable effort in the implementation of ideas (De Jong & Den Hartong, 2007). According to Škerlavaj *et al.,* (2014), this phase is embedded in social contexts, and effective innovation implementation requires collaboration, support and different types of skills, not just creative ones. Leaders may empower and influence these behaviors, thus presenting a crucial factor in the implementation of innovation.

Given the understanding, support and encouragement of leaders, followers are more likely to respond to change-initiatives and implement innovations (Michaelis *et al.,* 2010; Stegmaier & Sonntag, 2010). However, as De Jong and Den Hartong (2007) note, there are still a limited number of publications that explore the relationship between innovation implementation and an ELS. Although destructive and "moderated" leadership styles may also influence innovation implementation, the majority of existing studies have focused primarily on examining the relationship between positive leadership styles and innovation implementation (Alblooshi *et al.,* 2020; Michaelis *et al.,* 2010; Oke *et al.,* 2009).

Existing research suggests that exploitative leadership is not just a negative leadership concept because it may be positive for the organization if the goals of the leader are consistent with those of the organization. Exploitative leaders exert unjustified and excessive pressure on employees to get tasks done (Guo *et al.,* 2020). It is important to note that exploitative leaders may do this in an overtly friendly way, for example, by being extremely pleasant to ensure that their interests are met (Schmid *et al.,* 2019). Schilling *et al.,* (2009) further argue that exploitative leaders use a "carrot and stick" strategy to help their followers achieve certain organizational goals that pay off to the self-interest of leaders. In order to achieve his or her self-interested goals, an exploitative leader may therefore empower and influence the behavior of his or her employees. The more the employees perceive the innovation implementation as an important organizational goal, the more likely they are to exhibit such behavior. Therefore, we argue that a moderate level of exploitative leadership can promote the implementation of innovative ideas by focusing employees' attention toward goal-relevant activities.

Although IWB promotes organizational innovation, drives the progress of organizations, and their competitive advantage (e.g., Anderson *et al.,* 2004), limited research attention has been devoted to understanding of how and when exploitative leadership may influence IWB. Therefore, in the present work, we focus our interest on a relationship between two aspects that to our knowledge are under-researched in their field of research: the ELS and the innovation implementation phase.

The previous empirical study hypothesizes and tests linear relationships between ELS and employees' outcomes, thereby supporting the downsides of this leadership type (Schmid *et al.,* 2018, 2019). Grant and Schwartz (2012) argue that such focus may obscure "the prevalence and importance of nonmonotonic inverted U-shaped effects, whereby positive phenomena reach inflection points at which their effects turn negative", and vice-versa. Building on this argument, we suggest that the relationship between the exploitative leadership and innovation implementation is curvilinear. Namely, in order to implement the idea successfully, employees must have clear goals as to what needs to be done, and exploitative leaders can provide these guidelines. Moreover, exploitative leaders, if it is in their interest, may act overly friendly to achieve their goal by pushing their followers to achieve higher goals. For example, exploitative leaders may direct followers to successfully implement the innovation and then take credit for it.

We propose that an ELS is not strictly bad and that an intermediate level of this self-interested leadership style, which may help to empower, support and lead employees toward the end goal, may have a positive impact on innovation implementation. If the goal of the leader is innovation, in

line with the organizational need to foster innovation and to achieve it at the organizational level, this type of leadership can be positively related to organizationally relevant outcomes. From an individual perspective, to be innovative or to implement innovation, one must have a goal in mind and be persistent in order to achieve it. For this reason, exploitative leaders can be constructive at a moderate level. Too much of exploitative leadership is not good and certainly has a negative impact on followers, because an overly exploitative leader behaves selfishly, takes credit, and also exerts pressure, manipulates employees and undermines their development, which mitigates the innovation process (Schmid *et al.,* 2018, 2019). Too little of exploitative leadership can also be negative, because employees often refuse to participate in the implementation in something new and novel because it is too risky. With the absence of the leaders who constantly force or encourage their employees, the employees could remain in their comfort zone and would not commit themselves to the implementation of innovations. We therefore suggest that the moderate level of exploitative leadership would be beneficial to break out of the comfort zone, take the risk and implement innovative ideas. Thus, we specify the following hypothesis.

Hypothesis 1: There will be an inverted U-shaped relationship between exploitative leadership style and innovation implementation.

2.4 The interplay among ELS, WFB and FFWPs in predicting innovation implementation

Since an ELS is destructive in nature, we argue that it is important to understand under what circumstances employees might be better able to accept this self-serving style of leadership. In view of the blurred boundaries between work and private life, organizations today are called upon to maintain and improve well-being of their employees. Different leadership styles may play an important role in helping followers to achieve a better work-family balance (WFB) (e.g., Hammond *et al.,* 2015). At the same time, the WFB may have a positive impact on organizational innovation (e.g., James, 2011, 2014).

Therefore, we suggest that WFB is an important factor that can affect the relationship between exploitative leadership and the implementation of innovation. In response to the changing nature of gender roles, family structure, types of work and careers (Powell *et al.,* 2019), employees are declaring a greater interest in WFB. These complex demands between professional and home responsibilities have become relevant not only for employees but also for researchers. The amount of research on the interface between work–family has thus exploded over the past five decades (Powell *et al.,* 2019). In view of the fact that work and family are closely related domains of human

life, the linkage mechanism between work and family has become particularly important. Among the numerous mechanisms identified in the work–family literature, the conflict between work and family (e.g., Greenhaus & Beutell, 1985) deserved special attention.

Work–family conflict is defined as a form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some aspects (Greenhaus & Beutell, 1985, p. 77). It is associated with a variety of negative consequences. Allen *et al.,* (2000) identified three broad areas of work–family conflict consequences: non-work-related, work-related and stress-related. Given the purpose of this paper, we focused our attention on work-related consequences, especially the IWB of employees (Byron, 2005).

Previous studies suggest that the conflict between work and family may reduce the likelihood of employees engaging in innovative behavior at work and neglecting more challenging aspects of their work (e.g., Choi *et al.,* 2018; Van Dyne *et al.,* 2002). In the majority of the studies, researchers hypothesized that the conflict between work and family inhibits IWB; but the empirical results support a negative and consequential relationship between work-family conflict and IWB (e.g., Abstein *et al.,* 2014; Choi *et al.,* 2018). Organizations are thus faced with the challenge that today many workers are women that have to deal with the competing demands of work and private life and thereby often experience conflict between these life domains (Byron, 2005).

Thus, employers and human resource managers should do their best to prevent work–family conflict from having negative effects on employees. To this end, the literature to date suggests the introduction of FFWPs (e.g., Beauregard & Henry, 2009; Bloom *et al.,* 2010; Lazar *et al.,* 2010). The FFWPs, also known as work–family policies, and WFB practices, are designed to reduce work–family conflict and improve the ability of employees to reconcile work and private life (Bloom *et al.,* 2010). These practices are associated with flexible working, telecommuting, reduction in working hours in the form of compressed workweeks or part-time, and family-friendly policies that support family care, health and well-being of employees (Lazar *et al.,* 2010). The FFWPs are not only a means of accommodating employees with care or other home responsibilities, but they represent a conscious change in organizational culture that makes an important contribution to organizational performance (Beauregard & Henry, 2009). Bloom *et al.,* (2010) consider WFB as an "outcome" and FFWPs as an "input".

Building on a SCT (Bandura, 1977,1999), we further suggest that implementation behavior is influenced by the interaction of personal and environmental factors. Specifically, we suggest that WFB (i.e., personal factor) and FFWPs (i.e., an environmental factor) jointly moderate the proposed curvilinear ELS–innovation implementation relationship.

We argue that employees who are satisfied with their WFB and work in a family-friendly organization which adopts FFWPs have a good balance between the time and effort devoted to work and personal activities, and thereby are able to maintain an overall sense of harmony in life (James, 2014). Because of the spillover effect of positive things from one domain to another (Edward & Rothbard, 2000), employees may be more tolerant of exploitative leadership. As mentioned before, the exploitative leadership has a destructive nature, and for this reason it is important to understand under what circumstances employees might be more willing to accept this self-serving leadership. According to the literature, this could be explained by the theory of work–family enrichment, which indicates the conditions under which the two domains are "allies" rather than "enemies" (Friedman & Greenhaus, 2000).

Greenhaus and Powell (2006) define work–family enrichment as the extent to which experiences in one role improve the quality of life in the other role (p. 73). Carlson *et al.,* (2006) found that this concept is bidirectional: work-to-family enrichment occurs when work can provide resource gains that lead to better functioning in the family domain (Barnett *et al.,* 1992). In addition, family-to-work enrichment occurs when the family can provide resource gains that lead to better functioning of individual in the work domain (Crouter, 1984). Therefore, we argue that employees with a high level of WFB and who work in organizations that have adopted family-friendly practices are more likely to accept an exploitative leader. At the same time, the positive feelings from the family domain act as facilitators for the implementation of innovation. Conversely, without a satisfactory level of WFB and without the family-friendly practices, it is difficult to cope with a moderate level of ELS, because employees lack harmony in life and this imbalance also affects the work domain, ultimately resulting in lower innovation implementation.

Thus, we propose that:

> *Hypothesis 2: There will be a three-way interaction of ELS, WFB and FFWPs in predicting innovation implementation, such that the combination of high-level WFB and high-level FFWPs will strengthen the relationship between ELS² and innovation implementation, while the combination of low-level WFB and low-level FFWPs will weaken such relationship.*

Figure 1 demonstrates the theoretical framework composing the hypotheses of this study.

Figure 1 Theoretical framework demonstrating our hypotheses
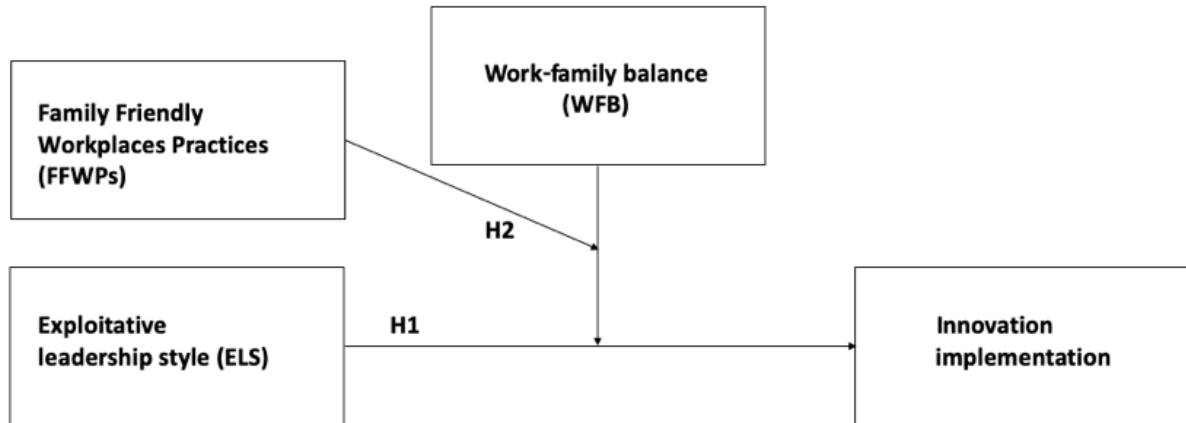
Notes: H1 indicates Hypothesis 1; H2 indicates Hypothesis 2

Source: author

3. Methodology

3.1 Research setting, participants and procedures

Empirical data were collected from 38 medium and large enterprises (20 Italian and 18 Croatian) belonging to different sectors (naval and boat building, furniture, engineering, design services, etc.). The countries selection was based on geographical convenience, and additionally, we used a convenience non-probability sampling approach to approach these organizations. Data collection was carried out from April 2019 to November 2019.

An internet-based survey has been conveyed to the employees via company representatives. To reach our target respondents, the survey was limited only to the white-collar workers, as they are more likely to be involved in the innovation process and the decision making about innovation implementation in these firms. At the same time, they represent the backbone of the organization, linking the production with the top management.

Overall, 554 employees responded to the survey, with a high response rate (near 70%). However, after excluding questionnaires with missing values in more that 10 percent of variables, 440 were left as valid responses.

Initially, the questionnaire was developed in English, followed by a back-to-back translation (Brislin, 1980) to present it in the Italian and Croatian language.

Among the respondents, 66 percent were male and about 44 percent had a degree. About 32 percent of the employees were below the age of 35 and 32 percent belonged to the 36–45 age group, and 26 percent belonged to the 45–54 age group. The average length of working with the

current supervisor is 6.81 years (SD=6.85), ranging from 1 to 36. In total, respondents belong to 37 companies, and 83 percent are Italian ones. In addition, 67 percent of employees have children or relatives under their care at home.

3.2 Measures

All the variables have been self-reported and measured by a 5-point Likert scale. All items used in this study were measured as part of a questionnaire that abundantly included the items to address. Therefore, it was hardly possible for the respondents to assume the exact aim of the study, allowing us to acquire reliable answers. Some items in the questionnaire were also reverse-coded.

A description of the measures adopted for variables used in our study are detailed below (see Appendix for the complete items' list). In our analysis, we have averaged and centered the items per Aiken and West (1991).

Innovation implementation

Innovation implementation was measured with four items taken from de Jong and den Hartog (2010) that only concerned the implementation part of the innovation process, rather than idea generation, idea selection or idea championing. Sample items include: *"How often do you systematically introduce innovative ideas (yours or others) into work practices?"* and *"How often do you contribute to the implementation of new ideas? (yours or others)"*. Participants were asked to indicate how often they had experienced each of the statements, ranging from 1 (*Never*) to 5 (*Regularly*) (α=0.87).

Exploitative leadership style

A 7-items scale was adopted to measure the exploitative leadership style. It is a reduced version of the 15-item scale developed by Schmidt *et al.,* (2019). Examples of items include: *"My supervisor sees employees as a means to reach his or her personal goals"* and *"My supervisor increases my workload without considering my needs in order to reach his or her goals".* Participants were asked to think of their direct supervisor and indicate how much they agree with each of the statements (1=*Strongly disagree*; 5=*Strongly agree*) (α=0.94).

Work–Family balance

The WFB was measured with the 3-items scale developed by White *et al.,* (2003), including: *"My job allows me to give the time I would like to my partner/family"* and *"My partner/family gets a bit fed up with the pressure of my job"* (Reversed code). Participants were asked to indicate how often they had experienced each of the statements, ranging from 1 (*Never*) to 5 (*Regularly*) (α=0.75).

Family-Friendly Workplace Practices

To measure FFWPs, we used the construct developed by Bloom *et al.,* (2010). Participants were asked to respond to the following question: *"If you need to take a day off at short notice due to family emergencies how do you usually do this?"*. They had to provide only one answer among five response choices, ranging from least family-friendly practices to most family-friendly practices: 1=*This is not allowed* to 5=*I take time off but make it up later*.

Control variables

To find out potential associations of demographic variables with innovation implementation, we controlled for age, gender, employee education, care, country and company's name. Innovation literature has demonstrated different effects of age across innovation-related behaviors (cf. Ng, & Feldman, 2013). We included gender because male and female workers might have differential access to opportunities to engage in innovation-related behaviors (cf. Ohlott, Ruderman, & McCauley, 1994). Regarding the education level, other studies have included this variable as a control variable because it is positively correlated with the ability to generate and articulate innovative ideas (cf. Fasko, 2001). The control variable care evaluates if respondents have children or relatives under their care at home, and might be strictly related with WFB and FFWPs, two focal variables in our study. In addition, we controlled for the country, which is a valuable control variable because each country may have different labor regulation and laws that can significantly influence workplace support, labor rights and policies, strictly connected with the organization's adoption of FFWPs and the individual's attitudes toward WFB (cf. Abendroth, & Den Dulk, 2011). Lastly, for the sake of completion, we also include the company names because each company provides somewhat different workplace social context and work–family context which again can significantly influence the variables used in this study and the relationships among them (cf. Behson, 2002).

4. Results

4.1 Descriptive statistics and reliability

Table 1 provides the descriptive statistics and reliability coefficients for all the variables analyzed in the study. There is a negative and statistically significant correlation between innovation implementation and ELS (r= −0.139, p<0.01). However, the highest and positive correlation is between WFB and exploitative leadership style (r= 0.310, p<0.01).

On the basis of the reliability coefficients, all measurement scales are internally consistent. They all exceed the 0.70 criterion established in the literature (Hair *et al.,* 2010) and may, therefore, be accepted.

Table 1 Descriptive statistics, correlations and scale reliabilities

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1. Innovation Implementation	3.16	0.85	(0.87)								
2. Exploitative Leadership Style (ELS)	2.44	1.08	-0.139**	(0.94)							
3. Work-family balance (WFB)	2.83	0.86	0.052	0.310**	(0.75)						
4. Family friendly workplaces practices	3.32	1.22	0.031	-0.095*	-0.099*	-					
5. Gender	1.33	0.47	-0.094*	-0.05	0.044	-0.019	-				
6. Age	3.13	1.06	-0.02	0.089	0.053	-0.156**	-0.194**	-			
7. Education	1.57	0.65	0.116*	-0.035	0.088	0.011	0.153**	-0.225**	-		
8. Care	1.33	0.47	-0.05	-0.083	-0.142**	0.099*	-0.057	-0.228**	0.03	-	
9. Country	1.18	0.38	0.097*	-0.106*	-0.038	-0.048	0.028	-0.209**	0.267**	0.003	-

Notes: *n*=440. Coefficient Alphas are on the diagonal in parentheses. For gender, 1 = "male", 2 = "female". For age, 1 = "less than 24", 2 = "25-34", 3 = "35-44", 4 = 45-54", 5 = "over 54". For education, 1 = "Middle or High school diploma", 2 = "Bachelor's or master's degree, 3 = "Master/MBA/E-MBA" and 4 = "Doctorate degree". For care, 1 = "yes" and 2="no". For country, 1 = "Italy" and 2 = "Croatia". * p<0.05; ** p<0.01.

4.2 Results of regression analysis

Hypotheses 1 and 2 were tested using a moderated hierarchical regression analysis. Table 2 presents the results. We grand-mean-centered our independent variables to reduce unnecessary multicollinearity between the linear terms and their quadratic counterparts (Aiken & West, 1991). All five models for innovation implementation in Table 2 include the following control variables: gender, age, education, care, country and company name. In the first step (Model 1), we entered only the control variables. In the second step (Model 2), we included all first-order associations between innovation implementation, ELS, WFB and FFWPs, respectively. The ELS was negatively related to innovation implementation (β= -0.16, p=0.001), and WFB was positively related to

innovation implementation (β=0.11, p=0.036), while the effect of FFWPs was insignificant. Afterward, to test our prediction that ELS would have a curvilinear relation to innovation implementation (Hypothesis 1), in the third model we included the quadratic term of ELS (i.e., ELS squared). The coefficient associated with this term was negative and statistically significant (β=−0.49, p=0.034); therefore Hypothesis 1 is accepted. In Figure 2, we present a plot of the quadratic regression models that demonstrates the inverted U-shaped relationship between ELS and innovation implementation. The plot shows that as the level of ELS increases, innovation implementation also increases. However, when ELS arrives at an inflection point, innovation implementation peaks and then drops as ELS increases, as described by a predominantly positive, concave descending curve (Aiken & West,1991). Then, in the fourth step (Model 4) we added all second-order associations. The only statistically significant two-way interaction was the negative interaction between WFB and FFWPs (β=−0.36, p=0.027). Finally, in the last step (Model 5), we examined the three-way interaction effects of ELS, WFB and FFWPs on innovation implementation, inserting both the linear and the curvilinear three-way interaction terms. The results show that the three-way interaction was significant (β=−2.69, p=0.049). Figure 3 shows that under conditions of both high-level WFB and high-level FFWPs the relationship between ELS^2 and innovation implementation is the strongest.

**Table 2 Results of hierarchical regression analyses**

	Model 1	Model 2	Model 3	Model 4	Model 5
Intercept	3.24 (0.31)***	3.28 (0.38)***	2.80 (0.44)***	1.11 (1.10)	-2.55 (2.14)
Gender	-0.13 (0.09)**	-0.14 (0.09)**	-0.14 (0.09)**	-0.16 (0.09)**	-0.16 (0.09)**
Age	-0.02 (0.04)	-0.02 (0.04)	-0.01 (0.04)	-0.01 (0.04)	-0.02 (0.04)
Education	0.12 (0.07)*	0.11 (0.07)*	0.12 (0.07)*	0.12 (0.07)*	0.12 (0.07)*
Care	-0.07 (0.09)	-0.07 (0.09)	-0.07 (0.09)	-0.07 (0.09)	-0.06 (0.09)
Country	0.06 (0.11)	0.05 (0.11)	0.04 (0.11)	0.05 (0.11)	0.06 (0.11)
Company	0.07 (0.00)	0.07 (0.00)	0.08 (0.00)	0.07 (0.00)	0.06 (0.00)
Exploitative Leadership Style (ELS)		-0.16 (0.04)**	0.32 (0.19)	1.22 (0.62)	1.20 (0.62)
Work-family balance (WFB)		0.11 (0.05)*	0.11 (0.05)*	0.31 (0.25)	0.29 (0.25)
Family Friendly Workplace Practices (FFWPs)		0.01 (0.03)	0.01 (0.03)	0.50 (0.21)	2.12 (0.61)*
ELS²			-0.49 (0.03)*	-1.65 (0.12)*	-1.61 (0.12)
Interaction effects					
ELS x WFB				-1.25 (0.20)	-1.15 (0.20)
ELS² x WFB				1.39 (0.04)	1.29 (0.04)
ELS x FFWPs				-0.68 (0.16)	-4.44 (0.52)*
ELS² x FFWPs				0.64 (0.03)	2.99 (0.10)*
WFB x FFWPs				-0.36 (0.04)*	-2.11 (0.21)*
ELS x WFB x FFWPs					4.20 (0.17)*
ELS² x WFB x FFWPs					-2.69 (0.03)*
R	0.21	0.26	0.28	0.33	0.35
R²	0.04	0.07	0.08	0.11	0.12
F	3.19	3.50	3.63	3.49	3.33
P	0.005	0.000	0.000	0.000	0.000

Notes: *n*=440. ELS, Exploitative Leadership Style; WFB, Work-family balance; FFWPs, Family Friendly Workplace Practices. Standardized regression coefficients and estimations of standard errors are displayed. * $p<0.05$; ** $p<0.01$; *** $p<0.001$.

Figure 2 Relationship between ELS and innovation implementation
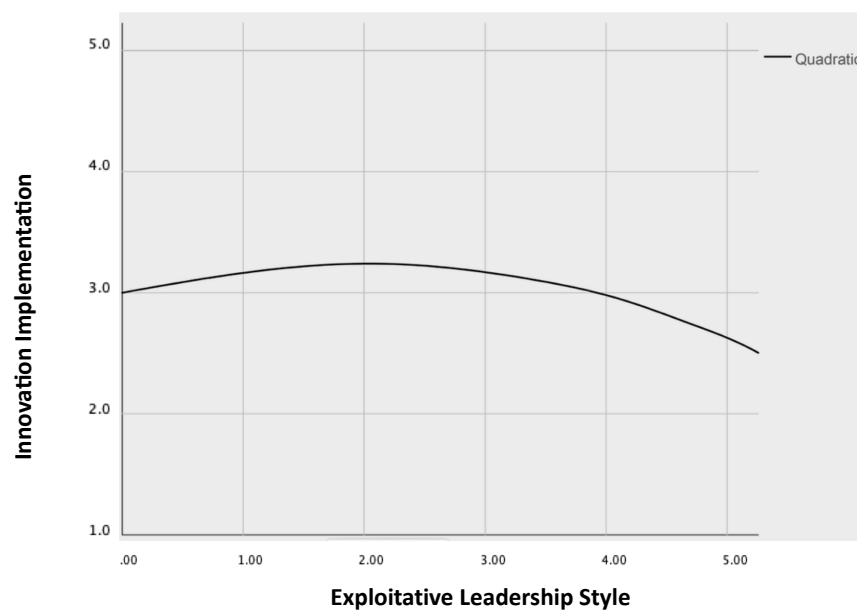
Figure 3 Three-way interaction of ELS, WFB and FFWPs in predicting innovation implementation
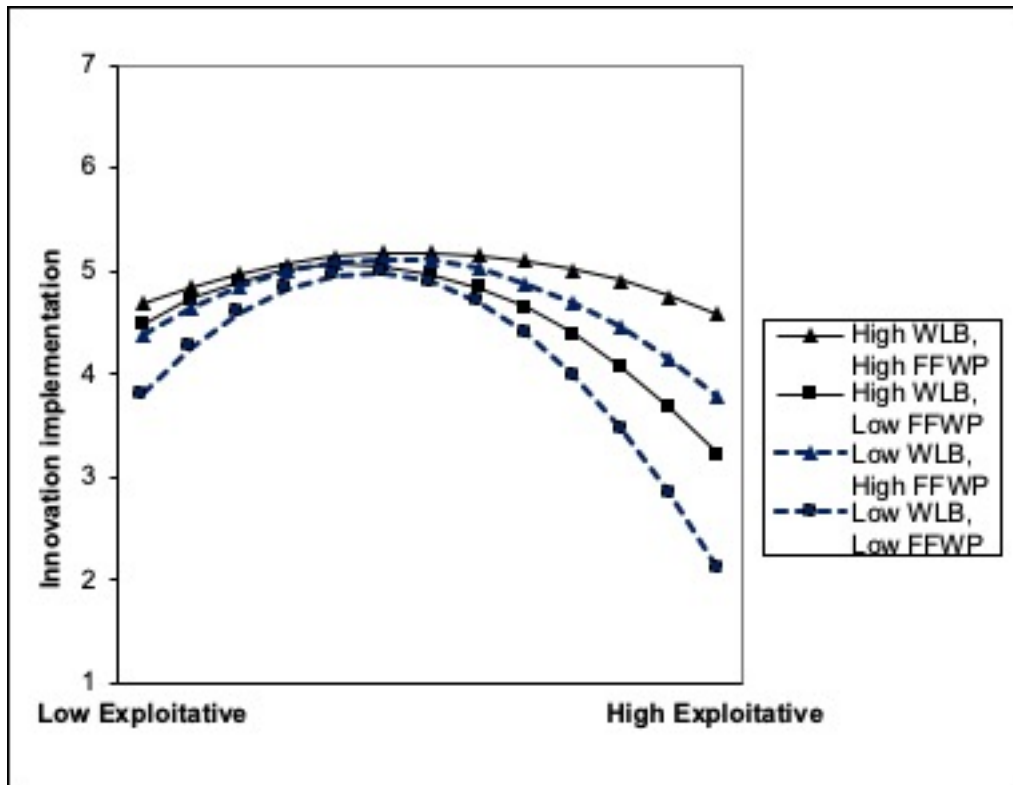
Notes: ELS, Exploitative Leadership Style; WFB, Work-family balance; FFWPs, Family Friendly Workplace Practices.

5. Discussion

This study was designed to examine the possibility of an inverted U-shaped relationship between the ELS and the implementation phase of the IWB. Further, we demonstrated how the interplay between the ELS, WFB and FFWPs affects the innovation implementation. In particular, we have drawn on the Social Cognitive Theory (Bandura, 1977, 1999) to explain a three-way, dynamic, reciprocal model in which the personal factor (i.e., individual's perception about WFB), environmental influences (i.e. ELS and the FFWPs) and behavior (i.e. innovation implementation) interact continuously. In our study, we propose, as reported by Bandura (1999), that the exchange between person and situation unidirectionally provokes the behavior, and the behavior itself has no influence on the exchange between the situation and the person.

In line with the first hypothesis, the results of our study suggest that there is an inverted U-shaped relationship between the ELS and the implementation phase of IWB. This indicates that the ELS is not only negatively related to innovation but also that an exploitative leader is not strictly bad because employees need an intermediate level of this kind of leadership to be encouraged to implement something new and risky. We also found support for our second hypothesis, which shows that under conditions of both high-level WFB and high-level FFWPs the relationship between

ELS² and innovation implementation is the strongest, while under conditions of both low-level WFB and low-level FFWPs the relationship between ELS² and innovation implementation is the weakest. Our results suggest that individuals with a high level of WFB that work in an organization that employs family-friendly practices are more tolerant to accepting an exploitative leader, and that the positive feelings from the family domain encourage the implementation of innovation. These results may change the attitudes of managers and other key stakeholders to consider work–family balance and FFWPs as important indicators for the implementation of innovation.

6. Theoretical contributions

Our findings make a threefold contribution. First, the study contributes to the emerging but limited exploitative leadership literature by providing empirical evidence that ELS could play a crucial role in the innovation implementation phase. By focusing on idea implementation as the central outcome variable, the results showed an inverted U-shaped relationship between ELS and the innovation implementation phase, suggesting that a moderate level of ELS promotes the implementation of innovative ideas. With the discovery that ELS could facilitate the idea implementation dimension, we go beyond existing studies in this field and make a theoretical and empirical attempt to establish a link between a moderate level of "negative" leadership styles and innovation implementation.

At the same time, our results complement and expand on the missing literature on ELS (Schmid *et al.,* 2018, 2019) and shed light on the relationship between two under-researched topics. Leadership has been identified as an important factor that influences innovation implementation; however, our understating of the relationship between exploitative leadership literature and innovation implementation remains limited. In addition, most behavioral leadership studies focus on performance or productivity rather than innovation-related outcomes (De Jong & Den Hartong, 2007). The majority of the study focused on the role of the leader in stimulating the first phase of the IWB: creativity (Shalley & Gilson, 2004), while the implementation phase received little attention (De Jong & Den Hartong, 2007).

Furthermore, to the best of our knowledge, this is the first study to propose and empirically examine a non-linear relationship between ELS and the results of followers, and is also the first to examine the relationship between exploitative leadership and innovation implementation. Therefore, our study differs from the previous literature on ELS, which mainly examines the negative side of exploitative leadership and emphasizes its destructive nature (Schmid *et al.,* 2019). Our study

thus contributes to the exploitative leadership literature by demonstrating that ELS may have a positive impact on organizationally relevant outcomes. More specifically, our study expands the ELS literature by providing empirical evidence that a moderate level of ELS can promote the implementation of innovative ideas.

As noted in the literature, the IWBs are risky, uncertain and require a continuous input of resources (Yidong & Xinxin, 2013). This is especially true for the implementation phase. Therefore, employees often do not want to take risks and implement something new and novel because it is too risky. We speculate that if employees do not have a leader who constantly forces or encourages them, employees may stay in their comfort zone and not engage in innovation implementation. Thus, an intermediate level of exploitative leadership may be beneficial. As noted in the literature, an exploitative leader is not inherently hostile or aggressive like other abusive forms of leadership (e.g., Ashforth, 1994; Tepper, 2000). Exploitative leader usually behaves in an over-friendly manner, being exceptionally pleasant to ensure that his interests are met. These characteristics distinguish exploitative leadership from many other forms of destructive leadership and improve the leader' first impression with his followers (Schmid *et al.,* 2019). In any case, the relationship between ELS and innovation implementation did point out that this is an important style of leadership through which supervisor's behavior impacts the innovative idea is implementation.

The second contribution of this study concerns the work–family literature. In our study, we examined FFWPs and employees' perception of WFB, which are closely related because FFWPs improve employees' ability to combine working and personal life (Bloom *et al.,* 2011) and thus promote WFB. To the best of our knowledge, our study is the first empirical study to examine the relationship between these work–family topics and innovation implementation. Although WFB is a common theme among scholars and practitioners, only a minority of the studies have examined the relationship between this concept and the IWB of individuals in all its phases. We proposed and found empirical evidence that an adequate level of FFWPs have a positive impact on the WFB by reducing the level of work–home conflict. Our findings are in line with the existing studies suggesting that family provides resource gains that lead to improved functioning of the individual in the work domain, thereby promoting IWB (Carlson *et al.,* 2006). Positive feelings from the family domain have a particularly positive effect in critical work situations where employees are under pressure and stress. Our study suggests that adequate level of WFB can help employees to deal with stress, arising from the exposure to a high level of ELS, which can be destructive for their well-being and several other outcomes as job satisfaction, burnout and workplace deviance (Schmid *et al.,* 2019).

Finally, in this study, we propose and support the three-way interaction between ELS, WFB and FFWPs. Drawing on Bandura's SCT (1977, 1999), we treated ELS and FFWPs as organizational factors, WFB perceptions as an individual factor and innovation implementation as behavioral factor. Thereby, we provided evidence that when exposed to intermediate levels of ELS, employees who experience higher levels of WFB and FFWPs exhibit higher innovation implementation. This theoretical contribution is consistent with previous studies that suggest that personal and contextual factors interact to enhance the creativity phase of IWB (e.g., Amabile, 1988, Woodman *et al.,* 1993). However, to the best of our knowledge, this is the first study that focuses on innovation implementation rather than creativity. The study thus offers an important theoretical contribution by demonstrating that a negative organizational phenomenon such as ELS could be beneficial for organizational innovation under specific conditions (i.e., an intermediate level of exploitative leadership, joined with the high levels of the WFB and FFWPs).

7. Managerial implications

In this ever-changing world, characterized by a dynamic and globalized business environment, innovation that ensures organizational effectiveness and competitive advantage is critical to the long-term survival of organizations (e.g., Anderson *et al.,* 2004; Scott & Bruce, 1994). Innovation is mainly rooted in the IWB of employees, who contribute to the innovation processes of the organizations to which they belong (e.g., Amabile & Pratt, 2016; Oldham & Cummings, 1996). Consequently, the organization and management of all phases of the IWB has become a matter of strategic importance for organizations (e.g., Amabile, 1996; Shalley *et al.,* 2004; Woodman *et al.,* 1993).

As discussed above, the literature has traditionally focused mainly on the first phase of IWB, creativity, undervaluing the ideas implementation (e.g., Amabile, 1996; Woodman *et al.,* 1993). This study focuses on the innovation implementation phase, because we argue that it is essential to having a comprehensive vision of the IWB and innovative output. Therefore, the results of our study hold several important implications for innovation management.

Our study indicated that a moderate level of ELS enhances the implementation phase. Therefore, the study emphasizes the need for managers to manage ELS with attention, without considering this style of leadership only as negative and destructive, but with the knowledge that it could be valuable for innovation if applied moderately. Moreover, this study implies the importance

of two overriding factors, that is, FFWPs and WFB, which, when combined with ELS, will lead to the high level of innovation implementation.

Nowadays, the need to reconcile work with other domains of life is one of the greatest challenges and necessities for individuals and organizations due to the increasing conflict between the demands of work and the decline of work as a central interest in life (Guest, 2002). As most widely supported in the literature on the work–family relationships (e.g., James, 2011, 2014), the most important element available to managers to raise the level of WFB for employees is the availability and use of FFWPs at the organizational level (Alegre & Pasamar, 2017). Employers should therefore promote the availability of FFWPs that include a wide range of measures, such as providing flexible working arrangements like telecommuting, flextime, job sharing; reducing working hours as part-time, compressed weeks; adopting personal leave policies and benefits that provide leaves to allow time for personal commitments and caring for family members; and adopting measures that provide "workplace social support" for parents and on-site child care, as well as other support initiatives for working parents (James, 2011). However, Thompson and colleagues (1999) argue that the mere adoption or availability of these measures and policies is enough to promote the employees' WFB (Thompson *et al.,* 1999).

For this reason, managers should be aware that in order to be successful, these policies must be integrated into an organizational culture. The organizational culture plays an essential role in facilitating or hindering employees' attempts to balance work and family responsibilities by influencing the employee's perception of WFB. Accordingly, the introduction of a WFB culture is the first step that should be considered to encourage not only the mere adoption of WFB arrangements but also their practical application, thus improving the employee's perception of WFB, which could in turn encourage the implementation of innovation (Alegre & Pasamar, 2017).

Managers should thus consider and address three aspects to improve the work–family culture: management support and sensitivity to employees' family responsibilities; the career consequences of taking advantage of work–family benefits; and finally, the organization's timing requirements or expectations that employees prioritize work over family, which may interfere with family responsibilities (Thompson *et al.,* 1999). This leads to another important insight for managers, namely the important role of managerial support for WFB, which is closely linked to the concept of family-supportive supervision (the empathy of the supervisors and measures to support employees in coping with work and family life) (Thomas & Ganster, 1995).

In summary, this study draws attention to the implementation phase of IWB, which is promoted by the interaction between ELS, WFB and FFWPs. With our findings, we provide several insights for

managers that highlight the importance of meeting the growing need to balance work and other domains of life, and also highlight the value of FFWPs and the importance of managers' behavior in predicting WFB.

8. Limitations and future research directions

Despite several contributions, thus is not without its limitations. The first drawback is the cross-sectional research design, which limits the ability to determine causality. In order to understand the detailed causality relationship of ELS with WFB and FFWPs on innovation implementation, the evidence of respondents at longitudinal intervals should be collected to make more realistic causal statements.

Second, all variables have been self-reported, which raises doubts on a common method bias. However, our results are based on several independent variables and their interaction effects. The complex three-way evaluation suggests that it is unlikely that results are obtained due to a common method bias. Siemens *et al.,* (2010, p. 470) argue that finding significant interaction effect despite the influence of common method bias in the date should be taken strong evidence that an interaction exists. Nevertheless, some items in the questionnaire were reverse-coded, making it difficult for respondents to assume the precise aim of the study, which should limit the possibility of a common method bias.

In the past literature on IWB has asserted that it is unlikely that the IWB of employees will be accurately assessed by another observer (Amabile *et al.,* 2005), and that external evaluators can rely on a general impression of all behavior at work, relying on so-called "halo effect", rather than focusing on the IWB (Spector, 2006). In contrast to this mainstream research, for the sake of completion, further research may provide the ratings of supervisors for innovation implementation. Namely, due to their objective evaluation, the ratings of supervisors are often used to measure IWB.

Third, we drew our sample from Italian and Croatian firms, in order to enable generalization in the context of other economies. However, to extend the applicability of our results, further research should be done in other countries.

Finally, in contrast to the earlier studies on ELS (Schmid *et al.,* 2018, 2019), we have found that ELS is not a completely destructive style of leadership. We found evidence of a curvilinear relationship between ELS and innovation implementation. To enhance our understanding of this relationship, we also examined under which circumstances this effect occurs more easily. Scholars should continue to study the ELS and its impact on other organizationally relevant outcomes by

considering curvilinear effects. Further research should examine the role of time pressure and also consider employees' time perspective, thereby examining whether the results differ in the short term or long term.

References

Abendroth, A.K. and Den Dulk, L. (2011). Support for the work-life balance in Europe: The impact of state, workplace and family support on work-life balance satisfaction. *Work, employment and society, 25*(2), 234-256, doi: 10.1177/0950017011398892.

Abstein, A., Heidenreich, S., & Spieth, P. (2014). Innovative work behaviour: The impact of comprehensive HR system perceptions and the role of work–life conflict. *Industry and Innovation, 21*(2), 91-116.

Aiken, L.S. and West, S.G. (1991). *Multiple Regression: Testing and Interpreting Interactions*, Sage, Newbury Park, CA.

Alblooshi, M., Shamsuzzaman, M., & Haridy, S. (2020). The relationship between leadership styles and organisational innovation. *European Journal of Innovation Management*.

Alegre, J., & Pasamar, S. (2018). Firm innovativeness and work-family balance. *Technology Analysis & Strategic Management, 3*0(4), 421-433.

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*(2), 278.

Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in organizational behavior, 10*(1), 123-167.

Amabile, T. M. 1996*. Creativity in context*. Boulder, CO: Westview.

Amabile, T. M., & Pratt, M. G. (2016). The dynamic componential model of creativity and innovation in organizations: Making progress, making meaning. *Research in organizational behavior, 36*, 157-183.

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative science quarterly, 50*(3), 367-403.

Anderson, N., De Dreu, C. K., & Nijstad, B. A. (2004). The routinization of innovation research: A constructively critical review of the state-of-the-science. *Journal of organizational Behavior, 25*(2), 147-173.

Anderson, N., Potočnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of management, 40*(5), 1297-1333.

Ashforth, B. (1994). Petty tyranny in organizations*. Human relations, 47*(7), 755-778.

Axtell, C. M., Holman, D. J., Unsworth, K. L., Wall, T. D., Waterson, P. E., & Harrington, E. (2000). Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of occupational and organizational psychology, 73*(3), 265-285.

Baer, M. (2012). Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal, 55*(5), 1102-1119.

Bandura, A. (1977). Self-efficacy: toward a unifying theory of behavioral change. *Psychological review*, *84*(2), 191.

Bandura, A. (1999). A social cognitive theory of personality. In L. Pervin & O. John (Ed.), *Handbook of personality* (2nd ed., pp. 154-196). New York: Guilford Publications.

Baumeister, R. F., Bratslavsky, E., Finkenauer, C., & Vohs, K. D. (2001). Bad is stronger than good. *Review of general psychology, 5*(4), 323-370.

Beauregard, T. A., & Henry, L. C. (2009). Making the link between work-family balance practices and organizational performance. *Human resource management review, 19*(1), 9-22.

Behson, S. J. (2002). Which dominates? The relative importance of work–family organizational support and general organizational context on employee outcomes. *Journal of vocational behavior*, *61*(1), 53-72, doi: 10.1006/jvbe.2001.1845.

Bloom, N., Kretschmer, T., & Van Reenen, J. (2011). Are family-friendly workplace practices a valuable firm resource?. *Strategic Management Journal, 32*(4), 343-367.

Braun, S., & Nieberle, K. W. (2017). Authentic leadership extends beyond work: A multilevel model of work-family conflict and enrichment. *The Leadership Quarterly, 28*(6), 780-797.

Brislin, R.W. (1980). Translation and content analysis of oral and written material, in Berry, H.C.T.J.W. (Ed.), *Handbook of Cross-Cultural Psychology*, Vol. 1, Allyn & Bacon, Boston, MA, pp. 389-444.

Byron, K. (2005). A meta-analytic review of work–family conflict and its antecedents. *Journal of vocational behavior, 67*(2), 169-198.

Carlson, D. S., Kacmar, K. M., Wayne, J. H., & Grzywacz, J. G. (2006). Measuring the positive side of the work–family interface: Development and validation of a work–family enrichment scale. *Journal of vocational behavior, 68*(1), 131-164.

Černe, M., Jaklič, M., & Škerlavaj, M. (2013). Authentic leadership, creativity, and innovation: A multilevel perspective. *Leadership, 9*(1), 63-85.

Choi, S. B., Cundiff, N., Kim, K., & Akhatib, S. N. (2018). The effect of work-family conflict and job insecurity on innovative behaviour of Korean workers: the mediating role of organisational commitment and job satisfaction. *International Journal of Innovation Management, 22*(01).

Conger, J. A. (1990). The dark side of leadership. *Organizational dynamics, 19*(2), 44-55.

Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of management studies, 47*(6), 1154-1191.

Crouter, A. C. (1984). Spillover from family to work: The neglected side of the work-family interface. *Human relations, 37*(6), 425-441.

De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and innovation management, 19*(1), 23-36.

De Jong, J.P.J. and Den Hartog, D.N. (2007), "How leaders influence employees' innovative behaviour", *European Journal of Innovation Management, 10*(1), 41-64.

Edwards, J. R., & Rothbard, N. P. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *Academy of management review, 25*(1), 178-199.

Einarsen, S., Aasland, M. S., & Skogstad, A. (2007). Destructive leadership behaviour: A definition and conceptual model. *The Leadership Quarterly, 18*(3), 207-216.

Fasko, D. (2001). Education and creativity. *Creativity research journal*, *13*(3), 317-327, doi: 10.1207/S15326934CRJ1334_09.

Fontana, A. and Musa, S. (2017). The impact of entrepreneurial leadership on innovation management and its measurement validation. *International Journal of Innovation Science*, *9*(1), 2-19, doi: 10.1108/IJIS-05-2016-0004.

Friedman, S. D., & Greenhaus, J. H. (2000). *Work and family--allies or enemies?: what happens when business professionals confront life choices*. Oxford University Press, USA.

George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: an interactional approach. *Journal of applied psychology, 86*(3), 513.

George, J. M., & Zhou, J. (2007). Dual tuning in a supportive context: Joint contributions of positive mood, negative mood, and supervisory behaviors to employee creativity. *Academy of Management Journal, 50*(3), 605-622.

Gong, Y., Huang, J. C., & Farh, J. L. (2009). Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of management Journal, 52*(4), 765-778.

Grant, A. M., & Schwartz, B. (2011). Too much of a good thing: The challenge and opportunity of the inverted U. *Perspectives on Psychological Science, 6*(1), 61-76.

Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of management review, 10*(1), 76-88.

Greenhaus, J. H., & Powell, G. N. (2006). When work and family are allies: A theory of work-family enrichment. *Academy of management review, 31*(1), 72-92

Guest, D. E. (2002). Perspectives on the study of work-family balance. *Social Science Information, 41*(2), 255-279.

Guo, L., Cheng, K., & Luo, J. (2020). The effect of exploitative leadership on knowledge hiding: a conservation of resources perspective. *Leadership & Organization Development Journal*.

Hammond, M., Cleveland, J. N., O'Neill, J. W., Stawski, R. S., & Tate, A. J. (2015). Mediators of transformational leadership and the work-family relationship. *Journal of Managerial Psychology, 30*(4), 454-469.

Hughes, D. J., Lee, A., Tian, A. W., Newman, A., & Legood, A. (2018). Leadership, creativity, and innovation: A critical review and practical recommendations. *The Leadership Quarterly, 29*(5), 549-569.

James, A. (2011). Work–life (im)'balance'and its consequences for everyday learning and innovation in the New Economy: evidence from the Irish IT sector. *Gender, Place & Culture, 18*(5), 655-684.

James, A. (2014). Work–life 'balance', recession and the gendered limits to learning and innovation (or, why it pays employers to care*). Gender, Work & Organization, 21*(3), 273-294.

Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and organizational psychology, 73*(3), 287-302.

Kesting, P., Ulhøi, J. P., Song, L. J., & Niu, H. (2015). The impact of leadership styles on innovation-a review. *Journal of Innovation Management, 3*(4), 22-41

Lazar, I., Osoian, C., & Ratiu, P. (2010). The role of work-family balance practices in order to improve organizational performance. *European Research Studies Journal, 13*(1), 201-214.

Lipman-Blumen, J. (2005). Toxic leadership: When grand illusions masquerade as noble visions. *Leader to Leader*, 36, 29-36.

Lopes Henriques, P., Curado, C., Mateus Jerónimo, H., & Martins, J. (2019). Facing the Dark Side: How Leadership Destroys Organisational Innovation. *Journal of technology management & innovation, 14*(1), 18-24.

McAdam, R., & McClelland, J. (2002). Individual and team-based idea generation within innovation management: organisational and research agendas. *European Journal of Innovation Management, 5(*2), 86.

Michaelis, B., Stegmaier, R., & Sonntag, K. (2010). Shedding light on followers' innovation implementation behavior. *Journal of Managerial Psychology, 25* (4), 408-429.

Mumford, M. D. (2003). Where have we been, where are we going? Taking stock in creativity research. *Creativity research journal, 15*(2-3), 107-120.

Ng, T. W., & Feldman, D. C. (2013). Age and innovation-related behavior: The joint moderating effects of supervisor undermining and proactive personality. *Journal of Organizational Behavior, 34*(5), 583-606.

Ohlott, P.J., Ruderman, M.N. and McCauley, C.D. (1994). Gender differences in managers' developmental job experiences. *Academy of management Journal, 37*(1), 46-67.

Oke, A., Munshi, N., & Walumbwa, F. O. (2009). The influence of leadership on innovation processes and activities. *Organizational Dynamics, 38*(1), 64-72.

Oldham, G.R. and Cummings, A. (1996). Employee creativity: personal and contextual factors at work", *Academy of Management Journal*, *39*(3), 607-634, doi: 10.2307/256657.

Perry-Smith, J. E., & Mannucci, P. V. (2017). From creativity to innovation: The social network drivers of the four phases of the idea journey. *Academy of Management Review, 42*(1), 53-79.

Powell, G. N., Greenhaus, J. H., Allen, T. D., & Johnson, R. E. (2019). Introduction to special topic forum: Advancing and expanding work-life theory from multiple perspectives. *Academy of management review, 44*(1), 54-71.

Powell, G. N., Oldham, G. R., & Cummings, A. (1996). Employee creativity: Personal and contextual factors at work. *Academy of management journal, 39*(3), 607-634.

Rego, A., Sousa, F., Marques, C., & e Cunha, M. P. (2012). Authentic leadership promoting employees' psychological capital and creativity. *Journal of business research, 65*(3), 429-437.

Reuvers, M., Van Engen, M. L., Vinkenburg, C. J., & Wilson-Evered, E. (2008). Transformational leadership and innovative work behaviour: Exploring the relevance of gender differences. *Creativity and Innovation Management, 17*(3), 227-244.

Schilling, J. (2009). From ineffectiveness to destruction: A qualitative study on the meaning of negative leadership. *Leadership, 5*(1), 102-128.

Schmid, E. A., Pircher Verdorfer, A., & Peus, C. (2019). Shedding Light on Leaders' Self-Interest: Theory and Measurement of Exploitative Leadership. *Journal of Management, 45*(4), 1401–1433. https://doi.org/10.1177/0149206317707810

Schmid, E. A., Pircher Verdorfer, A., & Peus, C. V. (2018). Different shades—different effects? Consequences of different types of destructive leadership. *Frontiers in psychology*, 9, 1289.

Schyns, B., & Schilling, J. (2013). How bad are the effects of bad leaders? A meta-analysis of destructive leadership and its outcomes. *The Leadership Quarterly, 24*(1), 138-158.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of management journal, 37*(3), 580-607.

Shalley, C. E., & Gilson, L. L. (2004). What leaders need to know: A review of social and contextual factors that can foster or hinder creativity. *The leadership quarterly, 15*(1), 33-53.

Shalley, C. E., & Zhou, J. (2008). Organizational creativity research: A historical overview. *Handbook of organizational creativity,* NY: Lawrence Erlbaum Associates, pp. 3-31.

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here?. *Journal of management, 30*(6), 933-958.

Shin, S. J., & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *Academy of management Journal, 46*(6), 703-714.

Siemsen, E., Roth, A., & Oliveira, P. (2010). Common method bias in regression models with linear, quadratic, and interaction effects. *Organizational research methods, 13*(3), 456-476.

Škerlavaj, M., Černe, M., & Dysvik, A. (2014). I get by with a little help from my supervisor: Creative-idea generation, idea implementation, and perceived supervisor support. *The Leadership Quarterly, 25*(5), 987-1000.

Škerlavaj, M., Černe, M., Dysvik, A., Nerstad, C. G., & Su, C. (2019). Riding two horses at once: The combined roles of mastery and performance climates in implementing creative ideas. *European Management Review, 16(*2), 285-302.

Somech, A., & Drach-Zahavy, A. (2013). Translating team creativity to innovation implementation: The role of team composition and climate for innovation. *Journal of management, 39*(3), 684-708.

Spector, P. E. (2006). Method variance in organizational research: truth or urban legend?. *Organizational research methods, 9(*2), 221-232.

Tepper, B. J. (2000). Consequences of abusive supervision. *Academy of management journal, 43*(2), 178-190.

Thomas, L. T., & Ganster, D. C. (1995). Impact of family-supportive work variables on work-family conflict and strain: A control perspective. *Journal of applied psychology, 80*(1), 6.

Thompson, C. A., Beauvais, L. L., & Lyness, K. S. (1999). When work–family benefits are not enough: The influence of work–family culture on benefit utilization, organizational attachment, and work–family conflict. *Journal of Vocational behavior, 54*(3), 392-415.

Van de Ven, A. H. (1986). Central problems in the management of innovation. *Management science, 32*(5), 590-607.

Van Dyne, L., Jehn, K. A., & Cummings, A. (2002). Differential effects of strain on two forms of work performance: Individual employee sales and creativity. Journal of *Organizational Behavior, 23*(1), 57-74.

White, M., Hill, S., McGovern, P., Mills, C. and Smeaton, D. (2003). High-performance' management practices, working hours and work–life balance. *British journal of industrial Relations*, *41*(2), 175-195, doi: 10.1111/1467-8543.00268.

Williams, M. J. (2014). Serving the self from the seat of power: Goals and threats predict leaders' self-interested behavior. *Journal of Management, 40*(5), 1365-1395.

Woodman, R. W., Sawyer, J. E., & Griffin, R. W. (1993). Toward a theory of organizational creativity. *Academy of management review, 18*(2), 293-321.

Yidong, T., & Xinxin, L. (2013). How ethical leadership influence employees' innovative work behavior: A perspective of intrinsic motivation. *Journal of business ethics, 116*(2), 441-455.

Appendix

Table 1 A Constructs and measures

Construct	Items	Scale type	
Innovation implementation	*In this question we talk about encouraging others in being creative or adopting innovation. Rate each statement on a 1 to 5 scale.*		
	How often do you encourage key organization members to be enthusiastic about innovative ideas? (yours or others)	1 = never	5 = regularly
	How often do you attempt to convince people to support an innovative idea? (yours or others)		
	How often do you systematically introduce innovative ideas (yours or others) into work practices?		
	How often do you contribute to the implementation of new ideas? (yours or others)		
	De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. Creativity and innovation management, 19(1), 23-36.		
Exploitative leadership style	*Please think of your leader/manager (direct supervisor) you work with. When you answer the following questions, please think about this person. My supervisor/manager:*		
	Sees employees as a means to reach his or her personal goals	1 = strongly disagree	5 = strongly agree
	Values the achievement of his or her own goals over the needs of the employees		
	Increases my workload without considering my needs in order to reach his or her goals.		
	Does not consider my workload when new tasks need to be assigned		
	Gives me boring routine tasks when he or she can benefit from it		
	Uses my work for his or her personal goals		
	Manipulates others to reach his or her goals		
	Schmid, E. A., Pircher Verdorfer, A., & Peus, C. (2019). Shedding Light on Leaders' Self-Interest: Theory and Measurement of Exploitative Leadership. Journal of Management, 45(4), 1401–1433		
Work-family balance	*How often would you say the following statements are true of yourself?*		
	After work I have too little time to carry out my family responsibilities as I would like (REV)	1 = never	5 = regularly
	My job allows me to give the time I would like to my partner/family.		
	My partner/family gets a bit fed up with the pressure of my job (REV)		
	White, M., Hill, S., McGovern, P., Mills, C., & Smeaton, D. (2003). 'High-performance'management practices, working hours and work–life balance. British journal of industrial Relations, 41(2), 175-195.		
Family-friendly workplace practices	*If you need to take a day off at short notice due to family emergencies how do you usually do this? (please provide just one answer)*		
	This is not allowed	Worst stuation in terms of FFWPs	
	I take days from annual leave entitlement		
	I take sick leave (if allowed by the norms)		
	I take unpaid leave		
	I take time off but make it up later	Best stuation in terms of FFWPs	
	Bloom, N., Kretschmer, T., & Van Reenen, J. (2011). Are family-friendly workplace practices a valuable firm resource? Strategic Management Journal, 32(4), 343-367.		

PAPER THREE

Did Innovative Work Behavior Persist in the Context of "Massive" Remote Working? Work-Home Conflict, Professional isolation, and Employee Creativity During the COVID-19 Emergency.

Grazia Garlatti Costa, Matej Černe

Abstract

The COVID-19 outbreak poses extraordinary challenges for organizations attempting to survive and better deal with this ongoing crisis. Due to this, there was a widespread adoption of remote work in order to combine the need for continued economic activity and the need to isolate in order to contain contagion. Given that creativity is strictly connected to and impacted by contextual situations, the purpose of this paper is to investigate the impact of the innovative work behavior (IWB) the work-home conflict, and professional isolation on the creative contribution of individuals during a widespread remote work situation. Based on the stability of job attitudes, we propose that the IWB developed over time by individuals persists during a forced remote working situation due to COVID-19 emergency, and might explain the higher creative contribution provided by employees during this particular period. We further suggest that the three-way interaction between IWB, work-home conflict, and professional isolation plays a role in predicting creativity during COVID-19. The study participants consisted of 803 employees from four companies based in Northeast Italy. The data collection took place during the COVID-19 outbreak, specifically during the lockdown period (April-May 2020). An online survey was used to collect data, and all respondents were exclusively working remotely when they answered our survey. The findings demonstrate that IWB is positively related to creativity during COVID-19. Furthermore, the results support existence of the proposed three-way interaction, suggesting that IWB and creativity are most positively associated when employees' work-home conflict and professional isolation are low. . Implications for theory, practice, and future research are discussed.

Keywords: Covid-19, remote working, innovative work behavior, creativity, professional isolation, work-home conflict

1. Introduction

The ability to innovate is widely considered a critical competitive advantage in an increasingly changing environment (Crossan & Apaydin, 2010), and innovative initiatives tend to rely on the employees' features and behavior at work (Hirst *et al.,* 2009). In our paper, we focus our attention on individuals, their characteristics, beliefs, and behaviors as primary drivers of organizational innovation (Grigoriou & Rothaermel, 2014). These drivers are named "micro-foundations" of innovation, which impact a firm's innovation outputs (e.g., Maqbool *et al.,* 2019) and play a crucial role in understanding the notions of innovative work behavior (IWB) and creativity. Defined as the production of novel and useful ideas, creativity can be considered a determinant of innovative work behavior (IWB) (Amabile, 1996). Extant research focuses predominantly on the relationship between creativity as a predictor of IWB (e.g., De Jong & Den Hartog, 2010). Accordingly, micro-innovation literature lacks research about that relationship in reverse; namely, creativity as an output of IWB. However, we argue that in some characteristic contextual situations, as the COVID-19 pandemic and in the massive remote working situation caused by the pandemic, it could be useful to overturn the relationship. To verify if an individual's attitude towards innovation (IWB) attained as a result of replicated innovative behaviors, could explain the individual's creativity manifested at a specific point in time (i.e., the remote working situation due to COVID-19) (e.g., Rosing and Zacher, 2017; Škerlavaj, *et al.,* 2016). For this reason, in our study, we focus attention on the underestimated and overturned relationship, considering IWB as a general construct and creativity as "creative behavior during the COVID–19 emergency."

Given that the survival of organizations is increasingly dynamic and uncertain work environments depend on creative ideas from employees (George, 2007), there has been increased interest from scholars and practitioners in identifying the personal and contextual factors that affect individual creativity (e.g., Amabile 1996; Shalley *et al.,* 2004). The interactionist perspective of individual-level creativity (Woodman *et al.,* 1993) assumes that the interplay of personal and contextual factors with IWB promotes or hinders creativity at work. Accordingly, the majority of existing organizational creativity research has investigated the determinants that influence creativity (e.g., Amabile *et al.,* 1996; Shalley *et al.,* 2004; Woodman *et al.,* 1993).

Since the first months of 2020, the world has been confronted extreme change due to the COVID-19 pandemic. Starting from an outbreak in China, the SARS-nCov2 coronavirus has rapidly affected organizations, individuals, and society as a whole. The speed and the scope of the COVID-19 disease pose extraordinary challenges for organizations to survive and cope with this ongoing

crisis (Molino *et al.,* 2020). To recover their economic and manufacturing activity, organizations have implemented programs for the renewal and adaptation of products, processes, and ways of doing business. The massive adoption of remote working was a reaction to the necessity of both economic activity and isolation to reduce contagion during lockdown (Molino *et al.,* 2020), and in this "new" context, more than ever, the survival of organizations depends on innovation that lies in employees' creativity (George, 2007). Furthermore, the massive use of remote working during this emergency period resulted in a radical and unexpected reconsideration of the organization of work; therefore, it is not likely to disappear in the post-COVID-19 era (Torre, 2020). As creativity is strictly connected to and impacted by contextual situations (e.g., Amabile, 1996; George & Zhou, 2001; Shalley & Gilson, 2004), we specifically claim that the relationship between creativity and IWB has been affected, even compromised, due to massive remote working.

In this study, we investigated the relationship between creativity and IWB, with IWB as a predictor and creativity as a "creative behavior manifested during the COVID-19 emergency."

To explain this reversed relationship, we rely on the dispositional approach to job attitudes of Staw and Ross (1985), according to which there is a stability of job attitudes over time and in different professional and contextual job situations (Staw & Ross, 1985). Specifically, we argue that the IWB developed over time by individuals persists also during the COVID-19 emergency. A period in which employees had to deal with a challenging and stressful emergency while stimulating their creativity to reinvent their jobs, shifting from traditional on-site to remote ways of working. Furthermore, as dated in the literature, creative ideas are generated by novel combinations of different perspectives and approaches that occurred through social interaction (Černe *et al.,* 2014; Perry-Smith, 2006, Perry-Smith & Mannucci, 2017). Therefore, creativity is enhanced by the social exchange among colleagues which facilitates collaboration and knowledge exchange (e.g., Amabile, 1997; Černe *et al.,* 2014). However, what happens to individual creative contributions if employees work remotely?

In the "normality" before the COVID-19 outbreak, individuals were employed in working contexts characterized by face-to-face communication and collaboration with other people, which offered them more balance between private and working life. However, the speed and scope of the COVID-19 disease has radically changed this "normal" context, forcing individuals to make creative contributions under completely distorted environmental conditions. From this context, two specific variables emerged, strictly connected with remote work, that might impact individual creativity: professional isolation and work-home conflict (see Gajendran & Harrison, 2007; Mann & Holdsworth, 2003). It is important to be aware that being away from the office has one set of

consequences while proximity to family life has another (Standen *et al.,* 1999). Professional isolation is widely discussed in the remote working literature, representing its main drawback (e.g., Golden *et al.,* 2008). Work-home conflict is enhanced by the fact that remote working happened almost unanimously in the form of home-based telework. Home-based teleworkers have to deal with specific issues from the physical and social context of the home, which constitutes work-home conflict (e.g., Golden *et al*, 2006; Standen *et al*., 1999). Nevertheless, as far as we know, no empirical research investigates how creativity is manifested in a remote working situation or work-home conflict and professional isolation (that occur working remotely) impact individuals' creative contribution.

Therefore, this research aims to investigate the impact of IWB, work-home conflict, and professional isolation on the creative contribution of individuals during a massive remote working situation. Firstly, we examine the possibility that the IWB developed over time by individuals might enhance their creative contribution as employees during the COVID-19 emergency. We then explore the possibility that professional isolation and work-home conflict might moderate the relationship between IWB and creativity. To conclude, we propose and empirically examine the three-way interaction between IWB, work-home conflict, and professional isolation in predicting creativity during COVID-19. We argue that employees manifested a high level of creativity when a high IWB was combined with a low level of work-home conflict and professional isolation.

We suppose that we will not return to the "old" normality we left before the COVID-19 outbreak and that the future of work will be hybrid: both remote and onsite workplaces (Boston Consulting Group, 2020). On the basis of this assumption, our study presents several theoretical contributions and suggests useful practical insight to manage the post-COVID-19 era. The first contribution aids an understanding of the overturned relationship between creativity and IWB. We use the general IWB as a predictor variable, assuming that IWB represents a general attitude achieved due to repeated innovative behaviors that individuals will not lose during a massive remote work situation. Our second intended contribution concerns remote-working literature, where, to date, we provide the first empirical examination of creativity manifested in the contextual situation of remote working. Furthermore, we contribute to extending research on work-family literature, demonstrating that in the context of remote working, work-home conflict negatively moderates the relationship between IWB and creativity. Finally, supporting a three-way interaction among IWB, work-home conflict, and professional isolation to predict individual creativity, we demonstrate how the individuals' creative contribution is impacted by the work-home conflict and professional isolation manifested during a massive remote working experience. From a managerial point of view,

our preliminary findings encourage the ongoing adoption of remote working to enhance individual creativity. However, managers must also pay attention to the level of employees' work-home conflict and professional isolation, considering they might negatively impact their creative contribution.

2. Theoretical background and hypotheses development

2.1 The relationship between individual creativity and innovative work behavior (IWB)

Innovative work behavior (IWB) is a multi-dimensional construct that embodies all behaviors through which employees can contribute to the innovation process (De Jong, & Den Hartog, 2007). According to Janssen (2000), IWB is "the intentional creation, introduction, and application of new ideas within a work role, group, or organization, in order to benefit role performance, the group, or the organization" (p. 288). Therefore, the concept of IWB is derived from individuals' creative behavior (De Jong & Den Hartog, 2007); however, it differs from creativity (Amabile, 1983), because it also includes other stages of the innovation process before the implementation of ideas (De Jong & Den Hartog, 2010). Previous literature on IWB theoretically distinguishes the concept in different stages of the innovation process. For example, De Jong and Den Hartog (2010) differentiate four dimensions of IWB: idea exploration, idea generation, idea championing, and idea implementation. However, in this contribution, we follow the multistage process developed by Janssen (2000) in light of the seminal measure developed by Scott and Bruce (1994), which considers IWB complex behavior comprising a set of three tasks: idea generation, idea promotion, and idea realization.

Considerable research on individual innovation focused solely on the creativity or idea generation stage of IWB (e.g., McAdam & McClelland, 2002), instead of "when" and "how" creative ideas are implemented, which plays a fundamental part of the innovation process (e.g., Škerlavaj *et al.,* 2019). Scholars and practitioners share a strong interest in understanding the drivers of creativity (e.g., Shalley & Zhou, 2008). In the past three decades, the majority of existing organizational creativity research has adopted an interactional perspective to creative behavior, emphasizing the importance of person-context interaction (Amabile, 1996; Woodman *et al.,* 1993). Several studies have investigated the interplay between contextual and personal factors at work that are beneficial for fostering creativity, thus increasing our knowledge of the work and environmental settings best suited for creativity (e.g., Amabile *et al.,* 1996; George & Zhou, 2001; Shalley *et al.,* 2004).

In their attempts to explore how to stimulate individual creative contribution, authors implicitly focus their attention on the relationship between IWB and its "close cousin": employee creativity (e.g., Amabile *et al.,* 2005; Hirst *et al.,* 2009). For this reason, traditional theory dealing with the relationship between IWB and creativity assumes a stricter connection between the two concepts, given that creativity is considered a predictor of IWB, a crucial component noticeably present in the beginning of the innovation process (e.g., De Jong & Den Hartog, 2007, 2010; West, 2002).

2.2 Individual creativity and IWB in a massive remote working situation

Innovation theories have been developed with the awareness that IWB is a multifaced concept, composed of sequential stages that significantly differ from each other (e.g., Bear, 2012; Škerlavaj *et al.,* 2019). However, the existing literature and theories on creativity, IWB, and their interplay was developed in a situation of "normality," i.e. the situation before the COVID-19 pandemic and the possibility for subjects to work in contexts characterized by face-to-face communication and collaboration all the while keeping a balance between work and their private lives.

In today's organizations, the uncertainty caused by the unpredictable impact of COVID-19 has prioritized creativity and innovation management. Currently, the recovery of economic and manufacturing activity is far from rapid. Organizations need to be reorganized in order to survive and better deal with this ongoing crisis (Molino *et al.,* 2020). To recover the economic and manufacturing activity, organizations have implements programs for the renewal and adaptation of products, processes, and ways of doing business. We have assisted to extensive use of remote working tools, in order to combine the need for continuity of economic activity with the need for isolation necessary to contain the spread of the contagion during the lockdown (Molino *et al.,* 2020).

The topic of remote work, is not new in the management field. It is an interdisciplinary theme addressed in organizational, managerial, sociology, and work psychology studies (e.g., Baruch, 2000; Golden *et al.,* 2008; Mann & Holdsworth, 2003). From a managerial point of view, remote working is not easy to implement due to the organizational and technological interdependencies that characterize workflows as well as the changes it requires from organizational structures, business processes, technologies, and workspaces – physical and virtual (Chiaro *et al.,* 2015; Torre & Sarti, 2020).

There is no universally accepted definition of remote working (also known as telecommuting or telework) because of the variety of situations it could entail (Sullivan, 2003). Different definitions are used, depending on the work location, intensity of technology and ICT use, and employee time

divided between the office and other locations (Eurofound and the International Labour Office, 2017). However, according to an early but notably shared remark from Di Martino and Wirth (1990), remote working is "carried out in a location where, remote from central offices or production facilities, the worker has no personal contact with co-workers … but is able to communicate with them using new technologies" (p. 530).

The literature widely diffuses the awareness that remote working differs considerably from the traditional office environment (Felstead & Henseke, 2017; Mann & Holdsworth, 2003). Organizations are interested in making it a successful work option; therefore, managers have to deeply understand this growing phenomenon and develop methods to deal with it (e.g., Beauregard *et al.,* 2019; Cooper & Kurland, 2002; Wiesenfeld *et al.,* 2001).

The main assumption is that these new ways of working remotely might be continued in the post-COVID-19 era in which the future of work will be increasingly mash-up between traditionally and remote working. Because this radical and unexpected reconsideration of the organization of work and widespread adoption of remote working represents a "new reality", that might endure also after the pandemic emergency, it is necessary to review traditional and established literature. What we claim is that the relationship between creativity and IWB may be affected and also compromised because of a contextual situation of massive remote working.

On the basis of the interactionist perspective on individual-level creativity (Woodman *et al.,* 1993), we argue that the interplay between personal and contextual factors affects the creative contribution provided by individuals during a period of massive remote work. At the same time, drawing from the dispositional approach to job attitudes we argue that individuals may have stable predispositions toward jobs and therefore there are stable individual characteristics that predispose people to respond in a coherent way to different job contexts over the time (Staw & Ross, 1985). Accordingly, we assume that the employee's IWB, which has been developed over time, and depends from employee's stable predisposition toward job, will carry on also during a distorted work situation like the COVID-19 emergency. Specifically, we argue that IWB represents a general attitude that individuals will not lose during an emergency situation characterized by massive remote working. Despite being forced to work from home, people who used to display IWB in the workplace, will remain positive and make a creative contribution at home, despite the undeniable advantages of confronting and visually collaborating with colleagues. A dispositional explanation of this stability of IWB would argue that "there is a consistency in individual job attitudes and that, in spite of changes in the job context, individuals may have tendency to return to their own attitude equilibrium" (Staw *et al.,* 1986: 471)

In this paper, we aim to investigate the existing relationship between the general IWB of employees and their creativity manifested during a situation of massive remote working. Prior literature did not traditionally consider creativity as an output of IWB even though it follows the subsequent steps (promotion and implementation phases) (De Jong & Den Hartog, 2010). Hence, micro-innovation literature lacks research about that relationship in reverse; specifically, creativity as an output of IWB (Rosing & Zacher, 2017; Škerlavaj, *et al.,* 2016). Therefore, to shed light on this gap, we investigated this undervalued relationship in this study. As above mentioned, we consider IWB as a general construct and creativity a "creative behavior during the COVID-19 emergency." Therefore, we treat IWB as an attitude shaped by individuals over time (e.g., several years), which does not change across situations (Staw *et al.,* 1986) and might explain their creative contribution during a specific period like the COVID-19 pandemic. Such continuity of job attitudes does not deny the role of situational influence (Staw & Ross, 1985), indeed we assume that during that period, more than ever, novel and useful ideas have been needed to reinvent the workplace. Individuals had to deal with a challenging and stressful situation, and at the same time have reinvented their jobs, shifting from traditional onsite to remote ways of working (e.g., Felstead & Henseke, 2017; Mann & Holdsworth, 2003). Therefore, we assume that this contextual situation enhances individual creative contributions. Based on this perspective, we propose the following hypothesis:

Hypothesis 1: In the context of a massive remote working situation, IWB positively affects individual creativity manifested during COVID-19.

2.3 The effect of work-home conflict and professional isolation on the relationship between IWB and individual creativity

Even though we argue that general IWB should have a positive impact on creativity manifested during COVID-19, we assume that this relationship might be moderated by other variables strictly connected with remote working. In this paper, we approach innovation from a micro-foundational point of view, analyzing how individual characteristics and knowledge affect strategic innovation capabilities within an organizational context (e.g., Maqbool *et al.,* 2019), hence the crucial role of employees' perceptions, beliefs, and behaviors therein. It is necessary to understand which variables affect the remote workers' behavior. After March 2020, remote working happened almost unanimously in the form of home-based telework. Home-based teleworkers have to deal with specific issues from the physical and social context of the home. Accordingly, Standen and

colleagues (1999) note that it is important to consider how being away from the office has one set of consequences while closeness to family life has another.

2.3.1 Work-home conflict

The proximity between work and family life clearly encourages work-home conflict (WHC), also known as work-family conflict (WFC), when pressures and expectations from work and family roles are mutually incompatible (Bailey & Kurland, 2002; Golden *et al.,* 2006; Edwards & Rothbard, 2000; Greenhaus & Beutell, 1985). Compliance with one role makes compliance with the other more difficult (Kahn *et al.,* 1964, p. 19). Scholars have not yet identified clear and consistent work-family outcomes from remote working (Lautsch *et al.,* 2009). There are two prevailing viewpoints concerning the impact of remote work on the work-family conflict (Gajendran & Harrison, 2007; Golden *et al.,* 2006). On one hand, some scholars argue that remote working is a means of reducing conflict and allowing employees to better accomplish work demands in order to accommodate family requirements (e.g., Bailey & Kurland, 2002). On the other hand, remote working is viewed as a source of conflict, increasing expectations of family involvement due to the teleworkers' proximity and accessibility; i.e., teleworkers might be inclined to choose family activities instead of work (Greenhaus & Powell, 2003). Work and home life have more potential to interact when role behaviors are closer in space and time, thus extensive family role involvement might interfere with work activities (e.g., Kreiner, 2006).

In line with the latter "conflict" perspective, we argue in this paper that the home is primarily arranged for non-work activities and lacks features of the office environment that help workers focus and ignore non-work influences (Standen, *et al.,* 1999). Working at home eliminates the social boundary between work and family domains. Consequently, distracted employees underperform (Ashforth *et al.,* 2000), as stated by Amstad and colleagues (2011), in a meta-analysis which demonstrated a strong association between work-home conflict and poor work outcomes. The more work-home conflict employees perceive, the more their work performance and involvement decreases (Edwards & Rothbard, 2000); they are likely to conclude that the organization is contributing to their work-home conflict and cares little about their well-being (Siegel *et al.,* 2005). Accordingly, we propose that the employees experiencing high work-home conflict do not have the time, energy, or motivation to engage in creative acts. On the basis of this perspective, we hypothesize the following:

Hypothesis 2: Work-home conflict moderates the relationship between IWB and individual creativity during COVID-19. When work-home conflict is low, the relationship between IWB and individual creativity during COVID-19 is more positive than when work-home conflict is high.

2.3.2 Professional isolation

At the same time, several studies suggest that the most frequently cited disadvantage of remote work is employee isolation (e.g., Mann *et al.,* 2000), which can be manifested both professionally and socially (Cooper & Kurland, 2002). Social isolation refers to the informal interaction employees no longer have with colleagues and friends in the workplace; professional isolation refers to employees' fear of limited opportunities for promotions and rewards as a consequence of being away from the workplace.

To be comprehensive and remain in line with the main theoretical contributions of this paper, we use the term "professional isolation" in a broad sense, considering the spectrum of isolation. We specifically focus primarily on professional isolation, then social isolation to the extent that it impacts professional isolation (Beauregard *et al.,* 2019; Cooper & Kurland, 2002; Golden *et al.,* 2008).

As reported by Golden and colleagues (2008), remote workers feel "out of sight, out of mind" and "cut off from others" in the workplace. This paper is concerned with the impacts of professional isolation on job performance, particularly individual creativity. Previous studies proposed three main aspects influencing the relationship between isolation and work outcomes: time spent teleworking, face-to-face interactions, and access to communication-enhancing technology (Beauregard *et al.,* 2019; Cooper, & Kurland, 2002; Golden, 2008). The massive remote working situation revealed the "dark side" of all three factors. Employees have worked entirely from afar totally remotely, substituting face-to-face interactions with audio and video conferences. Web meetings and webinars shift from one communication tool to the other, manifesting greater professional isolation and technological stress (Golden, 2008). Technological stress is a drawback of the extensive access to communication technologies, which were traditionally seen as the "most significant work-mode factor in teleworking effectiveness" (Venkatesh & Speier, 2000, p. 993). However, the emergency situation accelerated the adoption of such technologies without adequate training to ensure their success (Venkatesh & Speier, 2000).

The main assumption underlying the negative effect of professional isolation on job performance is its lack of "social barometers" or a social comparison effect (Mann *et al.,* 2000). Professionally isolated remote workers do not have the possibility to consult others to model their own behavior. Therefore, they are less confident in their knowledge and ability to perform their work (Mann *et al.,* 2000). Moreover, they miss informal workplace interactions that would give them the possibility to establish relationships and achieve information to enhance their knowledge base (essential for job performance) and further their professional career (Cooper & Kurland, 2002; Wiesenfeld *et al.,* 2001). Sharing knowledge also invokes creativity (Perry-Smith, 2006). As stated by Černe and colleagues (2014), the generation of novel and useful ideas is a result of a combination of different perspectives elicited via social interactions. However, a reduction in knowledge sharing (e.g., remote working) brings professional isolation and decreases employees' ability to generate creative ideas (Bartol & Srivastava, 2002). We thus propose the following hypothesis:

Hypothesis 3: Professional isolation moderates the relationship between IWB and individual creativity during COVID-19. When professional isolation is low, the relationship between IWB and individual creativity during COVID-19 is more positive compared to times of high professional isolation.

2.3.3 The combined effect of IWB, work-home conflict, and professional isolation on individual creativity

The final contribution of this study is its attempt to propose a three-way interaction involving two factors strictly connected with remote working (work-home conflict and professional isolation) plus IWB in a model to predict individual creativity manifested during COVID-19. As previously discussed, general IWB prior to an unexpected emergency, could fundamentally predict the present individual creativity to which work-home conflict and professional isolation both pose a threat. These relationships are strengthened by the mandated domestic context in which individuals are forced to manage the work-home conflict. Additionally, professional isolation negatively impacts the individual's creativity because an employee is more creative in the workplace rather than alone at home. The continuous interaction, socialization, and knowledge sharing inherent in the physical workplace enhances individual creativity. Moreover, since the majority of creativity is manifested working in groups, professional isolation obstructs IWB and individual creativity. The highest levels of creativity manifested during COVID-19 will thus occur when individuals' general IWB is high given that, according to Staw *et al.,* (1986), job attitudes are stable over time and in different contextual

and professional working situations. Therefore, in an emergency situation, the employees which will manifest the higher creativity will be those with simultaneously manifest a high level of IWB developed over time, lower levels of work-home conflict, and professional isolation. Namely, employees able to limit the conflict, taking advantage of the "positive spillover" arising from the home domain (Edwards & Rothbard, 2000), and also able to contrast the professional isolation with appropriate use of communication tools for web conferences and meetings to substitute face-to-face interactions (e.g., Černe *et al.,* 2014, Perry-Smith, 2006, Perry-Smith & Mannucci, 2017). Our final research hypothesis is as follows:

> *Hypothesis 4: A three-way interaction occurs among work-home conflict, professional isolation and IWB to predict individual creativity during COVID-19 where the highest level of creative contribution is achieved by low levels of work-home conflict, low levels of professional isolation and high levels of IWB.*

Our proposed conceptual model is presented in Figure 1.

Figure 1. Research model with hypotheses
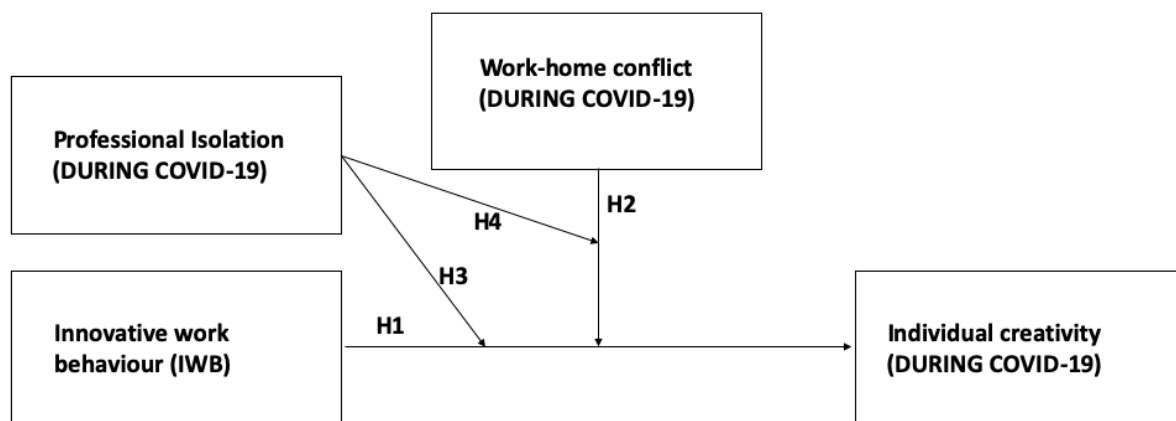
Notes: H1 indicates Hypothesis 1; H2 indicates Hypothesis 2; H3 indicates Hypothesis 3; H4 indicates Hypothesis 4.
Source: authors

3. Methodology

3.1 Sample and procedures

This paper reports a quantitative study for which empirical data were collected in a sample composed of four medium and large enterprises with their headquarters or at least one branch in the northeast of Italy. The country selection was based on our interest in investigating the Italian situation, given that before the COVID-19 emergency, remote work was not broadly adopted in Italy

(Politecnico di Milano, 2019). However, since the extensive implementation of remote working during this emergency has resulted in a radical change of the organization of work, is probable that the raised levels of remote working will be continued also after the emergency (e.g., Torre, 2020).

Data collection was developed during the COVID-19 outbreak, specifically the lockdown period from the end of April to the middle of May 2020.

We used a convenience non-probability sampling approach to approach these four companies in the engineering, shipbuilding, frozen food, and automotive sectors.

An internet-based survey was e-mailed to employees via company representatives. To reach our target respondents, the survey was limited to those with the most creative job positions working remotely; i.e., white-collar workers, middle and top management, all employed in a variety of jobs including the R&D department. All respondents exclusively worked remotely when they answered our survey.

The response rate was very high (87%), demonstrating the appeal of the topics during the COVID-19 emergency. After excluding questionnaires with missing values in more than ten percent of variables, 803 valid responses remained. Initially the questionnaire was developed in English, followed by a back-to-back Italian translation (Brislin, 1986) of the measurement instruments.

3.2 Measures

The items used in this study were part of a large-scale questionnaire; therefore, it is unlikely that respondents would have been able to identify the study's object and manipulate their answers. Some items in the questionnaire were also reverse-coded. Each questionnaire had been assigned a unique numeric code to keep respondents anonymous within the organizations. All items were self-reported and measured with a five-point Likert-type scale denoting either frequency (in the case of IWB and professional isolation) or agreement with the statements (in the case of creativity during COVID-19, and work-home conflict).

Furthermore, to reduce the potential influence of common method biases, due to the fact that each respondent provided both the measure of the predictor and the criterion variable, the IWB input variable was also rated by a third-person, the employee's direct supervisor, in different times (Podsakoff, 2003). At present, we have collected a sample of 300 supervisor-reported evaluations among the four companies (more than one-third of the population), and we have checked the correlation between the two measures. The correlation between the IWB self-reported and supervisor-reported measures is ($r=0.407$, $p<0.01$). However, for the sake of completeness, we

decided to consider the entire population (803 respondents), and use self-reported IWB evaluations without limiting the sample to those with a supervisor evaluation. Nevertheless, we argue that the high-level correlations between the two measures underline our limited risk of common method bias; the respondent is the same for both the input and output variable (Podsakoff, 2003).

In our analysis, we averaged and centered the items per Aiken and West (1991). The following is a description of the measurement scales used in our study (see Appendix for the complete items' list).

The descriptive statistics showed that among the respondents, 59 percent were male and about 38 percent had a degree. About 31 percent of the employees were millennials (or generation Y, born before 1980), and 53 percent belonged to the 40–54 age group. In addition, 60 percent of employees have children or relatives under their care at home.

Creativity (during COVID-19)

Creativity during COVID-19 was measured with an eight-item version of the measure developed by George and Zhou (2001), adapted by authors to the COVID-19 emergency situation. Sample items included: "*I exhibit creativity (even remotely) on the job when given the opportunity*" and "*I often have new and innovative ideas (even if I work from home)*". Participants were asked to indicate how much they agreed with each of the statements, 1= *strongly disagree*; 5= *strongly agree* (α=0.94).

Innovative work behavior (in general)

Innovative work behavior (IWB) was assessed with a nine-item scale developed by Janssen (2000), including "*generating original solutions for problems*" and "*transforming innovative ideas into useful applications*". Participants were asked to indicate how often they experienced each of the items described, ranging from 1, *never*, to 5, *regularly* (α=0.94).

This measure was self-reported by both employees and a direct supervisor. Data were collected through a different survey and limited to the aforementioned construct, with the aim of limiting common method bias, thus evaluating the input variable of our study in a more objective manner.

Work-home conflict (during COVID-19)

To measure work-home conflict experienced during the massive remote working situation, we used a three-item scale developed by Ayyagari, Grover, and Purvis (2011), adapted by authors to COVID-19 emergency situation. Sample items include "*Working at home blurs boundaries between my job and my private life*" and "*By working at home, conflicts arise with my personal*

responsibilities". Participants were asked to indicate how much they agreed with each of the statements, 1=*strongly disagree*; 5=*strongly agree* (α=0.72).

Professional isolation (during COVID-19)

Professional isolation, experienced during the massive remote working situation, was measured with a 4-item version of the scale developed by Golden, Veiga, & Dino, (2008). Examples of items include "*I miss face-to-face contact with coworkers*" and "*I miss informal interaction with others*". Participants were asked to indicate how often they had experienced each of the statements, ranging from 1 (*never*) to 5 (*regularly*) (α=0.88).

Control variables

We included the employees' gender, age, education and care as control variables. Previous literature has indicated that male and female workers might have differential access to opportunities to engage in innovation-related behaviors (cf. Ohlott *et al.,* 1994). So too have studies indicated that age affects individual innovation behavior (cf. Jones, & Weinberg, 2011). Other studies have included educational level as a control variable because employees' educational background can influence their creativity and innovation (cf. Fasko, 2001). Lastly, the control variable of "care" evaluated if respondents had children or relatives under their care at home and how that might be strictly related to or influencing work-home conflict during the COVID-19 emergency.

4. Results

4.1 Descriptive statistics and reliability

Table 1 provides the descriptive statistics, correlations, and reliability coefficients of all the variables analyzed in the study. IWB is positively correlated with creativity during COVID-19 (r= 0.516, p<0.01). On the other hand, both work-home conflict (r=-0.270, p<0.01) and professional isolation (r=-0.281, p<0.01) are negatively correlated with creativity during COVID-19. In addition, there is a positive and significative correlation between work-home conflict and professional isolation (r= 0.453, p<0.01). Based on the reliability coefficients, all measurement scales are internally consistent. All Cronbach's α values exceed the 0.70 criterion established in the literature (Hair *et al.,* 2010) and may therefore be accepted.

Table 1. Descriptive statistics, correlations and scale reliabilities

Variable	Mean	SD	1	2	3	4	5	6	7	8
1. Creativity (during COVID-19)	3.478	0.824	(0.94)							
2. Innovative work behavior (IWB)	3.090	0.852	.516**	(0.94)						
3. Work-home conflict (WHC)	2.193	0.914	-.270**	-0.063	(0.72)					
4. Professional isolation (PI)	2.790	1.092	-.281**	0.035	.453**	(0.88)				
5. Gender	1.587	0.493	.123**	.196**	.0990**	-.0870*	/			
6. Age	2.826	0.698	-0.061	-0.016	-0.013	-0,023	-.166**	/		
7. Education	1.564	0.729	0.030	.120**	0.040	-0.024	.245**	-.201**	/	
8. Care	1.397	0.490	-0.031	-0.034	0.023	0.039	.175**	-.296**	.075*	/

Notes: *n*= 803. Coefficient alphas are on the diagonal in parentheses. For gender, 1 = "female," 2 = "male." For age, 1 = "less than 24," 2 = "25-39," 3 = "40-54, 4 = "over 54." For education, 1 = "Middle or high school diploma," 2 = "Bachelor's or master's degree, 3 = "Master/MBA/E-MBA," and 4 = "Doctorate degree." For care, 1 = "yes" and 2 = "no." * p<0.05. ** p<0.01.

4.2 Results of regression analysis

Table 2 presents the results of the hierarchical regression analysis used to test our hypotheses. We grand-mean-centered our independent variables to reduce unnecessary multicollinearity between linear terms (Aiken & West, 1991). All four control variables (gender, age, education, care) were entered in the first step (Model 1). The three independent variables (IWB, work-home conflict, and professional isolation) were entered in the second step (Model 2). IWB is positively related to creativity during COVID-19 (β=0.52, p<0.001), supporting H1. The results for IWB demonstrate that every unit increase in IWB fosters 0,52 units of creativity. On the contrary, work-home conflict (β= -0.15, p<0.001) and professional isolation (β= -0.24, p<0.001) are negatively related to creativity during COVID-19. In the third model, we entered the second-order associations. The first interaction between IWB and work-home conflict (IWB x WHC, β= -0.30, p<0.05) is significant, supporting H2. This shows that work-home conflict moderates the relationship between IWB and creativity during COVID-19. The interaction was plotted in a combination of highs and lows of the interaction variables in predicting creativity during COVID-19. Figure 2 shows that IWB positively affects creativity during COVID-19; when there is a low level of work-home conflict, the relationship between IWB and creativity is more positive than when work-home conflict is high. The interaction between professional isolation and IWB was found to be insignificant (IWB x PI, β=0.08, p>0.50), thus H3 was not supported. In step four (Model 4), we tested the three-way interaction among IWB, work-home conflict, and professional isolation (IWB x WHC x PI, β=-1.63, p<0.001), which was found to be significant, supporting H4. The interaction is shown in Figure 3, where it is evident that creativity during COVID-19 is high when IWB is high and both work-home conflict and professional

isolation are low. As demonstrated by the slope difference test (Table 3), the difference between slope 4 (Low WHC and Low PI) and slope 1 (High WHC and High PI) is significant (t = -4.72, p < 0.001), suggesting that even if in presence of high IWB, the combination between high WHC and high professional isolation contributes to obstruct the workers' creativity. Slope 4 also significantly differs from slope 3 (Low WHC and High PI) (t = 2.79, p < 0.01).

Table 2. Results of hierarchical regression analyses

	Model 1	Model 2	Model 3	Model 4
Intercept	3.54 (0.22)***	3.02 (0.20)***	3.17 (0.32)	4.78 (0.56)***
Gender	0.12 (0.06)**	0.01 (0.05)	0.02 (0.05)	0.02 (0.05)
Age	-0.06(0.05)	-0.07 (0.04)*	-0.07 (0.04)*	-0.07 (0.04)*
Education	-0.01 (0.04)	-0.05 (0.04)	-0.06 (0.03)	-0.06 (0.03)*
Care	-0.07 (0.07)	-0.01 (0.05)	0.00 (0.05)	-0.01 (0.05)
Innovative work behavior (IWB)		0.52 (0.03)***	0.64 (0.08)***	0.09 (0.17)
Work-home conflict (WHC)		-0.15 (0.03)***	-0.19 (0.12)	-1.10 (0.26)***
Professional isolation (PI)		-0.24 (0.03)***	-0.56 (0.10)***	-1.31 (0.19)***
Interaction effets				
IWB x WHC			-0.30(0.03)*	0.83 (0.08)*
IWB x PI			0.08 (0.03)	1.05 (0.06)**
WHC x PI			0.48 (0.02)***	1.91 (0.08)***
IWB x WHC x PI				-1.63 (0.02)***
R	0.14	0.62	0.63	0.64
R²	0.02	0.38	0.39	0.40
F	3.44	64.17	47.73	45.22
P	0.009	0.000	0.000	0.000

Notes: *n*= 803. IWB, Innovative Work Behavior. Standardized regression coefficients and estimations of standard errors are displayed. * p<0.05; ** p<0.01; *** p<0.001.

Table 3. Slope difference test

Pair of slopes	t-value slope difference	p-value slope difference
(1) and (2)	-1,9535	0,0511
(1) and (3)	-4,4175	0,0000
(1) and (4)	-4,7192	0,0000
(2) and (3)	-2,4944	0,0128
(2) and (4)	-1,2344	0,2174
(3) and (4)	2,7902	0,0054

Notes: Slope (1) = High Work-home conflict, High Professional isolation; Slope (2) = High Work-home conflict, Low Professional isolation; Slope (3) = Low Work-home conflict, High Professional isolation; Slope (4) = Low Work-home conflict, Low Professional isolation.

Figure 2. Moderating effect of work-home conflict on the IWB-Creativity during COVID-19 relationship
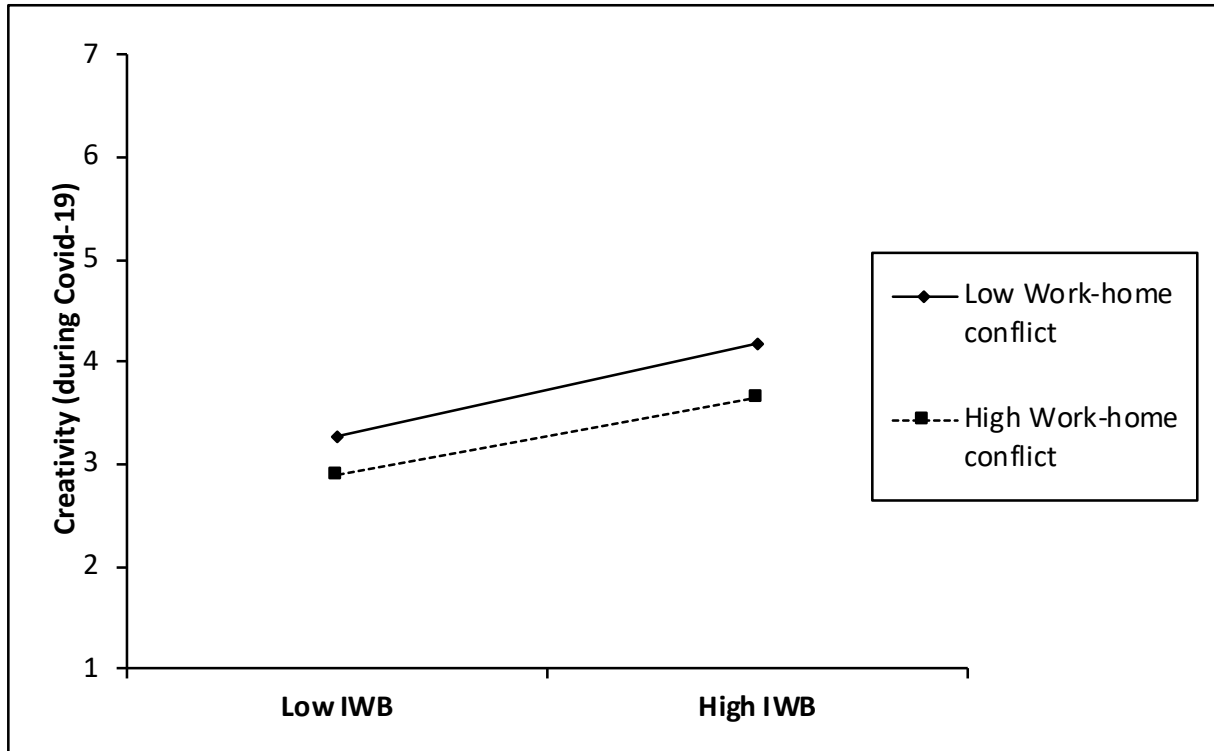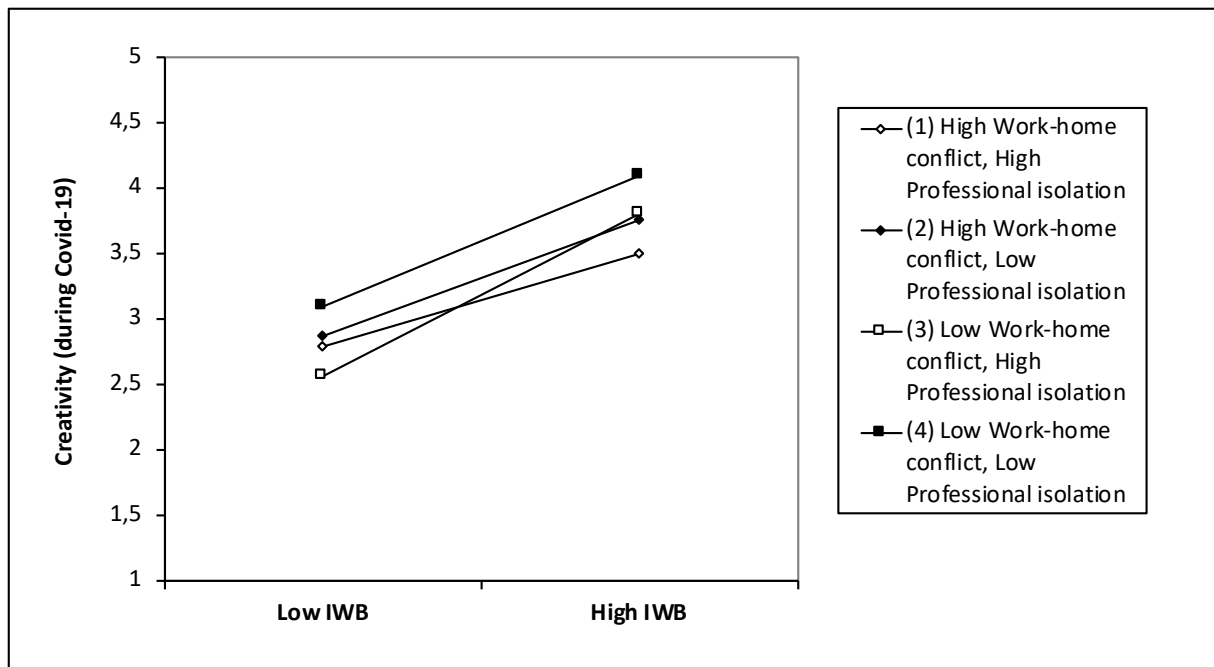

Figure 3. Three-way interaction among IWB, work-home conflict, and professional isolation in predicting creativity during COVID-19

5. Discussion

In this study, we set out to increase our knowledge of individuals' creativity during a massive remote working situation and how their creative contribution is impacted by select dynamics

manifested during an emergency. Creativity is strictly connected to and impacted by contextual situations (Amabile, 1996; George & Zhou, 2001; Shalley & Gilson, 2004) and the COVID-19 emergency has required (or at least encouraged) companies to adopt remote working. We argue that previous literature has not sufficiently covered that contextual shift to massive remote work or its effect on the relationship between creativity and IWB.

The study was designed to examine the joint role of work-home conflict and professional isolation as moderators on the relationship between the innovative work behavior of individuals (IWB) and their individual creativity manifested during the COVID-19 outbreak. Based on the conceptual ground and empirical research, we present findings that support employee creativity during an emergency situation characterized by massive remote working adopted by organizations to ensure business continuity. Moreover, our findings might be useful to manage the lasting effects of this unexpected shock in the post-COVID-19 and understand how it will change the traditional relationship between creativity and IWB in a future mash-up of traditional and remote work.

In line with the first hypothesis, our results showed a positive relationship between the IWB of employees and their creativity manifested during COVID-19. This relationship means that, on the grounds of the dispositional approach of job attitudes (Staw & Ross, 1985), individuals' IWB prior to the sudden emergency will persist, increasing their creative disposition. Despite the obstacles (e.g., a lack of appropriate training), employees have completely shifted their traditional activity to remote work. IWB represented a general attitude of individuals that they maintain also during a situation of massive remote working. Therefore, despite forced to work from home, employees remained positive and gave their creative contribution even when at home. Creativity aptly characterizes the intense working activity of remote workers, supporting our hypothesis on a positive relationship between IWB in a "normal" situation and the idea generation in the present context.

Furthermore, in line with the second hypothesis, our results showed that work-home conflict negatively moderated the relationship between IWB and creativity. The blurred boundaries between work and home activities negatively impacts the aforementioned relationship therefore, interrole conflict has to be managed and reduced to maintain creativity. No interaction was found for the multiple effects of IWB and professional isolation, not supporting hypothesis three. However, we believe this result was influenced by the fact that all workers were working remotely during the forced lockdown, so they felt "safe" at home, less isolated, and no different from colleagues elsewhere. As widely demonstrated in the literature, remote workers being

differentiated from traditional workers (e.g., Mann, & Holdsworth, 2003) greatly feeds their perception of professional isolation.

Moreover, the most positive association was found between IWB and creativity when employees' work-home conflict and professional isolation were low, thereby supporting hypothesis four. In a remote work situation, work-home conflict and professional isolation negatively affect creativity; as such, both elements have to be appropriately reduced to enhance creativity. Table 3 reports the status of hypotheses tested in our study.

Table 3. Overview of the status of hypotheses according to our results

	Hypothesis	Status
H1	In the context of a massive remote working situation, IWB positively affects individual creativity manifested during COVID-19.	Supported
H2	Work-home conflict moderates the relationship between IWB and individual creativity during COVID-19. When work-home conflict is low, the relationship between IWB and individual creativity during COVID-19 is more positive than when work-home conflict is high.	Supported
H3	Professional isolation moderates the relationship between IWB and individual creativity during COVID-19. When professional isolation is low, the relationship between IWB and individual creativity during COVID-19 is more positive than when professional isolation is high.	Unsupported
H4	A three-way interaction occurs among work-home conflict, professional isolation and IWB to predict individual creativity during COVID-19. The highest level of creative contribution is achieved with low levels of work-home conflict, low levels of professional isolation and high levels of IWB.	Supported

6. Conclusions, contributions, and implications

6.1 Theoretical contributions

The exponential spread of the COVID-19 virus significantly changed several dimensions of the work sphere. By reflecting on the recent developments, we are aware that we will not return to the "old" normality prior to the pandemic. Based on the grounds of this radical change, our study makes distinct contributions to the literature on both creativity and remote-working. Our research launched a broader investigation of innovation topics as well as remote working implications, shedding light on the contextual situation of the COVID-19 outbreak. Our findings suggest useful insights for the future, as the effects of this sudden emergency will not soon disappear.

We surpass existing studies in the creativity literature, investigating employees' creativity during the COVID-19 pandemic to understand how the traditional relationship between creativity and IWB will change in the post-COVID-19 world – an era that will increasingly blend on-site and remote work. Namely, we make a theoretical and empirical attempt to establish a link between employees' IWB before the emergency and their present creativity. This study is, to the best of our knowledge, the first to investigate how creativity has been affected during the COVID-19 pandemic. Traditionally, the literature has considered IWB an output of creativity; however, in our contribution, we assumed that IWB was an attitude shaped over several years (Axtell *et al.,* 2000; De Jong & Den Hartog, 2007, 2010; Janssen, 2000). IWB could explain the range of creativity provided by workers during the pandemic, a very specific and unexpected period of time. The majority of existing organizational creativity research highlights the important interplay between personal and contextual factors influencing creativity at work (e.g., Aleksić *et al.,* 2016; Amabile *et al.,* 1996; Shalley *et al.,* 2004). We hypothesized a positive relationship between IWB and creativity because remote employees have extensively explored new ways of reorganizing their work and enhancing their creative contributions. This first hypothesis has been supported. This finding presents the study's first theoretical contribution to the creativity literature.

At the same time, our findings are an important contribution to remote working literature. To date, despite scholars' and practitioners' wide interest in investigating the implications of remote working on firm performance and employee outcomes (e.g., Beauregard *et al.,* 2019; Gajendran & Harrison, 2007), remote working has not been linked to individual creativity. Our research provides the first empirical examination of creativity manifested in a contextual remote work situation. In our study, remote working is not a predictor of individual creativity; however, it represents the context. Our findings demonstrated that employees who engaged in a "massive experience" of remote work did display more creativity.

We strengthen the knowledge base for work-family literature by demonstrating that, in the context of remote work, work-home conflict negatively impacts the relationship between IWB and creativity. As far as we know, no empirical studies have assessed that. In existing literature, two perspectives exist on the relationship between remote working and work-home conflict (Golden *et al.,* 2006). Some scholars argue that remote working has positive effects on the work-family relationship and reduces conflict (e.g., Gajendran, & Harrison, 2007; Lautsch *et al.,* 2009). On the contrary, other contributions revealed that remote working is a source of conflict due to the proximity between the two spheres of life (Mann, & Holdsworth, 2003; Standen *et al.,* 1999). In line with the latter perspective, we assume that, by working at home, the interaction between family

and work might be greater, so mutually incompatible pressure arises from the conflicting roles of worker and family member (Greenhaus & Beutell, 1985). Consequently, our findings showed that IWB positively affects creativity in the remote working situation; when the level of work-home conflict is high, the relationship between IWB and creativity is not as positive compared to when work-home conflict is low.

Finally, we confirm a three-way interaction among IWB, work-home conflict, and professional isolation in predicting individual creativity. We provide evidence that creativity is high when IWB is high and both work-home conflict and professional isolation are low. Again, we contribute to creativity literature, demonstrating how individuals' creative contribution is impacted by select dynamics of the remote working experience. These dynamics are family dynamics (since one has to work from home, merging the private life and working requirements), and professional isolation – the main drawback of remote working (Beauregard *et al.,* 2019; Mann & Holdsworth, 2003). The loss of third-party collaboration has several implications on job performance and one's professional career (e.g., Golden *et al.,* 2008). Isolated teleworkers are less confident in their abilities and knowledge to perform their work because they miss the ability to compare what they are doing to their coworkers' behavior (Mann *et al.,* 2003). Our results are consistent with previous studies, suggesting that professional isolation represents an obstacle to employee creativity because it significantly limits face-to-face interactions (e.g., Kooper, & Kurland, 2002; Golden *et al.,* 2008). As widely argued in creativity literature, sharing knowledge facilitates creativity in an important manner (e.g., Černe *et al.,* 2014, Perry-Smith, 2006). Overall, if general IWB is high, the joint effect of great work-home conflict and professional isolation negatively impact individual creativity during COVID-19.

6.2 Practical implications

Legislative provisions (e.g., remote work) were enacted to prevent the virus from spreading, manage the health emergency, and help companies ensure the continuity of their business activities. The COVID-19 outbreak has placed remote work at the focus of political, media, and scholarly attention. We argue that remote working will remain crucial in the times to come (e.g., Torre, 2020), as the future of work will be increasingly divided between traditional workplaces and remote locations. For this reason, a "new" reality will be significantly different from the "normality" pre-COVID-19 – especially in terms of the role of remote working (Boston Consulting Group, 2020).

Nowadays, even more so in the post-COVID-19 era, organizations have to survive in an increasingly dynamic and uncertain work environment. The key for their survival lies in the creative ideas of employees (George, 2007). Accordingly, our study investigated the creativity experienced by remote during the COVID-19 emergency. The findings that emerged from our research offer several essential implications, for organizations to survive and become more innovative.

First, the study proposed that during the COVID-19 emergency, employees manifested a greater predisposition to creativity. Despite being forced to work from home, creativity intensely characterized the working activity of remote workers. It is crucial for organizations to understand how to promote employees' creativity (Shalley *et al*. 2004), through remote working. So, our preliminary finding encourages the ongoing adoption of remote working and supports managers offering insights about how foster individual creativity.

Managers should also gain a better understanding of the elements strictly connected to remote working that negatively affects individuals' creative contribution. As previously discussed, work-home conflict paired with professional isolation negatively impacted individual creativity. If managers are interested in boosting creativity, they should identify how to reduce the work-home conflict. To achieve a better work-life balance, organizations have been prompted by practitioner and scholars to adopt integrative work-home policies, also known as "family-friendly workplace practices" (FFWPs), that include remote working, job sharing, and flex time (Bloom *et al.,* 2011; James, 2011). However, managers should be aware that while some employees prefer to integrate their different life domains, others prefer to keep work issues away from home, or vice versa, therefore, managers need to establish policies to respect individuals' preferences (Kreiner, 2006). The literature on work-home conflict reminds managers to handle with care employees' job autonomy and scheduling flexibility (Golden *et al.,* 2006) to positively moderate the level of conflict between the two domains.

Lastly, managers should be aware of the negative impacts of professional isolation on remote workers' performance. In our study, we did not find any significant effect of professional isolation on creativity; however, this might be justified by the emergency situation; i.e., all employees worked remotely during the data collection, thus avoiding discrepancies between remote and "traditional" workers. Additionally, the entire society was in a social isolation situation, so working from home represented a "safe" option for employees during the lockdown and boosted positive associations (Mann & Holdsworth, 2003). The short term of the remote working experience is also worth noting; we might assume that the professional isolation could have a more significant impact on remote workers over the long term.

In the "new" normality, managers need to be more proactive to reduce professional isolation and establish adequate activities between coworkers to ensure adequate levels of tasks and affective exchange (Golden, 2008). To enhance knowledge sharing as a means of facilitating creative processes, managers should also organize meetings in which remote workers and their colleagues share professional knowledge, strengthen interpersonal networking, and forge informal relationships to reinforce cohesion, employee development, and a sense of belonging within the organization (Cooper & Kurland, 2002).

6.3 Limitations and implications for future research directions

Despite the aforementioned contributions, our research has some limitations that need to be discussed. First, the data were cross-sectional, which limits its ability to demonstrate causality. Future research could benefit from longitudinal designs, which could enable observable variations in creativity and other variables over time.

Second, all the data were self-reported; therefore, the common method bias could be an area of concern regarding our output variable (creativity during COVID-19 outbreak), although self-reported measurement is a normal practice within the literature. In fact, some authors have argued that it is the best method to measure creativity (Amabile *et al.,* 2005; Shalley *et al.,* 2009). The mainstream supports the idea that supervisor ratings are often used to measure creative behaviors as more objective evaluations. However, to limit the common method bias (due to the fact that the same respondent has provided both the measure of the predictor variable and the criterion variable), we decided to evaluate the input variable (IWB) independently through a direct supervisor, with a second survey, separated from the first one, for a sample of respondents (more than one-third of the population) (Podsakoff, 2003). We then verified that the IWB self-ratings were strongly correlated with the supervisor's ratings (r=0.407, p<0.01); therefore, we argue that there was a limited risk of common method bias (Podsakoff, 2003). We decided to use all the respondents' data and self-reported evaluations for the predictor variable, as well. Moreover, the results of our study are based on multiple independent variables and their interaction effects, so the complex three-way estimations suggest that it is highly unlikely that such results were obtained due to common method bias (Siemens *et al.,* 2010). In addition, to lower the possibility of common method bias, some items in the questionnaire were reverse-coded, and we assumed anonymity for respondents, as suggested by Podsakoff (2003). A possible extension of this study might provide

supervisor ratings of IWB for a major part of respondents (not only a sample), to ensure a more objective evaluation.

Another limitation to this study is the limited generalization of the results due to the fact that we drew our sample from Italian firms. To broaden the applicability of our results, further research could be conducted in a cross-cultural context.

Finally, we have to mention some limitations related to the contextual situation characterized by the COVID-19 emergency. First, as previously mentioned, there was a lockdown situation during the data collection, and all companies' employees were working remotely at all times. This might have impacted the remote workers' perceptions of the environment because there were no comparisons to make between "traditional" office-based workers (e.g., Mann & Holdsworth, 2003). Second, we measured professional isolation during a situation of lockdown characterized by "general" isolation, and in which the health emergency enhanced people's willingness to stay at home in a "safe" environment with their families. In addition, we argue that the effects of professional isolation were mitigated by the short-term perspective of the lockdown. The employees' perceptions about professional isolation might be significantly different over the long term. Third, concerning work-home conflict, we can assume that all family members were forced to stay at home while maintaining their professional or scholarly activity. This is rare in real-life, where both parents and children are seldom forced to stay at home and manage their different activities simultaneously. For this reason, we argue that the high level of work-home conflict manifested during COVID-19 might be strictly influenced by this unprecedented family situation. In view of these assumptions, we argue that future research should be conducted in a situation of normality, after the COVID-19 outbreak, to check if the remote workers' perceptions will have significantly changed compared to the current emergency situation.

References

Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*, Sage, Newbury Park, CA.

Aleksić, D., Černe, M., Dysvik, A., & Škerlavaj, M. (2016). I want to be creative, but… preference for creativity, perceived clear outcome goals, work enjoyment, and creative performance. *European journal of work and organizational psychology, 25*(3), 363-383.

Amabile, T. M. (1983). The social psychology of creativity: A componential conceptualization. *Journal of Personality and Social Psychology, 45*(2), 357–376. https://doi.org/10.1037/0022-3514.45.2.357

Amabile, T.M. (1996), *Creativity in Context: Update to "The Social Psychology of Creativity"*, Westview Press, Boulder, CO.

Amabile, T. M. (1997). Motivating creativity in organizations: On doing what you love and loving what you do. *California management review, 40*(1), 39-58.

Amabile, T. M., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity at work. *Administrative science quarterly, 50*(3), 367-403.

Amabile, T. M., Conti, R., Coon, H., Lazenby, J., & Herron, M. (1996). Assessing the work environment for creativity. *Academy of management journal, 39*(5), 1154-1184.

Amstad, F. T., Meier, L. L., Fasel, U., Elfering, A., & Semmer, N. K. (2011). A meta-analysis of work–family conflict and various outcomes with a special emphasis on cross-domain versus matching-domain relations. *Journal of occupational health psychology, 16*(2), 151.

Ashforth, B. E., Kreiner, G. E., & Fugate, M. (2000). All in a day's work: Boundaries and micro role transitions. *Academy of Management review, 25*(3), 472-491.

Axtell, C. M., Holman, D. J., Unsworth, K. L., Wall, T. D., Waterson, P. E., & Harrington, E. (2000). Shopfloor innovation: Facilitating the suggestion and implementation of ideas. *Journal of occupational and organizational psychology, 73*(3), 265-285.

Ayyagari, R., Grover, V., & Purvis, R. (2011). Technostress: technological antecedents and implications. *MIS quarterly, 35*(4), 831-858.

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: The International *Journal of Industrial, Occupational and Organizational Psychology and Behavior, 23*(4), 383-400.

Bartol, K. M., & Srivastava, A. (2002). Encouraging knowledge sharing: The role of organizational reward systems. *Journal of leadership & organizational studies, 9*(1), 64-76.

Baruch, Y., 2000. Teleworking: benefits and pitfalls as perceived by professionals and managers. *New technology, work and employment, 15*(1), pp.34-49.

Beauregard, T. Alexandra and Basile, K.A. and Canónico, E. (2019) Telework: outcomes and facilitators for employees. In: Landers, R.N. (ed.) *The Cambridge Handbook of Technology and Employee Behavior*. Cambridge, UK: Cambridge University Press, 511-543.

Bloom, N., Kretschmer, T., & Van Reenen, J. (2011). Are family-friendly workplace practices a valuable firm resource?. *Strategic Management Journal, 32*(4), 343-367.

Boston Consulting Group (2020), *What 12,000 Employees Have to Say About the Future of Remote Work*. https://www.bcg.com/publications/2020/valuable-productivity-gains-covid-19

Brislin, R. (1986), "The wording and translation of research instruments", in Berry, J.W. and Lonner, W. (Eds), *Field Methods in Cross-Cultural Research. Cross-Cultural Research and Methodology Series*, Vol. 8, Sage Publications, Thousand Oaks, CA, pp. 137-164.

Černe, M., Nerstad, C. G., Dysvik, A., & Škerlavaj, M. (2014). What goes around comes around: Knowledge hiding, perceived motivational climate, and creativity. *Academy of Management Journal*, 57(1), 172-192.

Chiaro, G., Prati, G., Zocca, M. (2015). Smart working: dal lavoro flessibile al lavoro agile. *Sociologia del lavoro*, 138, 69-87. Doi:10.3280/SL2015-138005

Cooper, C. D., & Kurland, N. B. (2002). Telecommuting, professional isolation, and employee development in public and private organizations. *Journal of Organizational Behavior, 23*(4), 511-532.

Crossan, M. M., & Apaydin, M. (2010). A multi-dimensional framework of organizational innovation: A systematic review of the literature. *Journal of management studies, 47*(6), 1154-1191.

De Jong, J. P., & Den Hartog, D. N. (2007). How leaders influence employees' innovative behaviour. *European Journal of innovation management, 10*(1), 41-64.

De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behaviour. *Creativity and innovation management, 19*(1), 23-36.

Di Martino, V., & Wirth, L. (1990). Telework: A new way of working and living. *International Labour Review, 129*(5), 529-554.

Edwards, J. R., & Rothbard, N. P. (2000). Mechanisms linking work and family: Clarifying the relationship between work and family constructs. *Academy of management review, 25*(1), 178-199.

Eurofound and the International Labour Office (2017), *Working anytime, anywhere: The effects on the world of work*, Publications Office of the European Union, Luxembourg, and the International Labour Office, Geneva.

Fasko, D. (2001), "Education and creativity", *Creativity research journal*, *13*(3), 317-327, doi: 10.1207/S15326934CRJ1334_09.

Felstead, A., & Henseke, G. (2017). Assessing the growth of remote working and its consequences for effort, well-being and work-life balance. *New Technology, Work and Employment, 32*(3), 195-212.

Gajendran, R. S., & Harrison, D. A. (2007). The good, the bad, and the unknown about telecommuting: meta-analysis of psychological mediators and individual consequences. *Journal of applied psychology, 92*(6), 1524.

George, J. M. (2007). 9 Creativity in organizations. *Academy of Management annals, 1*(1), 439-477.

George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: an interactional approach. *Journal of applied psychology, 86*(3), 513.

Golden, T. D., Veiga, J. F., & Simsek, Z. (2006). Telecommuting's differential impact on work-family conflict: Is there no place like home?. *Journal of applied psychology, 91*(6), 1340.

Golden, T. D., Veiga, J. F., & Dino, R. N. (2008). The impact of professional isolation on teleworker job performance and turnover intentions: Does time spent teleworking, interacting face-to-face, or having access to communication-enhancing technology matter?. *Journal of Applied Psychology, 93*(6), 1412.

Greenhaus, J. H., & Beutell, N. J. (1985). Sources of conflict between work and family roles. *Academy of management review, 10*(1), 76-88.

Greenhaus, J. H., & Powell, G. N. (2003). When work and family collide: Deciding between competing role demands. *Organizational behavior and human decision processes, 90*(2), 291-303.

Grigoriou, K., & Rothaermel, F. T. (2014). Structural microfoundations of innovation: The role of relational stars. *Journal of Management, 40*(2), 586-615.

Hair, J., Black, W., Babin, B. and Anderson, R. (2010*), Multivariate Data Analysis*, 7th ed., Prentice-Hall, Inc., Upper Saddle River, NJ.

Hirst, G., Van Knippenberg, D., & Zhou, J. (2009). A cross-level perspective on employee creativity: Goal orientation, team learning behavior, and individual creativity. *Academy of management journal, 52*(2), 280-293.

James, A. (2011). Work–life (im)'balance'and its consequences for everyday learning and innovation in the New Economy: evidence from the Irish IT sector. *Gender, Place & Culture, 18*(5), 655-684.

Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. *Journal of Occupational and organizational psychology, 73*(3), 287-302.

Jones, B.F. and Weinberg, B.A., 2011. Age dynamics in scientific creativity. *Proceedings of the National Academy of Sciences, 108*(47), pp.18910-18914.

Kahn, R. L., Wolfe, D. M., Quinn, R. P., Snoek, J. D., & Rosenthal, R. A. (1964). Organizational stress: Studies in role conflict and ambiguity.

Kreiner, G. E. (2006). Consequences of work-home segmentation or integration: A person-environment fit perspective. *Journal of Organizational Behavior, 27*(4), 485-507.

Lautsch, B. A., Kossek, E. E., & Eaton, S. C. (2009). Supervisory approaches and paradoxes in managing telecommuting implementation. *Human Relations, 62*(6), 795-827.

Mann, S., & Holdsworth, L. (2003). The psychological impact of teleworking: stress, emotions and health. *New Technology, Work and Employment, 18*(3), 196-211.

Mann, S., Varey, R., & Button, W. (2000). An exploration of the emotional impact of tele-working via computer-mediated communication. *Journal of managerial Psychology, 15*(7), 668-690.

Maqbool, S., Černe, M., & Bortoluzzi, G. (2019). Micro-foundations of innovation: Employee silence, perceived time pressure, flow and innovative work behaviour. *European Journal of Innovation Management, 22*(1), 125–145. https://doi.org/10.1108/ EJIM-01-2018-0013

McAdam, R., & McClelland, J. (2002). Individual and team-based idea generation within innovation management: organisational and research agendas. *European Journal of Innovation Management, 5*(2), 86-97.

Molino, M., Ingusci, E., Signore, F., Manuti, A., Giancaspro, M. L., Russo, V., ... & Cortese, C. G. (2020). Wellbeing Costs of Technology use during Covid-19 remote working: An investigation using the italian translation of the technostress creators scale. *Sustainability, 12*(15), 5911.

Mone, M. A., McKinley, W., & Barker III, V. L. (1998). Organizational decline and innovation: A contingency framework. *Academy of management review, 23*(1), 115-132.

Ohlott, P.J., Ruderman, M.N. and McCauley, C.D. (1994), "Gender differences in managers' developmental job experiences". *Academy of management Journal*, 37(1), 46-67.

Perry-Smith, J. E. (2006). Social yet creative: The role of social relationships in facilitating individual creativity. *Academy of Management journal, 49*(1), 85-101.

Perry-Smith, J. E., & Mannucci, P. V. (2017). From creativity to innovation: The social network drivers of the four phases of the idea journey. *Academy of Management Review, 42*(1), 53-79.

Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology, 885*(879), 1010-1037.

Politecnico di Milano. (2019). *Annual research, Smart working Observatory*. https://www.som.polimi.it/lavoro-agile-presentati-i-dati-della-ricerca-dellosservatorio-smart-working/

Rosing, K., & Zacher, H. (2017). Individual ambidexterity: the duality of exploration and exploitation and its relationship with innovative performance. *European journal of work and organizational psychology, 26*(5), 694-709.

Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of Management Journal, 37*, 580–607.

Shalley, C. E., Gilson, L. L., & Blum, T. C. (2009). Interactive effects of growth need strength, work context, and job complexity on self-reported creative performance. *Academy of Management journal, 52*(3), 489-505.

Shalley, C. E., Zhou, J., & Oldham, G. R. (2004). The effects of personal and contextual characteristics on creativity: Where should we go from here?. *Journal of management, 30*(6), 933-958.

Shalley, C., & Zhou, J. 2008. Organizational creativity research: A historical overview. In J. Zhou & C. Shalley (Eds.), *Handbook of organizational creativity*: 3-31. New York: Erlbaum.

Siegel, P. A., Post, C., Brockner, J., Fishman, A. Y., & Garden, C. (2005). The moderating influence of procedural fairness on the relationship between work-life conflict and organizational commitment. *Journal of Applied Psychology, 90*(1), 13.

Škerlavaj, M., Černe, M., Dysvik, A., Nerstad, C. G., & Su, C. (2019). Riding two horses at once: The combined roles of mastery and performance climates in implementing creative ideas*. European Management Review, 16*(2), 285-302.

Škerlavaj, M., Dysvik, A., Černe, M., & Carlsen, A. (2016). Succeeding with capitalizing on creativity: an integrative framework. In *Capitalizing on Creativity at Work*. Edward Elgar Publishing.

Standen, P., Daniels, K., & Lamond, D. (1999). The home as a workplace: Work–family interaction and psychological well-being in telework. *Journal of occupational health psychology, 4*(4), 368.

Staw, B. M., Bell, N. E., & Clausen, J. A. (1986). The dispositional approach to job attitudes: A lifetime longitudinal test. *Administrative Science Quarterly, 31*(1), 56-77.

Staw, B. M., & Ross, J. (1985). Stability in the midst of change: A dispositional approach to job attitudes. *Journal of Applied psychology, 70*(3), 469.

Sullivan, C. (2003). What's in a name? Definitions and conceptualisations of teleworking and homeworking. *New Technology, Work and Employment, 18*(3), 158-165

Torre, T. (2020). Smart working: soluzione ad ogni emergenza? Prospettive oltre l'emergenza. Impresa Progetto - *Electronic Journal of Management*, 1, 1-11. Doi: 10.15167/1824-3576/IPEJM2020.1.1270.

Torre, T., & Sarti, D. (2020). Innovative Approaches to Work Organization and New Technologies. First Insight from the Italian Context. In: Baghdadi Y., Harfouche A., Musso M., Eds. ICT for an Inclusive World. Industry 4.0–Towards the Smart Enterprise: 133-145. Cham (CH): Springer - Series of scientific books: "*Lecture Notes in Information Systems and Organisation*", vol. 35. Doi: 10.1007/978-3-030-34269-2_11.

Venkatesh, V., & Speier, C. (2000). Creating an effective training environment for enhancing telework. *International Journal of Human-Computer Studies, 52*(6), 991-1005.

West, M. A. (2002). Sparkling fountains or stagnant ponds: An integrative model of creativity and innovation implementation in work groups. *Applied psychology, 51*(3), 355-387.

Wiesenfeld, B. M., Raghuram, S., & Garud, R. (2001). Organizational identification among virtual workers: The role of need for affiliation and perceived work-based social support. *Journal of management, 27*(2), 213-229.

Woodman, R.W., Sawyer, J.E. and Griffin, R.W. (1993), "Toward a theory of organizational creativity", *Academy of Management Review, 18*(2), 293-321, doi: 10.2307/258761.

Appendix

Construct	Items	Scale type	
Creativity (during Covid-19)	*Let's talk now about the PRESENT situation. Please indicate how much you agree with each statement below. They all start with: "During this period of massive smart-working due to the COVID-19 emergency…"*		
	I suggest new ways to achieve goals or objectives (even if working remotely);	1 = strongly disagree	5 = strongly agree
	I come up with new and practical ideas to improve performance (even working from home);		
	I feel (despite the emergency situation) a good source of creative ideas;		
	I exhibit creativity (even remotely) on the job when given the opportunity to;		
	I often have new and innovative ideas (even if I work from home);		
	I come up with creative solutions to problems (also related to this emergency situation);		
	I often have a fresh approach to problems (problems generated by this emergency);		
	I suggest new ways of performing work tasks (even remotely).		
	George, J. M., & Zhou, J. (2001). When openness to experience and conscientiousness are related to creative behavior: an interactional approach. Journal of applied psychology, 86(3), 513		
Innovative work behavior	*Let's move back to the situation BEFORE the emergency outbreak. How often did you carry out the following activities related to the GENERATION, PROMOTION and IMPLEMENTATION of new ideas? (not just related to new products, but to the many aspects of your working life)*		
	Creating new ideas for difficult issues;	1 = never	5 = regularly
	Searching out new working methods, techniques, or instruments;		
	Generating original solutions for problems.		
	Mobilizing support for innovative ideas;		
	Acquiring approval for innovative ideas;		
	Making important organizational members enthusiastic for innovative ideas.		
	Transforming innovative ideas into useful applications;		
	Introducing innovative ideas into the work environment in a systematic way;		
	Evaluating the utility of innovative ideas.		
	Janssen, O. (2000). Job demands, perceptions of effort-reward fairness and innovative work behaviour. Journal of Occupational and organizational psychology, 73(3), 287-302.		
Work-home conflict (during Covid-19)	*The following questions relate to the PRESENT situation of massive smart-working due to the Covid-19 emergency. To what extent do you agree with the following statements?*		
	Working at home blurs boundaries between my job and my private life;	1 = strongly disagree	5 = strongly agree
	By working at home, conflicts arise with my personal responsibilities;		
	I do not get all the tasks done at home because I need materials from the office.		
	Ayyagari, R., Grover, V., & Purvis, R. (2011). Technostress: technological antecedents and implications. MIS quarterly, 35(4), 831-858.		
Professional isolation (during Covid-19)	*During the CURRENT massive smart-working situation, how often do you…*		
	"…miss face-to-face contact with coworkers";	1 = never	5 = regularly
	"…feel isolated";		
	"…miss the emotional support of coworkers";		
	"…miss informal interaction with others".		
	Golden, T. D., Veiga, J. F., & Dino, R. N. (2008). The impact of professional isolation on teleworker job performance and turnover intentions: Does time spent teleworking, interacting face-to-face, or having access to communication-enhancing technology matter?. Journal of Applied Psychology, 93(6), 1412.		

Discussion and Conclusion

In this thesis, we have examined the role of WLB in encouraging creativity and innovation, with an emphasis on the individual level. The three parts of the thesis offer several contributions by generating new insights about the relationship between work-life balance as a promoter of creativity and innovation and the creative and innovative work behavior of individuals. We conclude the thesis by examining the expected contributions and discussing the implications for theory and practice that emerge from the findings of this work.

1.Summary of the findings and theoretical contributions

In this section, we discuss the expected contributions explored in the introduction of this thesis.

The first paper—the systematic literature review—was developed with the intention of systematizing the existing literature about the relationship between WLB and creativity or innovation, and determining how WLB impacts creativity and innovation.

Based on a systematic review of the literature, we explored and assessed all aspects of the existing research and empirical evidence on the relationship between WLB and creativity and innovation at different levels of analysis (individual, group and organizational). We sought to clarify what we know about these relationships and then discuss the role of WLB in creativity and innovation.

To achieve the aim of this contribution, we classified selected articles according to the type of relationship that was found, and four groups emerged: *consequential* relationship, *joined* relationship, *direct* relationship, and *blurred* or *inverted* relationship. Examining the theoretical perspectives of the studies included in the first two groups, we found that two innovation and creativity theories were most appropriate to describe the existing relationships. For the articles included in group one that explored an "*consequential*" relationship, we considered the interactionist perspective of organizational creativity, developed by Woodman, Sawyer, and Griffin (1993) to be appropriate. For studies included in group two that explored a "*joined*" relationship, we contend that the componential theory of organizational creativity and innovation, developed by Amabile (Amabile 1988) is appropriate. For articles in group three that consider a "*direct*" relationship, to the best of our knowledge, there is no established theoretical foundation of

creativity and innovation theories. A deep analysis of the theoretical framework from which these studies emerged revealed a lack of references to the theory able to explain direct connections.

Therefore, from a theoretical point of view, the contribution of this paper is twofold. First, by systematizing the existing literature, we shed light on the unclear relationship between WLB and creativity and innovation and thereby clarify it. Second, based on the results of the review, we advance the theoretical debate about this relationship and identify potential gaps that new theory may come to fill.

The second paper aims to investigate how work-family balance (WFB) and family-friendly work practices (FFWPs) adopted by organizations to enhance the balance between employees' work and family lives, impact the relationship between exploitative leadership style (ELS) and innovation implementation. This paper explains the conditions under which implementation of innovation occurs and provides several theoretical contributions.

The first is an expansion of the innovation literature by examining the role of an ELS as an important driving force in the innovation implementation phase. We found an inverted U-shaped relationship between the under-researched topics of ELS and innovation implementation. Thus, we expanded the limited literature on exploitative leadership and shed light on the impact of this leadership style on the final phase of IWB.

The second theoretical contribution of this study concerns the work-family literature. We contributed to the existing body of knowledge by investigating both FFWPs adopted at the organizational level and WFB. We demonstrated that a high level of WFB and more FFWPs available at the organizational level contribute to an overall sense of harmony in life. Because of the spillover effect of work-family enrichment, employees are more likely to tolerate an exploitative leader, and at the same time, these positive feelings could act as a catalyst for innovation. Ours is the first empirical study to address work-family-related topics and innovation implementation. Finally, the paper supported the existence of a three-way interaction between ELS, WFB, and FFWPs that facilitates innovation implementation. We showed that the combination of high-level WFB and high-level FFWPs strengthens the relationship between ELS^2 and innovation implementation, while the combination of low-level WFB and low-level FFWPs weakens the relationship between ELS^2 and innovation implementation. Therefore, a negative organizational aspect, such as ELS, might be useful to innovation implementation if it stays at a moderate level and is joined with a satisfactory WFB.

The third paper, developed during the COVID-19 emergency, aims to investigate the impact of IWB, work-home conflict, and professional isolation on the creative contribution of individuals during an extensive remote work situation. Based on the assumption that the future of work will be both remote and onsite, our study presents several theoretical contributions. To our knowledge, this study is the first to investigate how creativity has been affected during the COVID-19 pandemic.

The first contribution is an enhanced understanding of the overturned relationship between creativity and IWB. We adopt IWB as a predictor variable, assuming that IWB represents a general attitude achieved due to repeated innovative behaviors that individuals will not lose during a massive remote work situation. The results show that there is a positive relationship between IWB and creativity because remote employees have extensively explored new ways of reorganizing their work and enhancing their creative contributions. At the same time, with these findings, we also contribute to the remote-working literature, where we provide the first empirical examination of creativity manifested in the context of remote work. Furthermore, we extend the research on work-family literature, demonstrating that in the context of remote work, work-home conflict negatively affects the relationship between IWB and creativity. Finally, supporting the influence of a three-way interaction among IWB, work-home conflict, and social isolation on predicting individual creativity, we show how individual creativity is affected by the work-home conflict and professional isolation that have manifested during an extensive remote working experience.

2.Managerial implications

The findings of this thesis provide useful insights for the post-COVID-19 era, as the effects of this sudden emergency will not soon disappear. Managers have to deal with the current situation and with post-COVID-19 era management in the best way possible. So far, the recovery of economic and manufacturing activity has been slow, and this should further stimulate the promotion and implementation of programs for the renewal of these processes, the ways of doing business, and the organization of work. As supported by our findings, the adoption of remote work and other WLB practices may be useful tools to fulfill employees' needs to meet work and other life responsibilities and may consequently enhance individuals' creativity and IWB.

Currently, and in the post-COVID-19 era, the creative and innovative contributions of employees are crucial drivers of organizational innovation and the capacity to survive in increasingly dynamic and competitive markets. Therefore, our research findings present several practical

implications and managerial contributions for organizations to survive and become more innovative.

More specifically, from a managerial perspective, to facilitate a balance between employees' working and private lives, the first aspect to consider is the adoption of WLB arrangements. However, it is essential to note that the mere adoption of these policies is not sufficient to support WLB, because the existence of these arrangements does not guarantee their use. The organizational culture plays an essential role in facilitating or hampering employees' attempts to use these policies by influencing employees' perceptions of WLB. Therefore, organizations interested in improving their innovativeness and employees' creativity must emphasize the work-family culture.

To conclude, given that the findings demonstrate that employees have manifested a greater predisposition to creativity despite being forced to work from home, the ongoing adoption of remote work is encouraged. However, managers should still seek to gain a better understanding of the elements strictly connected to remote work that negatively affect individuals' creative contributions, such as work-home conflict and professional isolation. The adoption of integrative work-home policies, also called FFWPs, enables managers to limit work-home conflict. Finally, in light of the negative impacts of professional isolation on remote workers' performances, it is important for managers to reduce professional isolation and facilitate activities between coworkers to ensure adequate levels of knowledge sharing. Managers should also organize meetings in which remote workers and their colleagues share professional knowledge and strengthen informal relationships. This will limit perceptions of being "*out of sight, out of mind.*"