



Employees' Self-efficacy and Intrapreneurial Behavior in the Middle of the COVID-19 Crisis: A Destruction or An Opportunity?

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Table of Contents

THEORY AND HYPOTHESES DEVELOPEMENT	7
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ORGANIZATIONAL ADAPTATION	7
INTRAPRENEURSHIP AND INTRAPRENEURIAL BEHAVIOR THE DIRECT EFFECT OF SELF-EFFICACY ON INTRAPRENEURIAL BEHAVIOR	8
THE MODERATING ROLE OF REMOTE WORK CONTEXT	10
WORK STRESSORS	10
FAMILY DISTRACTIONS	11
CONCEPTUAL MODEL	13
METHODS	14
RESEARCH SETTING AND PARTICIPANTS	14
MEASUREMENTS	14
ANALYTICAL APPROACH	18
RESEARCH ETHICS	20
RESEARCH ETHICS	20
RESULTS	21
DISCUSSION	26
THEORETICAL IMPLICATIONS	26
PRACTICAL IMPLICATIONS	29
LIMITATIONS AND FUTURE RESEARCH DIRECTIONS	31
CONCLUSION	32
REFERENCES	34
APPENDIX	39
THE SUDVEY	30



Abstract

Although previous research has demonstrated the positive relationship between self-efficacy and intrapreneurial behavior, there is an imperative need to examine this relationship in the remote work environment. Considering the potential negative impact of remote work mode on employees, this research intents to explore the effect of employees' self-efficacy on their intrapreneurial behavior under the moderation effects of work stressors and family distraction during the COVID-19 crisis. This paper aims to enrich the literature with critical and updated insights about the phenomenon during the COVID-19 crisis. To execute this research, empirical data was derived from a technological solutions-based firm by distributing a validated survey among its employees. This paper reveals that the effect of self-efficacy on intrapreneurial behavior reduces in extraordinary situations, and work stressors have a positive moderation effect on the main relationship. Whereas family distractions negatively moderate the relationship between self-efficacy and intrapreneurial behavior. Further, this study delivers an updated overview to the managers of the challenges faced by remote workers during the COVID-19 crisis, and how these difficulties can be handled and minimized. As well as encourages managers to foster a well-supported and collaborative atmosphere for remote workers that suit the current situation.

Keywords

Intrapreneurial behavior, innovative behavior, innovative performance, self-efficacy, workstressors, family distractions, remote work, COVID-19 crisis, pandemic, Coronavirus.



No crisis in recent history has shaken the world the way Coronavirus has done (Bapuji et al., 2020). It caused great anxiety and chaos. This unprecedented crisis will leave an impact that might last for years in the same manner as similar crises of the past i.e., financial crisis, Spanish flu, great depression, etc. (Bapuji et al., 2020). This pandemic has caused big changes, "many countries have closed their borders, limited the movement of their citizens, and even confined citizens in quarantine within their homes for weeks" (Donthu & Gustafsson, 2020; Ratten, 2020). Consequently, the way people interact with each other has been changed, most probably, forever (Wu, 2021). Furthermore, this crisis altered the work-environment and most of organizations have switched their activities to a remote work setting, and this will probably result in many consequences in the long-term.

Throughout this pandemic, things and relationships have been dramatically changed. It has been theorized that employees' intrapreneurial behavior has been negatively affected because there have been insufficient abilities, limited knowledge resources, limited interaction, and high levels of uncertainty (Haneberg, 2020). According to social network theory, the social capital that employees get from their social networks enhances their innovative performance (Stuart & Sorenson, 2005). However, this is not the case in today's situation. People have gotten dispersed and the new norm "virtual mode" has taken the lead during the COVID-19 crisis. Accordingly, employees' intrapreneurial behavior has been greatly affected as a result of the lack of work-related social support (Donthu & Gustafsson, 2020). However, during the crises, employees are expected to shape the changing business environment and actively seek opportunities and take risks to introduce change and new innovations (Neessen, Caniëls, Vos & De Jong, 2018). Therefore, employees' intrapreneurial behavior can be vital for organizations dealing with changing and challenging circumstances, and it is considered a priceless asset that enables organization's innovation and survival.

Many factors and elements influence employee's intrapreneurial behavior, among them self-efficacy, which is explained as an individual's confidence and believe in his/her capabilities to attain desired outcomes (Arslanagic-Kalajdzic, Cerne & Kadic-Maglajlic, 2019). Self-efficacy is demonstrated as an important determinant of employee's intrapreneurial



behavior due to its closeness to action and action intentionality, and has been proved to have a significant positive impact on employee's innovative performance (Sequeira et al., 2007; Shaheen & Al-Haddad, 2018; Norena-Chavez & Guevara, 2020). It influences the tasks that employees attempt to undertake, employees' willingness to complete a task as well as their effective responses to approaching tasks, which in turn impacts the degree of successful completion of the task (Norena-Chavez & Guevara, 2020).

Although many studies have explored the positive relationship between self-efficacy and intrapreneurial behavior, this relationship has not been clearly elucidated in exceptional situations. For instance, it has not yet been tested how this relationship functions during the COVID-19 crisis while most of employees are working remotely. Indeed, remote-work-related aspects such as uncertainty, anxiety, boredom, distress and family distractions interrupt one from his work obligations and impact one's willingness and ability to behave intrapreneurially (Powell, 2020). Also, one's confidence in his/her abilities get lower when confronted with distress and other barriers that take one's time and effort (Toniolo-Barrios & Pitt, 2021). As it is an ongoing crisis, it is very difficult to fully estimate its consequences yet. Reasonable amount of research has been conducted since the outbreak of the Coronavirus, however, it is still inadequate and incomplete in regard to the impacts of remote work context on the relationship between employees' self-efficacy and intrapreneurial behavior. This triggers the need for further research, and enriching the knowledge about this crisis and its impacts remain valid and valuable.

In an effort to address this knowledge gap, I initially address the importance of organizational adaptation in order to secure the exploitation of emerging opportunities, and then clarify the role of intrapreneurship in organizational progress and survival. Afterwards, I develop a research model in which three hypotheses are posited. First, consistent with prior researches, I propose that self-efficacy has a positive effect on intrapreneurial behavior. Because high levels of confidence in abilities boost individuals' willingness and capabilities to perform in an innovative way. Second, as stress is associated with any normal work situation and might get into higher levels when people are surrounded by anxiety and uncertainty due to the outbreak of Coronavirus, I argue that high levels of work stressors have a negative moderation effect on the relationship between self-efficacy and intrapreneurial behavior. Third,



building from previous researches, it is demonstrated that the blurred lines between work and family life lead to a situation where one can easily be distracted and deconcentrated, which in turn negatively affect individual's productivity and efficiency. Hence, I theorize that the effect of self-efficacy on intrapreneurial behavior reduces under the moderating effect of family distractions.

This paper makes several important contributions to the scientific knowledge. First, it is adjusting the common belief about the strong correlation between self-efficacy and intrapreneurial behavior, and shows that this relationship is getting weaker under exceptional conditions. Second, it contributes to the literature by detecting a positive correlation between remote work context aspects, namely, work stressors and family distractions. Third, this research elucidates that there are other factors than self-efficacy that have predictive power on employees' intrapreneurial behavior, and managers might have a key role in improving employees' innovative performance as well. Lastly, this paper contributes to the knowledge base by providing an overview of the moderation effects of remote work context on the relationship between self-efficacy and intrapreneurial behavior. It reveals that high levels of work stressors enhance individuals' innovative performance, whereas family distractions do the contrast and result in negative moderation impact on the relationship between self-efficacy and intrapreneurial behavior.

In a practical sense, this paper delivers a clearer overview to the managers of the challenges faced by remote workers and presents how these difficulties can be handled to minimize their effects on the remote workers. This paper recommends managers to provide their employees with wellness support, training sessions, incentives, and appropriate home office equipment. Additionally, managers and executives can use the outcomes of this paper to better develop strategies and approaches, and to set targets and objectives that suit the current situation taking into account the unprecedented situation employees are experiencing nowadays. Moreover, this study highlights the importance of building diverse workforce recognizing its advantages within organizations. Finally, consistent with previous findings, this paper further encourages managers to foster a collaborative climate among team members, and improve internal communication channels in order to overcome the challenges associated with the remote work environment.



THEORY AND HYPOTHESES DEVELOPEMENT

One of the priceless assets within organizations is intrapreneurship, and this aspect is greatly affected by one's self-efficacy (Sequeira et al., 2007). This relationship is shaped based on the belief that self-efficacy has a large impact on one's willingness to complete a task, and due to the fact that it is close to action and action intentionality (Shaheen & Al-Haddad, 2018; Norena-Chavez & Guevara, 2020). However, after the outbreak of the Coronavirus, employees' intrapreneurial behavior has gotten negatively impacted due to limited interaction between people, limited knowledge resources, etc. (Haneberg, 2020). Also, individuals' self-efficacy gets lower when confronted with distress and other matters that take one's time and effort (Toniolo-Barrios & Pitt, 2021). After "remote work" being the new work's mode in many organizations during the COVID-19 crisis, people have been facing several challenges such as feeling demotivated, stressed and blending family issues with work issues (Powell, 2020). As a result, the relationship between employees' self-efficacy and intrapreneurial behavior has been negatively affected most probably. Thus, this paper seeks to detect the moderating effects of remote work context on the relationship between self-efficacy and intrapreneurial behavior, and to examine how this relationship has been impacted during the COVID-19 crisis.

ORGANIZATIONAL ADAPTATION

It is clear that organizational adaptation is taking place on a global scale. To survive, firms have to be smarter and swifter in their response to changing market conditions (Hall & Moss, 1998). Organizational adaptation is vital as future employees will work for the innovative firms that adapt to the changing environment, and to reduce the distance between an organization and its economic and institutional environments (Sarta, Durand & Vergne, 2021). Also, organizations have to adapt in order to secure the exploitation of the emerging opportunities, and to gear up from dormant mode to full-scale response within a short time (Witt & Zellner, 2008; Schakel & Wolbers, 2019). Being fast-responsive enables organizations to gain a competitive advantage and to build solid organizational capabilities compared with those who cannot respond to changing circumstances (Schakel & Wolbers, 2019).

Moreover, by adapting to the changes, organizations become more entrepreneurial in character in order to be more innovative and speed product development (Hanlon, 1989). The major driving force behind the adaptation is the growth of human knowledge, and firms can



profit form such a transfer by saving costs from the improvement of the processes and products (Witt & Zellner, 2008). Organizations that follow traditional managerial recipes become limited by their thinking and acting, and to survive, recipes should not be routinely followed. Also, organizations should constantly improve organization's alignment with the external world (Wright, Van Der Heijden, Bradfield, Burt & Carins, 2004). Equally important, this transformation is for everyone, meaning that employees must be equally flexible and adaptive (Hall & Moss, 1998). Employees are required to adopt a more strategic way of working to influence a firm's strategic direction, are responsible to introduce change, shape the changing business environment, and actively be involved in breakthrough innovations (Gawke et al., 2019; Neessen, Caniëls, Vos & De Jong, 2018).

INTRAPRENEURSHIP AND INTRAPRENEURIAL BEHAVIOR

Intrapreneurship is defined as organizational strategic renewal and venture creation brought about by employees and can impact different organizational levels. It has become vital for organizations to survive and maintain their competitive advantage (Gawke et al., 2019; Neessen et al., 2018). It is "a process that goes on inside an existing firm, regardless of its size, and leads not only to new business ventures but also to other innovative activities and orientations such as development of new products, services, technologies, administrative techniques, strategies, and competitive postures" (Nicolaidis & Kosta, 2011). Intrapreneurship is predicted from individual characteristics i.e., risk taking, job satisfaction, personal norms and values, experience, age, locus of control, education and residency (Moore, 1986). Innovativeness is one of the main dimensions of intrapreneurship and is often the result of the engagement of employees in intrapreneurial activities (De Jong, 2016; Gawke et al., 2019). Further, intrapreneurship usually leads to organizational growth and profitability (Nicolaidis & Kosta, 2011), and focuses on strengthening firm competencies to acquire sills and innovative capabilities which play a key role in achieving a competitive advantage (Felicio, Rodrigues & Caldeirinha, 2012).

Acting and behaving intrapreneurially is important as employees' intrapreneurial behavior involves generating initiatives that can spiral up and influence organizational performance (Neessen et al., 2018), and the intrapreneurial behavior is mainly activated by thoughts, plans, behaviors, emotionally important objectives and desires (Cardon et al., 2009).



In essence, intrapreneurial behavior is aimed at advancing the organization and its innovativeness (Gawke et al., 2019). As a result of employees' innovative performance, organizations benefit from several outcomes such as venture innovation, business renewal, improved organizational performance and productivity (Neessen et al., 2018). However, the success of the intrapreneur largely depends on the organizational context. The organization can play either facilitator or inhibitor role in this regard. Management support, work autonomy, the flexibility of the organization, the flow of information throughout the organization and the centralization of decision-making are all factors that influence employees' intrapreneurial behavior to a great extent (Neessen et al., 2018; Moore, 1986; Scott & Bruce, 1994). In addition to that, rewards, incentives and providing right resources are other factors that influence employees' intrapreneurial behavior (Neessen et al., 2018).

Furthermore, De Jong (2016) identified several antecedents of intrapreneurial behavior such as dispositional traits, demography, work context and environmental variables. *Dispositional traits* concern the proactive personality, need for achievement and self-efficacy. These traits make people undertake activities and tasks that involve responsibility for outcomes and require individual skills to influence the environment and bring about change. *Demography*, more precisely the age, is an important antecedent that is associated with individuals' innovative performance. *Work context* has got a lot of attention in the literature as well as a historical antecedent of intrapreneurial behavior. It refers to a pool of resources available that influences individuals' willingness to exploit opportunities, leadership support, and work climate as important elements that generally empower employees and enhance their innovative performance. Lastly, the *wider environment* is an unignorable factor that partly determines whether or not intrapreneurial opportunities are identified and boosts individuals' capabilities to initiate innovative and novel ideas.

THE DIRECT EFFECT OF SELF-EFFICACY ON INTRAPRENEURIAL BEHAVIOR

Self-efficacy refers to individuals' beliefs about their ability to carry out a specific task within a given context and to successfully achieve their objectives (Arslanagic-Kalajdzic et al., 2019; Sequeira et al., 2007; Lee, Wong, Der Foo & Leung, 2011). Self-efficacy affects human behavior through different processes. First, it influences the tasks that individuals attempt to



undertake so that people believe they can complete tasks successfully. Second, it impacts the willingness of a person to put effort and time on a task, as well as his/her perseverance. Finally, self-efficacy influences individuals' effective responses to approaching tasks, which in turn affect their innovative behavior (Arslanagic-Kalajdzic et al., 2019; Bandura, 1997).

It is not only educational background, experience and age that affect individual's intrapreneurial behavior, but also the self-assessment of intrapreneurial abilities (Martiarena, 2013). Therefore, self-efficacy is demonstrated as an essential factor influencing individuals' intrapreneurial behavior (Sequeira et al., 2007). People who are confident and believe in themselves and in their capabilities are more likely to develop intentions to innovate, think creatively, see possibilities and generate new ideas and solutions (Arslanagic-Kalajdzic et al., 2019; Nisula & Kianto, 2016). This is because high levels of self-efficacy increase individuals' inclination to have faith in their own ideas, and to persuade others to join them in order to develop and ultimately implement them (Arslanagic-Kalajdzic et al., 2019). Thus, individual's self-efficacy can be seen as an essential predictor of intrapreneurial behavior. High levels of self-efficacy result in generating new ideas, finding effective means of social interaction and argument to attract supporters, and finding ways to rapidly test ideas (Nisula & Kianto, 2016). Taken together, increased self-efficacy yields enhanced effort and persistence, thus, raises the likelihood of individuals behaving intrapreneurially (Sequeira et al., 2007).

H1: High level of individual's self-efficacy improves individual's intrapreneurial behavior.

THE MODERATING ROLE OF REMOTE WORK CONTEXT

The unprecedented downturn resulted from the COVID-19 crisis has led to many major changes in organizations. Due to the fact that the lockdowns and other restrictions have reduced the consumption of various goods, organizations' production and intrapreneurship have largely been altered as a result (Donthu & Gustafsson 2020). Firms' productivity has generally experienced a hit, which in turn has negatively affected intrapreneurial activities and discouraged the intrapreneurs worldwide (Meahjohn & Persad, 2020). Likewise, the pandemic has posed some challenges to the intrapreneurs related to the way they should deal with and respond to uncertainty by being flexible and supporting an intrapreneurial ecosystem environment (Ratten, 2020). It is also likely that individuals experiencing anxiety and fear



might face challenges that impede their capacities to function efficiently (Montani & Stagliano, 2021). Besides that, it is estimated that COVID-19 crisis has decreased organizational ability to sustain R&D and intrapreneurial activities in the future as well (Montani & Stagliano, 2021).

In the shadow of the crises, the effect of solid social networks seems to be strong in situations full of uncertainty (Haneberg, 2020). Individuals who are experiencing COVID-19 difficulties can boost their innovative performance by sharing knowledge extensively in strong ties which enables them to come up with new innovations (Montani & Stagliano, 2021). Moreover, strong ties provide practical and emotional assistance to engage in intrapreneurial activities, provide greater motivation, and raise awareness of opportunities (Sequeira et al., 2007; Baer et al., 2015; Krackhardt et al., 2003, Ch. 3). Any increase in the strength of social ties leads to an increase in the likelihood of intrapreneurial attempts by individuals, because people learn and acquire valuable skills, information, and values from each other (Sequeira et al., 2007; Aldrich & Zimmer, 1986). Further, strong ties build cultivate trust which creates a comfort-zone to propose new ideas without the fear of being attacked (Baer et al., 2015). That being said, the remote work context, where strong ties are missing, has a negative impact on individuals' motivation, confidence and information redundancy that can be acquired through strong ties, which in turn negatively affects the relationship between individual's self-efficacy and intrapreneurial behavior.

Work Stressors

The COVID-19 crisis has drastically impacted all aspects of people's lives; leading to changes in work ways, family experiences, personal well-being, and ultimately has triggered high levels of anxiety and stress (Trougakos, Chawla & McCarthy, 2020). This pandemic is likely to prompt a big threat as it is unclear how long it will persist, when people will be back at their offices and many other unanswered questions regarding its impact. Consequently, this causes a stressful atmosphere where people feel that it is difficult to overcome all these challenges (Trougakos et al., 2020). Usually, work-related-stress occurs when an individual perceives that the demands of an external situation are beyond his or her perceived ability to cope (Kumar, Kumar, Aggarwal & Yeap, 2021). Job stress involves forms of strain such as tension, anxiety and exhaustion (Ren & Zhang, 2015).



High levels of anxiety and distress are associated with pessimistic thoughts about abilities and accomplishments (Karademas & Kalantzi-Azizi, 2004). Thus, this affects the psychological state of individuals and their perception of achieving their aims. Stress offers information affecting one's judgements about his/her capabilities (Zajacova, Lynch, & Espenshade, 2005). Individuals who experience high levels of stress face a brick wall and gain a negative thinking, which affects their entire set of activities. Also, stress can prevent the use of resources in an efficient manner (Sebastian, 2013). Stressed persons are likely to believe that no reasonable efforts will be sufficient to satisfy the demands of the stressors, thus, they tend to have lower motivation and less willingness to undertake actions (Ren & Zhang, 2015). Therefore, in the presence of high levels of work stressors, even if one has high levels of selfefficacy, not much intrapreneurial behavior might take place. Those who experience a less stressful work-environment might behave more intrapreneurially when they are sufficiently confident in their abilities. In other words, work stressors dampen the positive relationship between self-efficacy and intrapreneurial behavior. This is the result of the psychological consequences (low motivation, less confidence, negative thinking, etc.) that one gets when experiencing high levels of work stressors. distress.

H2: High levels of work stressors negatively affect the relationship between individual's self-efficacy and intrapreneurial behavior

Family Distractions

The advent of COVID-19 pandemic brought the challenges associated with work-family balance into sharp relief as large portion of people have started to work from home (Allen, Merlo, Lawrence, Slutsky & Gray, 2021). The majority of the workforce today have been combining work and family responsibilities. Workers have been forced to improvise on the fly: dining tables became desks; couches became office chairs; and bedrooms, kitchens, and family rooms became shared workspaces (Toniolo-Barrios & Pitt, 2021). Also, during the COVID-19 crisis, schools, day-care facilities, domestic servants and others are no longer available to the majority of the households. Hence, many remote workers have been sharing the household responsibilities along with work obligations (Kumar et al., 2021). Further, home schooling or assisting children with distance learning has become the primary mode of



childhood education during the lockdown (Powell, 2020). Thus, working from home often makes it difficult to concentrate on work tasks due to some distractions such as ringing doorbells, noisy pets, and interrupting children (Toniolo-Barrios & Pitt, 2021).

Apparently, the most significant challenge associated with the remote work stem from the blurred lines between work and personal life, which makes it harder for many employees to unplug and disconnect from work (Toniolo-Barrios & Pitt, 2021). Consequently, remote workers experience time-based and strain-based work-family conflict (Powell, 2020). Ultimately, remote work would result in misalignment and incongruent in workers' preferences as individuals often get distracted by thoughts, emotions and demands of another role while working from home (Allen et al., 2021; Kumar et al., 2021). Family-interfering-with-work conflict influences beliefs, which in turn impacts individuals' behavior as well as their persistence and emotional reactions when confronting barriers (Cinamon, 2006). Simply put, an employee can mentally be distracted while physically attending his/her work, because emotions and thoughts easily flow from one domain to another (Kumar et al., 2021).

In short, it can be stated that the blurred lines between work and family life lead to a situation where one can easily be distracted and deconcentrated, which in turn diminishes individual's productivity and efficiency. As a result, remote workers that encounter family distractions, even if they possess high levels of self-efficacy, tend most likely to have less intrapreneurial behavior and intentions. The relationship between individual's self-efficacy and intrapreneurial behavior gets weaker or less positive under the moderating effect of family distractions due to decreased motivation, family obligations that take one's time and efforts, and individual's undermined capacities to believe that they can successfully accomplish what they want (Cinamon, 2006).

H3: Family distractions negatively affect the relationship between individual's self-efficacy and intrapreneurial behavior

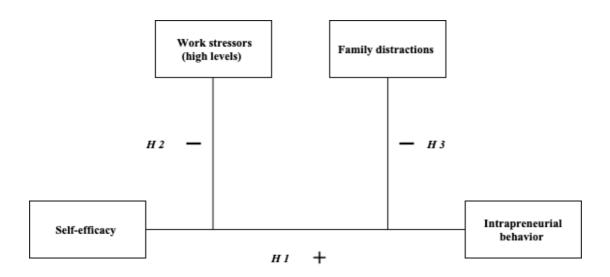
CONCEPTUAL MODEL

Based on the reviewed literature above, a conceptual model had been developed where the main relationship refers to the positive relationship between individual's self-efficacy and intrapreneurial behavior. Meaning that individuals with high levels of self-efficacy are more



likely to pursue intrapreneurial behavior. Further, due to the unprecedented changes that resulted from the COVID-19 crisis, most employees have been working from home for a while now. Therefore, to get an updated overview of how this relationship seems while working from home, it is tested under the moderation effects of family distractions and work stressors. Both moderators tend to negatively affect the main relationship between self-efficacy and intrapreneurial behavior and make it weaker. This is because both moderators have a negative impact on individuals' capabilities, motivation, productivity, thinking and the ways to cope with the difficulties. Below (Figure 1) is a model including all the hypotheses discussed in this paper.

FIGURE 1
Conceptual model



METHODS

RESEARCH SETTING AND PARTICIPANTS

The empirical data was derived from a technological solutions-based firm. TELUS international is a provider of multilingual digital customer experience and digital IT solutions to global clients. Clients include corporations in technology, games, communications and social media industries. It operates worldwide and has locations in several countries around the globe. This research setting is strategic to test the hypotheses on the given firm because a large



portion of the company's work has been switched to the home-office setting, and hundreds of its employees have been working from home during the COVID-19 crisis. Next to that, TELUS international seems to be an appropriate company to investigate as intrapreneurship plays a key role in the daily operations of its employees. Its employees constantly strive to improve business practices and to come up with new approaches and ideas to resolve problems at work due to the challenges that pop up on and on. Individual's innovative behavior is a key element in the daily operation within such firms. In addition, the company itself was interested in this research when proposed by the thesis author and pointed out that it is highly relevant for their company, especially during the COVID-19 crisis.

I tested the hypotheses in two different divisions at the research company to examine whether the findings were robust across different divisions. The data collection was restricted within two division/units, and both divisions have similar tasks, however, they serve different markets and differ in their size. I employed a unified survey in both divisions, and it was distributed with the help of a team leader after getting the approval from the top executives of the firm. The survey was embedded in e-mail format because the company did not accept to distribute the link among its employees, considering some privacy and data protection issues. The validated survey was administrated in English and consisted of 6 questions, as well as the instructions were provided at the beginning of the survey and participation was entirely voluntary and anonymous. Further, it was checked by some fellow students and friends on initial errors. The respondents varied between floor-employees, mid-level managers and team leaders, and they were given around 2 weeks to complete the survey. The participants responded by email and I recorded the answers manually on Qualtrics to easily download and interpret the responses on SPSS later on.

In total, 280 employees were invited to fill in the survey, and 67 employees responded and filled in the survey. Hence, the response rate was around 24%. The sample size is an essential issue when conducting research. It has a direct impact on the appropriateness and the statistical power of the regression analysis. Besides its role in determining statistical power, sample size influences the generalizability of the results by the ratio of observations to the independent variables (Hair, Black, Babin & Anderson, 2018). In the case of regression analysis, Hair et al. (2018) suggest that the desired level is between 15 to 20 observations for



each independent variable. When this level is reached, the results should be generalizable if the sample is representative (Hair et al., 2018). The sample size in this paper satisfies the minimum recommended ratio, which makes it sufficient in terms of statistical power and the generalization of the results.

Furthermore, the intention of getting inputs from this group of individuals is due to the belief that these employees have had practical experience regarding the problem discussed in this paper. Hence, they would contribute to the paper with useful inputs which will facilitate answering the research question with a high degree of clarification and more down-to-earth interpretations of the situation. With the combination of literature review and survey's inputs, data triangulation can be reached to gain sufficient knowledge about the topic from different sources which enriches the paper with more diverse findings, as well as assures the validity of the research.

MEASUREMENTS

To measure the constructs of intrapreneurial behavior, self-efficacy, work stressors and family distractions, validated survey was used. The questions in the survey were tailored to the remote work/COVID-19 setting, which means that the survey was filled in an online form without any physical meetings. All the questions were measured by means of a 5-point Likert scale and composed of 3 sample items for each question.

Intrapreneurial behavior was measured based on the work of Parker and Colling (2010). This variable was assessed using a 5-point Likert scale ranging from (1) "Never" to (5) "Very frequently" over three items that were originally derived from the work of Scott and Bruce (1994) in measuring individual's intrapreneurial behavior. Appendix 1 gives an overview of the sample items that were used by Parker and Colling (2010) and were applied in this paper as well. The items of this construct had a strong correlation with each other, and the internal consistency between the items had a value of (0.719), which means that this variable is consistently reliable.

Self-efficacy construct was measured based on a on a five-point Likert scale (1) "Strongly disagree", (5) "Strongly agree" which was tested in Arslanagic-Kalajdzic et al. (2019) and Sequeira et al. (2007) papers as well. The respondents indicated on this scale how much confidence they have in their abilities to engage in intrapreneurial activities. Out of five sample



items, three had been chosen as the most related to the paper's topic. The sample items used to measure this variable can be found in Appendix 1. The items were correlated with each other, and Cronbach's Alpha had a value of (0.523) when all the items were included. However, it raised to (0.611) when the first item was removed and the second and third were remained, and this is the highest rate that could be reached between the items of this construct. This indicates that the first sample item lowers the internal consistency between the items as it gives lower value when it is included in the reliability test with the second and third item.

Work Stressors was assessed with Ren and Zhang (2015) scale. The respondents were asked about the extent to which they felt stressed and had intensive workload while working from home due to the COVID-19 crisis. The scale ranged from (1) "Strongly disagree" to (5) "Strongly agree". The sample items of stressors are derived from the work of Trougakos et al., (2020); Ren & Zhang, (2015); Prasad & Vaidya (2020) and are included in Appendix 1. Cronbach's Alpha value was (0.447) for this variable. Cronbach's Alpha value went up to (0.538) when only the first and third item were included, and this was the maximum value that was reached. Apparently, the second item is the one that lowers the internal consistency between the sample items.

Family distractions construct was assessed based on the measurement of this construct by Kumar et al. (2021). It was measured on a five-point Likert scale as well. (1) "Strongly disagree", (2) "Disagree", (3) "Neither agree nor disagree", (4) "Agree", and (5) "Strongly agree". The items of this construct were selected from the work of Greenhaus, Ziegert and Allen (2012) in measuring work-family balance and family obligations' interference with work obligations. The sample items can be found in Appendix 1. The Cronbach's Alpha value for this variable loaded on (0.108) which indicates very low level of reliability. However, this value raised to (0.608) when the first item was removed and the second and third items were kept in the analysis.

With respect to the control variables, gender and age were included as control variables. Control variables have the potential to relate to the dependent variable and are included to account for any possible confounding effects (Atinc, Simmering & Kroll, 2011). As well as they help to remove predictor-criterion contamination and purify results and uncover "true" relationships in the analysis (Bernerth & Aguinis, 2016). In other words, the relationships



between the predictors and criteria are spurious unless control variables are included (Bernerth & Aguinis, 2016). Therefore, the justification behind the inclusion of age and gender as controls in this paper is that despite the effect of other included variables, employee's gender or/and age might be important determinants of his/her intrapreneurial behavior. For instance, young employees might pursue more intrapreneurial intentions than their fellows of older age or vice versa. Also, male employees might differ from female ones in regard to their innovative behavior and so on. In sum, the control variables were added into the model to rule them out as an alternate explanation for the findings.

Gender was measured on a nominal scale and consisted of three categories that do not follow a rank order. The categories were Male, Female and Other. Thereafter, the categories were coded as dummy variables in the regression analysis with "Male" being the reference category. Whereas Age was measured on an interval scale, and the respondents were given the opportunity to choose their age from a list formatted in a dropdown format. The list started with the age of (13) and ended with (80) years. As it was recommended by Atinc et al. (2011) and Bernerth & Aguinis (2016), the control variables were entered into the hierarchical regression before other independent variables in order to indicate their explanatory power exclusive of the independent variables.

ANALYTICAL APPROACH

In this paper, a dependence relationship was examined, because we used dependent and independent variables. Therefore, we had to use one of the dependence techniques. According to Hair et al. (2018, p. 14-15), the different dependence techniques can be categorized by two characteristics: 1. The number of dependent variables; 2. The type of measurement scale employed by the variables. First, starting with the number of dependent variables, in this paper only one dependent variable was studied, which is employees' intrapreneurial behavior. Secondly, we had to look at the measurement scale of the dependent variable. The measurement scale of intrapreneurial behavior was metric. According to Hair et al. (2018, p. 14-15), there are two appropriate methods in this case: multiple regression analysis and conjunction analysis. Because I wanted to test a couple of hypothesis, I opted for multiple regression as an analysis technique. When using multiple regression analysis all used variables need to be measured on a metric scale, which was the case in this paper.



The application of this analysis falls mainly into two broad classes of research problems: prediction and selection. Prediction measures the extent to which regression variate can predict the dependent variable. Whereas the explanation examines the regression coefficients (their magnitude, sign, and statistical significance) for each independent variable (Hair et al., 2018). It basically assesses the relationship between dependent and independent variables, and the assumed relationship is a linear relationship based on the correlation among these variables. Having the purpose of this paper in mind, multiple regression analysis was seen as an appropriate approach to analyze the data since the main objective was to predict the moderating effect of remote work contexts on the relationship between employees' self-efficacy and intrapreneurial behavior. Additionally, the estimation technique that was used in this paper was confirmatory, because the intention was to test for a priori specified relationship.

The analysis started by checking if there was missing data or outliers. This was assessed via univariate analysis, and there was only (1) missing and (66) valid responses. After that, to conduct a linear regression analysis, several assumptions should be ensured before running the analysis. First, to confirm that the variables were normally distributed, I looked at the skewness and kurtosis and all variables had values between +3 and -3 for both skewness and kurtosis, which seemed to be acceptable. Also, another assumption in the regression analysis is that we should check the multicollinearity of the independent variables. It is ideal that the independent variables highly correlate with the dependent variable, but with little correlation among themselves (Hair et al., 2018). The Tolerance of all variables were above (0.10) and close to (1), and VIF was below (10) which indicated that there was less multicollinearity among the independent variables in the model.

Moreover, to ensure that the regression model was linear, I looked at the scatterplot on SPSS. The dots in the scatterplot did not form a clear pattern, they were spread around the horizontal zero-line, therefore, it could not be stated that the model was linear. Hence, polynomial terms of the interaction terms were included in the model and this way looked at non-linearity. After including polynomial terms, it was obvious that one of the terms was statistically significant (p = .023) whereas the second interaction terms loaded on (p = .368). This means that including polynomial terms most likely enhanced the linearity of the model. This can also be proved by looking at the adjusted R^2 in the model summary as well. Including



these terms led to a far higher adjusted R², which showed that it improved the explanation of the variance of the model. In addition, by looking at the scatterplot, it was apparent that there was equal spread of variance, hence, it could be stated that the data was homoscedastic. We prefer homoscedasticity to ensure that there is not much deviance.

According to Hair et al., (2018), the independence of the error terms is another assumption that needs to be assured when running a regression analysis. It refers to that each predicted value is independent and not related to any other prediction. By checking "residuals statistics", we noticed that the standardized predicted value had a mean of (0.0) and a standard deviation with a value of (1.0). This means that the errors do not correlate with the independent variables and thus do not influence the regression model in a significant way. Further, the last assumption was to check for the normality of the error terms' distribution. By looking at the histograms on SPSS, there was a clear normal curve of the standardized residuals of all variables. Thus, the error terms were normally distributed. This assumption can be ensured by checking the normal probability plot as well. On the plot, all the dots laid on or around the diagonal line which indicated that the error terms were normally distributed.

Lastly, before running the analysis, the continuous variables were mean centred and then included in the analysis. After doing this, the variables that were metrically scaled got a mean of (0), which was the goal behind centring these variables. Further, when running the analysis, the variables were included in three blocks. The first block composed of the variables of Gender and Age that were included as control variables in the model. For Gender variable, "Male" behaved as the reference category and the third option "Other" was omitted from the model as none of the participants selected that option. The second block then added the variables of Self-efficacy which was the dependent variable, and Work Stressors and Family Distractions that played the role of moderators. In the last block, the interaction effects between the dependent variable and the two moderators were added into the regression analysis.

RESEARCH ETHICS

When conducting research, it is important to keep the ethical considerations in mind in order to stay within the academic boundaries and to create a safe environment for the participants of the research. As it was presented by Bryman & Bell (2011, p. 128), the research that tends to harm participants is regarded by most people as unacceptable. Therefore, a



particular attention was paid to this aspect to fulfil the requirements of an ethical research as much as possible. To fulfil the principle of "harm to participants" which was suggested by Bryman & Bell (2011, p. 129), the participants in the survey were guaranteed to stay anonymous. No personal information related to the participants were disclosed or presented in the paper. In other words, the reader is not going to be able to identify the respondents since there is no leading-to-identity information existed about them throughout the paper. To fully adhere to the principle of "harm to participant", the respondents were ensured, in prior to filling in the survey, that all the inputs and information will merely be used for the research purpose.

To further meet the ethical requirements of this research, the respondents were adequately informed and introduced to the aim, the procedures, and the main topic of the research at the beginning of the survey to give them freedom to decide if they wish to further proceed or not. These steps were followed to avoid "Lack of informed consent" principle which Bryman & Bell (2011, p. 132-133) considered as an essential element when conducting research. Next to that, upon a request from TELUS' executives, an agreement had been made with the company to ensure that no sensitive or detailed information would be published about the company's operations or its employees in this paper.

RESULTS

A linear regression analysis was conducted to measure the effect of self-efficacy on intrapreneurial behavior, and to detect how this relationship changes under the moderation effect of high levels of work stressors and family distractions during the COVID-19 crisis. Table 1 and table 2 present the means, standard deviation and correlations among the variables included in the model. The variables showed either positive or negative correlations with each other. However, "no correlation" between the variables was not the case in this analysis, and the most significant correlation was detected between intrapreneurial behavior and self-efficacy. Moreover, a positive correlation between family distractions and work stressors was obvious as well. On the other side, the negative correlation was demonstrated between both moderators (work stressors and family distractions), intrapreneurial behavior and self-efficacy. Additionally, it was apparent in table 2 that all the variables were normally distributed. They all got values between +3 and -3 for both skewness and kurtosis, which is the recommended threshold.



Asc, Gender, etc.?

Correlations

		Correlations			
		intrapreneur ialBeha	SelfEfficac y	WorkStress ors	FamilyDistr actions
intrapreneurialBeha	Pearson Correlation	1	.332**	113	187
	Sig. (2-tailed)		.006	.365	.132
	N	66	66	66	66
SelfEfficacy	Pearson Correlation	.332**	1	227	255*
	Sig. (2-tailed)	.006		.067	.039
	N	66	66	66	66
WorkStressors	Pearson Correlation	113	227	1	.296*
	Sig. (2-tailed)	.365	.067		.016
	N	66	66	66	66
FamilyDistractions	Pearson Correlation	187	255*	.296*	1
	Sig. (2-tailed)	.132	.039	.016	
	N	66	66	66	66

^{**.} Correlation is significant at the 0.01 level (2-tailed).

TABLE 2 **Descriptive Statistics**

					Std.				
	N	Minimum	Maximum	Mean	Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
SelfEfficacy	66	-1.09	1.24	.0000	.56249	069	.295	551	.582
intrapreneurialBeha	66	2.00	4.67	3.1010	.66402	.108	.295	833	.582
WorkStressors	66	-1.65	1.68	.0000	.75205	.133	.295	176	.582
FamilyDistractions	66	-1.72	1.28	.0000	.59509	493	.295	.491	.582
Valid N (listwise)	66								

^{*.} Correlation is significant at the 0.05 level (2-tailed).



TABLE 3

Model Summary^d

				Std. Error	Change Statistics				
Model	R	R Square	Adjusted R Square	of the Estimate	R Square Change	F Change	dfl	df2	Sig. F Change
1	.172ª	.029	001	.66446	.029	.957	2	63	.390
2	.352 ^b	.124	.051	.64702	.094	2.148	3	60	.104
3	.446 ^c	.199	.102	.62929	.075	2.714	2	58	.075

- a. Predictors: (Constant), Gender, Age
- b. Predictors: (Constant), Gender, Age, SelfEfficacy, FamilyDistractions, WorkStressors
- c. Predictors: (Constant), Gender, Age, SelfEfficacy, FamilyDistractions, WorkStressors, Centered_SEFD, Centered_SEWS
- d. Dependent Variable: intrapreneurialBeha

From table 3 we can see that the adjusted R^2 shows an increasing trend with all three models. The first model has an R^2 of (.029) and an adjusted R^2 of (-.001). The second model has an R^2 of (.124) and the adjusted R^2 is (.051). And the last model shows an R^2 of (.199) and an adjusted R^2 of (.102). The difference between the first and second model is (.094), and the difference between the second and the third model is (.075). This increasing trend indicates that the regression model becomes more complete when adding more variables from the conceptual model. By adding the interaction terms in model 3, R^2 and the adjusted R^2 become greater, thus, more variance is explained by the complete model. The highest value of adjusted R^2 (.102) is reached in model 3. This value explains the proportion of the variance of the dependent variable that is explained by the independent variables. It shows that only 10.2% of intrapreneurial behavior is explained by the variables used in the model (including the interaction terms). Further, F-Change is not significant in all three models (p > .05) which means that adding variables do not increase the significance of the model.



TABLE 4
Coefficients^a

		Unstand		Standardize d							
		Coeffi	cients	Coefficients			Co	orrelations		Collinearity Statistics	
Model	_	В	Std. Error	Beta	t	Sig.	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	3.099	.434		7.132	.000					
	Age	.012	.016	.100	.767	.446	.133	.096	.095	.915	1.093
	Gender	172	.196	114	877	.384	143	110	109	.915	1.093
2	(Constant)	3.041	.432		7.045	.000					
	Age	.005	.017	.042	.308	.759	.133	.040	.037	.790	1.266
	Gender	026	.199	017	129	.898	143	017	016	.835	1.198
	SelfEfficacy	.348	.154	.294	2.256	.028	.332	.280	.273	.857	1.167
	WorkStressors	.001	.118	.001	.004	.997	113	.001	.001	.812	1.232
	FamilyDistractions	107	.148	095	719	.475	187	092	087	.827	1.209
3	(Constant)	2.932	.423		6.934	.000					
	Age	.006	.016	.052	.391	.698	.133	.051	.046	.789	1.268
	Gender	.068	.198	.045	.341	.734	143	.045	.040	.800	1.251
	SelfEfficacy	.330	.150	.279	2.196	.032	.332	.277	.258	.853	1.172
	WorkStressors	.015	.116	.017	.131	.896	113	.017	.015	.807	1.240
	FamilyDistractions	108	.144	097	752	.455	187	098	088	.826	1.210
	Centered_SEWS	.513	.220	.312	2.328	.023	.292	.292	.274	.768	1.302
	Centered_SEFD	234	.258	118	907	.368	.018	118	107	.810	1.234

a. Dependent Variable: intrapreneurialBeha

It is apparent in table 4 that control variables were initially included in the model without any other variables in order to detect their explanatory power exclusive of the independent variables. It is clear that one unit increase in age amplifies intrapreneurial behavior by (.012) in the first model, and this effect decreases in the second model to (.005) and raises slightly in the last model to (.006). This variable seems to be fluctuant as it goes up and down, and does not seem to have a strong predictive power on intrapreneurial behavior throughout all three models. Generally, age's predictive power reduces when other variables are entered in the model. With respect to gender, female experience (.172) less intrapreneurial behavior compared to male in the first model. It gets enhanced in the second model and females possess only (.026) less innovative behavior than male employees when other variables are incorporated in the model. However, the interpretation of this control variable alters significantly in the third model. Meaning that, all variables being included in the model, female tend, on average, to experience (.068) more intrapreneurial behavior compared to male employees.



Furthermore, we can notice from the third model that one unit increase in self-efficacy boosts intrapreneurial behavior by (.330), which confirms the first hypothesis. In regard to work stressors, one unit increase in this variable causes a raise of (.015) in intrapreneurial behavior, and one unit increase in the interaction effect of this variable collectively with self-efficacy improves intrapreneurial behavior by (.513). This represents a positive impact of work stressors, as a moderator, on the main relationship between self-efficacy and intrapreneurial behavior. The effect of this variable solely seems to be weak, but it is much stronger as a moderation effect on the main relationship. Consequently, the second hypothesis is rejected by these empirical results. On the other hand, a unitary increase in family distractions leads to a decrease by (.108) in intrapreneurial behavior. As well as one unit increase in the interaction effect of self-efficacy and family distractions lowers intrapreneurial behavior by (.234). This indicates a negative moderation effect of family distractions on the relationship between self-efficacy and intrapreneurial behavior, which affirms the third hypothesis in this paper.

TABLE 5

ANOVA^a

		Sum of		Mean		
Mod	iel	Squares	df	Square	F	Sig.
1	Regression	.845	2	.422	.957	.390 ^b
	Residual	27.815	63	.442		
	Total	28.660	65			
2	Regression	3.542	5	.708	1.692	.150°
	Residual	25.118	60	.419		
	Total	28.660	65			
3	Regression	5.691	7	.813	2.053	.063 ^d
	Residual	22.969	58	.396		
	Total	28.660	65			

- a. Dependent Variable: IB
- b. Predictors: (Constant), Gender, Age
- Predictors: (Constant), Gender, Age, SelfEfficacy, FamilyDistractions, WorkStressors
- d. Predictors: (Constant), Gender, Age, SelfEfficacy, FamilyDistractions, WorkStressors, Centered_SEFD, Centered_SEWS

Additionally, ANOVA analysis in table 5 shows us how the variances are explained, and the total variance is divided into explained and unexplained variance. Regression refers to the explained variance, while residual refers to the unexplained variance. It is remarkable that



the explained variance increased by adding more variables into the model. It raised from (.845) in the first model to (3.542) in the second model and to (5.691) in the third model. On contrary, the residual or the unexplained variance decreased when more variables have been incorporated in the model. It went down from (27.815) in the first model to (22.969) in the last model. Also, the P value of all three models is above (0.05), thus, all the models are not statistically significant and do not have predictive power. This clarifies that all variables collectively better explain and predict employee's intrapreneurial behavior. At the same time, this signalizes that the participants in this study could not greatly predict their innovative performance with these variables. More aspects and variables might be incorporated to strengthens the predictive power of the model, and preferably with the participation of a larger population.

DISCUSSION

THEORETICAL IMPLICATIONS

This research reveals several implications about the interplay between self-efficacy and intrapreneurial behavior, and how this link is affected under the moderation effects of remote work context, which was the result of the lockdowns, social distancing and other imposed restrictions during the COVID-19 crisis. For the most part, there are an interrelation between the primary findings and the existing concepts and assumptions reviewed in the literature. However, there is no complete consistence due to the fact that few new points were explored in the review of the primary data. Anyways, despite some heterogeneity between literature and primary findings, the outcomes of this paper make large sense since they are derived from people are subject to this phenomenon and its conditions. Therefore, the findings of this paper contribute to the existing literature in several ways.

First, this study looked at the relationship between individual's self-efficacy and intrapreneurial behavior. The findings confirm, to a good extent, what the literature claims about this relationship. It was repeatedly demonstrated in the literature that individual's self-efficacy is seen as an essential predictor of intrapreneurial behavior. This claim is supported by people participated in this research as well. However, the empirical results show that this effect is not at its greatest level. Apparently, this effect seems to be weaker in exceptional situations such as the COVID-19 crisis and perhaps during other crises that might happen. This

insight set this perspective in a new light. It is adjusting the common belief about the strong correlation between self-efficacy and intrapreneurial behavior. This strong relationship might not be the case always, especially in unusual situations where individuals work in unstable and unprecedented circumstances. Accordingly, this relationship should be studied in a broader sense to check if the effect of self-efficacy on intrapreneurial behavior changes or remain the same in different situations and work-environments.

Second, what was interestingly explored in the outcomes is the positive relationship between work stressors and family distractions. This hypothesis was not brought forward in the literature. This could be an important insight into future research about the COVID-19 pandemic. This positive relationship most likely explains what employees suffer from while working remotely. Simply put, it shows us that one obstacle may cause another hurdle and so on. For instance, employees who have family issues that interfere with work obligations might experience high levels of stress and vice versa. This could be the natural result of the remote work environment where it is difficult to build a clear wall between work-life and personallife. Thus, a mess between obligations take place and, consequently, the entire set of one's activities can be affected. This finding illuminates the way for the existing literature to investigate the interplay among remote work context aspects in a deeper mean in order to find ways to mitigate the challenges and provide a better work atmosphere.

Third, what I would like to furthermore point out and discuss is that only 10.2% of intrapreneurial behavior was explained by the variables used in the model. Meaning that these variables do not have significant predictive power, and there are other factors that have larger impact on individuals' innovative behavior. Confidence in abilities, age, and gender are not sufficient predictors to measure this construct. Other aspects such as job position, work environment, management support, rewards, incentives, available resources, etc. might be helpful to improve employees' intrapreneurial behavior. These elements were mentioned in the literature as well. This is an important implication as many people might overestimate the role of the factors studied in this paper in boosting individuals' innovative performance, and underestimate the role of other essential aspects. This contributes to the scientific understanding by showing that other aspects can play a key role in determining how employees behave in regard to intrapreneurship, and that employees' abilities solely do not make sufficient



base for initiating novel ideas. Yet executives and managers should provide the needed support as well to complement the whole process and achieve organizational objectives.

Fourth, another implication to mention here is that the impact of age in determining individual's intrapreneurial behavior is very weak. However, it is demonstrated that individual's intrapreneurial behavior increases when he/she gets older. This might be due to the experience that one gains with time or the connections with managers and colleagues that amplifies the available resources, which has an influence on how one behaves and what he/she does in his/her position. The same assumption goes for the gender. It plays a role even if it is small. It seems that female employees experience more intrapreneurial behavior than male ones. This could occur for many reasons. Female might have more ambitions in regard to developing themselves and their organizations. Also, priorities and preferences often differ from male to female employees, and this might be the case for the employees at TELUS company. Further, the conditions at home can an essential factor affecting this matter as well. Meaning that male employees who participated in this study perhaps have more duties than females, therefore, this difference in gender's impact is apparent. Lastly, this inconsistence could be due to the limited sample size in this research.

Furthermore, this paper contributes to the knowledge base by providing an overview of the moderation effects of remote work context on the relationship between self-efficacy and intrapreneurial behavior. This paper reveals that high levels of work stressors have a positive moderation effect on the main relationship, and have a direct positive impact on intrapreneurial behavior as well. This contradicts what the literature demonstrated. This indicates that those employees who work under pressure in a stressful atmosphere probably get the willingness to work harder and behave intrapreneurially. This could be the bright side of the remote work environment. Hence, remote workers might take some advantages of the "new" work mode and contribute to their organizations' progress and innovation. On the other side, the literature suggested that there could be a negative moderation effect of family distractions on the relationship between self-efficacy and intrapreneurial behavior, and this was asserted by the empirical findings as well. The blurred lines between family and work-life complex the situation and lead to a situation where remote workers face challenges to be intrapreneurs, even if they have high levels of confidence in their abilities. These distractions seem to be serious



and largely affect employees psychologically in terms of causing anxiety, frustration, and disappointment.

Some more aspects that I think are essential to discuss here and that might contribute to the modification of some existing assumptions are the issues related to the cultural and educational background of employees. In some cultures, individuals get acquainted with innovative things and behavior from early stages of life. While in other cultures this is not the case. Also, highly-educated individuals differ from their peers with lower education levels in regard to information redundancy, improved skills, etc. I do believe that these aspects have a huge effect on how people develop their capabilities, and on the availability of opportunities when it comes to intrapreneurship within organizations.

To conclude, there is clear evidence of consistency between primary and literature results, concurrently with some divergence. By large, the outcomes of this paper are important and worthy as the paper re-tested the interplay between self-efficacy and intrapreneurial behavior, and presented new insights about a phenomenon that is occurring on a global scale. It could be the first time that some of these relationships have been studied. Therefore, the findings of this paper enrich the literature to a great extent and pave the way for future researches about this topic. In short, the findings clarify that the remote work context imposed during the COVID-19 crisis is a double-sided sword. High levels of work stressors that result from remote work-environment might play a positive role and enhance individuals' innovative performance. Whereas family distractions result in a negative moderation impact on the main relationship. This clarifies that these different aspects have various effects, and each crisis has its bright and dark side.

PRACTICAL IMPLICATIONS

Intrapreneurship is a key driver of organizations' innovation and it is an essential factor that saves organizations from hazards in the changing and challenging environments. This research has several important practical implications for managers and organizations in how to enhance the intrapreneurial behaviour of employees, especially of remote workers during the COVID-19 crisis. First, mangers should provide more support and wellness tools and sessions to remote workers in order to mitigate unpleasant side effects of the COVID-19 crisis. This deserves a large attention by the managers because, currently, a large portion of people are



working from home and it is not clear when those people will be back at their offices and work places. Therefore, managers should foster an atmosphere in which employees feel well secured and supported, grant financial support for a more comfortable home office, and assign special backup teams for remote workers. This study highlights the risk of ignoring the effects of remote work context on employees' wellness, innovative performance, and productivity. Especially after the detection of the positive correlation between remote work contexts. This signalizes a jeopardizing situation where employees can get several disturbances and barriers collectively as one difficulty cause another one and so on.

Second, according to the empirical results, people in older age possess more intrapreneurial intentions and behavior, and females outperform male employees in this regard. Despite these findings, solely employing these categories of people is likely an unwise practice when trying to build a diverse and effective workforce. This study highlights the importance of selecting individuals with various backgrounds, experiences and in different ages because they most likely complement each other and deliver greater outcomes. However, what could be helpful when recruiting potential employees is that these people undergo some ability/aptitude tests to examine their skills and intentions in regard to intrapreneurship and other issues related to organization's innovation and prosperity. Thereafter, the executives can determine to assign the ones with the highest test results to positions where intrapreneurship and innovation play a key role within the organization.

Third, to sustain employee's intrapreneurial behavior during the COVID-19 crisis and any other conflict that might occur, managers should equip their employees very well with all needed tools and training. Organizing workshops, providing training sessions every now and then, encouraging employees for more learning, etc. increase the readiness of employees to overcome the difficulties and to have unified organizational objectives. Furthermore, as a suggestion from this paper, managers can regularly conduct internal surveys to measure employees' satisfaction and their needs for further support or training. Encouraging and supporting employees in this way boosts their confidence and capabilities which in turn positively affects their innovative performance.

Lastly, in line with prior research findings, this paper emphasizes that internal collaboration within organizations is vital to overcome the difficulties. This is extremely



needed in the time of the COVID-19 crisis. Managers should promote a team coordination and foster a collaborative climate among team members even if they are physically distant from each other. Managers might create new internal communication channels that suit the current situation, and where employees can support each other and transfer information to alleviate the pressures they get while working from home. In short, this paper illuminates the way for managers to reduce the obstacles associated with the COVID-19 crisis that dampen individuals' innovative performance, and to construct a more convenient atmosphere where new ideas can be initiated to improve the organization's image and innovation during this crisis.

LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

As with any study, this paper suffers from certain limitations. Although sufficient data had been collected in order to answer the research question, it was not possible to reach out a larger number of employees to get a broader view on the phenomenon studied in this paper. Accordingly, this caused some limitations in regard to the generalization of the findings on the entire population in the company. This was due to certain restrictions set by the studied company which hindered the collection of data in certain ways. Further, the communication with the executives to get the approval to distribute the survey among employees took long time, consequently, the progress of this paper had been negatively influenced. Also, this study was conducted only in Germany, thus, its findings do not represent people from other backgrounds and cultures. In other words, no conclusions can be made about other nations experiencing the same dilemma. Therefore, these interpretations need to be more extensively tested in future researches.

Another limitation of this study was the lack of literature on the topic as it is a recent and ongoing crisis and limited research has been conducted on it. This limitation increased the time spent on searching and finding appropriate resources. Not only that but also the time factor was a big challenge as well because the researcher is restricted to strict deadlines, and this leads to a situation where bounded choices can be made. Also, the options of organizations to collect data from were very limited. This paper was written in the time of the lockdowns, which restricted the possibilities to reach companies and get approvals on collecting data from their employees. Moreover, people working in the market have not realized the full effects of this crisis yet. Therefore, some employees possibly could not fully comprehend the effects of



remote work context on the relationship between their self-efficacy and intrapreneurial behavior, which in turn might affect their responses to a high degree.

The findings of this paper may be extended in various ways. First, future researchers might conduct similar studies on the same topic but on a larger population. As well as future researches may be extended to a comparative study between different companies operating in different countries and/or various fields to measure whether these findings differ or remain the same in dissimilar environments. Second, different types of data collection, other than questionnaires, could be used to study the phenomenon. It would be interesting to perform indepth case studies or interviews to analyse the effect of self-efficacy on individuals' intrapreneurial behaviour during the COVID-19 crisis. It is vital and interesting to study the phenomenon from managers' point of view as well. Third, future research could include more longitudinal research, enabling the researcher to study changes in time and the long-term effects of the pandemic on individuals' innovative behavior. Fourth, a new research is recommended to investigate the effects of other remote work context aspects on this relationship such as uncertainty, decreased motivation and other COVID-19 related phycological consequences. And perhaps examining the role of other control variables in such relationships.

Finally, since the challenges of working from home have been identified to a good extent, it would be of great value and importance to complete on this study and attempt to research potential solutions to this problem. As well as to find ways to prepare remote workers for the challenges proactively to minimize the consequences of this crisis as much as possible. To make the study more interesting, it might include some psychological experts' points of view as well to investigate the problem and possible solutions more deeply. Obviously, this pandemic is not over yet and might last for a long time. Therefore, attempting to mitigate the challenges associated with it remains a meaningful and proper way to deal with the situation and its consequences.

CONCLUSION

Due to the vital role of intrapreneurship within organizations, this paper intended to investigate the effect of self-efficacy on intrapreneurial behavior under the moderation effects of work stressors and family distractions. This study delivers a more nuanced view of the



relationship between self-efficacy and intrapreneurial behavior in the remote work setting imposed during the COVID-19 pandemic. Overall, this research concludes that the impact of self-efficacy on the innovative behavior of remote workers is lower in the presence of family distractions, and this effect is more robust in a stressful work environment. Additionally, a positive correlation between family distractions and work stressors had been explored in this paper. In sum, this paper enriches the literature with up-to-date outcomes about employees' innovative performance during a crisis that has shaken the world and caused big anxiety and chaos. Further, it alters the managers to be aware of the challenges associated with this pandemic and to strive for more supported, collaborated, and well-equipped home offices.



REFERENCES

- Aldrich, H., Zimmer, C. (1986). Entrepreneurship through social networks. The art and science of entrepreneurship. Ballinger, Cambridge, MA, 3, 23.
- Allen, T. D., Merlo, K., Lawrence, R. C., Slutsky, J., & Gray, C. E. (2021). Boundary Management and Work-Nonwork Balance While Working from Home. *Applied Psychology*, 70(1), 60-84. https://doi.org/10.1111/apps.12300
- Arslanagic-Kalajdzic, M., Cerne, M., & Kadic-Maglajlic, S. (2019). Uncertainty avoidance and intrapreneurship: a Four-Level investigation. *Journal of Macromarketing*, 39(4), 431-446. https://doi.org/10.1177/0276146719884602
- Atinc, G., Simmering, M. J., & Kroll, M. J. (2012). Control Variable Use and Reporting in Macro and Micro Management Research. *Organizational Research Methods*, 15(1), 57-74, DOI: 10.1177/1094428110397773
- Baer, M., Evans, K., Oldham, G. R., & Boasso, A. (2015). The social network side of individual innovation: A meta-analysis and path-analytic integration. *Organizational Psychology Review*, *5*(3), 191-223. https://journals.sagepub.com/doi/10.1177/2041386614564105
- Bandura, A. (1997). Self-efficacy: The exercise of control. New York, Freeman.
- Bapuji, H., de Bakker, F. G., Brown, J. A., Higgins, C., Rehbein, K., & Spicer, A. (2020). Business and society research in times of the corona crisis. *Business & Society*, 59(6), 1067-1078. https://doi.org/10.1177/0007650320921172
- Bernerth, J. B., & Aguinis, H. (2016). A Critical Review and Best-Practice Recommendations for Control Variable Usage. *Personnel Psychology*, 69(1), 229-283. https://doi.org/10.1111/peps.12103
- Bryman, A. & Bell, E. (2011). *Business Research Methods*. Third Edition. Oxford, England: Oxford University Press
- Cardon, M. S., Wincent, J., Singh, J., & Drnovsek, M. (2009). The Nature and Experience of Entrepreneurial Passion. *Academy of Management Review*, 34(3), 511–532. https://doi-org.ru.idm.oclc.org/10.5465/AMR.2009.40633190
- Choy, L. T. (2014). The strengths and weaknesses of research methodology: comparison and complimentary between qualitative and quantitative approaches. *IOSR Journal of Humanities and Social Science*, 19(4), 99-104. e-ISSN: 2279-0837
- Cinamon, R. G. (2006). Anticipated work-family conflict: Effects of gender, self-efficacy, and family background. *The career development quarterly*, 54(3), 202-215. http://doi.org//10.1002/j.2161-0045.2006.tb00152.x



- De Jong, J. P. (2016). Entrepreneurial behavior by employees in organizations. *Available at SSRN* 2721615. http://dx.doi.org/10.2139/ssrn.2721615
- Donthu, N., & Gustafsson, A. (2020). Effects of COVID-19 on business and research. *Journal of Business Research*, 117, 284-289. DOI: 10.1016/j.jbusres.2020.06.008
- Felicio, J. A., Rodrigues, R., & Caldeirinha, V. R. (2012). The effect of intrapreneurship on corporate performance. *Management Decision*, 50(10), 1717-1738. https://doi-org.ru.idm.oclc.org/10.1108/00251741211279567
- Gawke, J. C., Gorgievski, M. J., & Bakker, A. B. (2019). Measuring intrapreneurship at the individual level: Development and validation of the Employee Intrapreneurship Scale (EIS). *European Management Journal*, 37(6), 806-817. https://doi.org/10.1016/j.emj.2019.03.001
- Greenhaus, J. H., Ziegert, J. C., & Allen, T. D. (2012). When family-supportive supervision matters: Relations between multiple sources of support and work–family balance. *Journal of Vocational Behavior*, 80(2), 266-275. https://doi.org/10.1016/j.jvb.2011.10.008
- Hair, Black, Babin & Anderson (2018). Multivariate Data Analysis. 8th edition. Cengage Learning.
- Hall, D. T., & Moss, J. E. (1998). The New Protean Career Contract: Helping Organizations and Employees Adapt. *Organizational Dynamics*, 26(3), 22–37. https://doi-org.ru.idm.oclc.org/10.1016/S0090-2616(98)90012-2
- Haneberg, D.H. (2020). Interorganizational learning between knowledge-based entrepreneurial ventures responding to COVID-19. *The Learning Organization*, 28(2), 137-152. https://doi.org/10.1108/TLO-05-2020-0101
- Hanlon, M. D. (1989). Futures of Organizations: Innovating to Adapt Strategy and Human Resources to Rapid Technological Change. *Personnel Psychology*, 42(2), 404–407.
- Honig, B., & Davidsson, P. (2000). The role of social and human capital among nascent entrepreneurs. *Academy of Management Proceedings*, 2000(1), 1-6. https://doiorg.ru.idm.oclc.org/10.5465/apbpp.2000.5438611
- Karademas, E. C., & Kalantzi-Azizi, A. (2004). The stress process, self-efficacy expectations, and psychological health. *Personality and individual differences*, 37(5), 1033-1043. https://doi.org/10.1016/j.paid.2003.11.012
- Krackhardt, D., Nohria, N., & Eccles, B. (2003). The strength of strong ties. *Networks in the knowledge economy* (pp. 82–105). Oxford University Press. ISBN: 0195347889
- Kumar, P., Kumar, N., Aggarwal, P., & Yeap, J. A. L. (2021). Working in lockdown: the relationship between COVID-19 induced work stressors, job performance, distress, and life



- satisfaction. *Current Psychology*, Mar2021, 1–16. https://doi-org.ru.idm.oclc.org/10.1007/s12144-021-01567-0
- Lee, L., Wong, P. K., Der Foo, M., & Leung, A. (2011). Entrepreneurial intentions: The influence of organizational and individual factors. *Journal of Business Venturing*, 26(1), 124-136. https://doi.org/10.1016/j.jbusvent.2009.04.003
- Martiarena, A. (2013). What's so entrepreneurial about intrapreneurs?. *Small Business Economics*, 40(1), 27–39. https://doi-org.ru.idm.oclc.org/10.1007/s11187-011-9348-1
- Meahjohn, I., & Persad, P. (2020). The Impact of COVID-19 on Entrepreneurship Globally. *Journal of Economics and Business*, 3(3), 1165-1173. DOI: 10.31014/aior.1992.03.03.272
- Montani, F., & Staglianò, R. (2021). Innovation in times of pandemic: The moderating effect of knowledge sharing on the relationship between COVID-19-induced job stress and employee innovation. *R&D Management*, Feb2021, 1-13. https://doi.org/10.1111/radm.12457
- Moore, C. F. (1986). Understanding Entrepreneurial Behavior: A Definition and Model. *Academy of Management Best Papers Proceedings*, 66-70. https://doi-org.ru.idm.oclc.org/10.5465/AMBPP.1986.4978712
- Neessen, P. C., Caniëls, M. C., Vos, B., & De Jong, J. P. (2019). The intrapreneurial employee: toward an integrated model of intrapreneurship and research agenda. *International Entrepreneurship and Management Journal*, 15(2), 545-571. https://doi.org/10.1007/s11365-018-0552-1
- Nicolaidis, C. S., & Kosta, G. C. (2011). Intrapreneurship as a unique competitive advantage. *World Academy of Science, Engineering and Technology*, 59(5), 1121-1125. DOI: 10.1.1.221.9005
- Nisula, A., & Kianto, A. (2016). The Antecedents of Individual Innovative Behaviour in Temporary Group Innovation. *Creativity & Innovation Management*, 25(4), 431-444. https://doiorg.ru.idm.oclc.org/10.1111/caim.12163
- Noreña-Chavez, D., & Guevara, R. (2020). Entrepreneurial passion and self-efficacy as factors explaining innovative behavior: a mediation model. *International Journal of Economics and Business Administration*, 8(3), 352-373.
- Parker, S. K., & Collins, C. G. (2010). Taking stock: Integrating and differentiating multiple proactive behaviors. *Journal of Management*, *36*(3), 633–662. https://doi.org/10.1177/0149206308321554
- Powell, G. N. (2020). Work–family lockdown: implications for a post-pandemic research agenda. *Gender in Management: An International Journal*, 35(7/8), 639-646. https://doi.org/10.1108/GM-05-2020-0148



- Prasad, K. D. V., & Vaidya, R. (2020). Association among Covid-19 parameters, occupational stress and employee performance: An empirical study with reference to Agricultural Research Sector in Hyderabad Metro. *Sustainable Humanosphere*, 16(2), 235-253. ISSN:1880–6503
- Ratten, V. (2020). Coronavirus (Covid-19) and entrepreneurship: cultural, lifestyle and societal changes. *Journal of Entrepreneurship in Emerging Economies*, 13(4), 747-761. https://doi.org/10.1108/JEEE-06-2020-0163
- Ren, F. & Zhang, J. (2015) Job Stressors, Organizational Innovation Climate, and Employees' Innovative Behavior. *Creativity Research Journal*, 27(1), 16-23. DOI: 10.1080/10400419.2015.992659
- Sale, J. E. M., Lohfeld, L. H., & Brazil, K. (2002). Revisiting the quantitative-qualitative debate: Implications for mixed-methods research. *Quality & Quantity*, 36, 43-53. https://doi.org/10.1023/A:1014301607592
- Sarta, A., Durand, R., & Vergne, J.-P. (2021). Organizational Adaptation. *Journal of Management*, 47(1), 43–75. https://doi.org/10.1177/0149206320929088
- Schakel, J. K., & Wolbers, J. (2021). To the edge and beyond: How fast-response organizations adapt in rapidly changing crisis situations. *Human Relations*, 74(3), 405–436. https://doi-org.ru.idm.oclc.org/10.1177/0018726719893450
- 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. https://doiorg.ru.idm.oclc.org/10.2307/256701
- Sebastian, V. (2013). A theoretical approach to stress and self-efficacy. *Procedia-Social and Behavioral Sciences*, 78, 556-561. https://doi.org/10..1016/j.sbspro.2013.04.350
- Sequeira, J., Mueller, S. L., & McGee, J. E. (2007). The influence of social ties and self-efficacy in forming entrepreneurial intentions and motivating nascent behavior. *Journal of Developmental Entrepreneurship*, 12(03), 275-293. https://doi.org/10.1142/S108494670700068X
- Stuart, T. E., & Sorenson, O. (2005). Social networks and entrepreneurship. *Handbook of entrepreneurship research* (pp. 233-252). Springer, Boston, MA.
- Toniolo-Barrios, M., & Pitt, L. (2020). Mindfulness and the challenges of working from home in times of crisis. *Business Horizons*, 64(2), 189-197. https://doi.org/10.1016/j.bushor.2020.09.004
- Trougakos, J. P., Chawla, N., & McCarthy, J. M. (2020). Working in a pandemic: Exploring the impact of COVID-19 health anxiety on work, family, and health outcomes. *Journal of Applied Psychology*, 105(11), 1234-1245. http://dx.doi.org/10.1037/apl0000739



- Witt, U., & Zellner, C. (2009) How firm organizations adapt to secure a sustained knowledge transfer. *Economics of Innovation and New Technology*, 18(7), 647-661. DOI: 10.1080/10438590802564584
- Wright, G., Van Der Heijden, K., Bradfield, R., Burt, G., & Carins, G. (2004). The Psychology of Why Organizations Can Be Slow to Adapt and Change. *Journal of General Management*, 29(4), 21-36. DOI: 10.1177/030630700402900402
- Wu, C. (2021) Social capital and COVID-19: a multidimensional and multilevel approach, *Chinese Sociological Review*, 53(1), 27-54. DOI: 10.1080/21620555.2020.1814139
- Yauch, C. A. & Steudel, H. J. (2003). Complementary Use of Qualitative and Quantitative Cultural Assessment Methods, *Organizational Research Methods*, 6(4), 465-481. https://doi.org/10.1177/1094428103257362
- Zajacova, A., Lynch, S. M., & Espenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in higher education*, 46(6), 677-706. DOI: 10.1007/s11162-004-4139-z



APPENDIX

THE SURVEY

Intrapreneurial behavior and self-efficacy during the COVID-19 crisis

Purpose.

For my master thesis at Radboud University, I am investigating the consequences of remote work on the relationship between employee's intrapreneurial behavior (innovative behavior) and selfefficacy (confidence in the abilities). More specifically, I am researching how work stressors and family distractions have affected this relationship.

Confidentiality.

Your answers will remain anonymous and are processed confidentially. Data will only be reported in an aggregate format (by reporting only combined results and never reporting individual results from participants). The results of the study will be used for academic purposes only. Let me assure you that your participation in this research study is completely voluntary. If you decide to not participate, you may withdraw at any time without any consequences.

Procedure.

The procedure involves completing an online survey that will take approximately 6-7 minutes of your time. There are couple of statements, and you need to point out on a 5 point scale to what extent the statements are applicable to your personal situation. If you have any questions regarding this study, please contact me at (miran.darwish@student.ru.nl)

Thank you in advance for participating in this survey.

Q.1. What is your age?

Q2. What is your gender?

- 1. Male
- 2. Female
- 3. Other

Q3. Following, there will be three statements in regard to intrapreneurial behavior. You are asked to point out how much the statements are applicable to you in the work remote setting and the COVID-19 situation.

	Never (1)	Rarely (2)	Occasionally (3)	Frequently (4)	Very frequently (5)
How frequently do you generate creative ideas? (1)					
How frequently do you search out new techniques, and/or new ideas? (2)					
How frequently do you promote and champion ideas to others? (3)					

Q4. The following three statements are referring to how much confidence you have in your abilities to engage in intrapreneurial activities.

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
It is easy for me to stick to my aims and accomplish my goals (1) Thanks to my					
resourcefulness, I know how to handle unforeseen situations (2)					
When I am confronted with a problem, I can usually find several solutions (3)					

Q5. The following statements are referring to the amount of stress you have experienced due to working from home during the COVID-19 crisis.



	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I have an intensive workload (1)					
I easily get stressed out (2)					
My role at work is ambiguous (3)					

Q6. The following statements concern the work-family balance and family interference with work.

	Strongly disagree (1)	Disagree (2)	Neither agree nor disagree (3)	Agree (4)	Strongly agree (5)
I am able to balance the demands of my work and the demands of my family (1)					
Due to stress at home, I am often preoccupied with family matters at work (2)					
The problem-solving behavior that works for me at home does not seem to be as useful at work (3)					

Thank you for your time spent taking this survey.

Upon completion, the results of this research will be shared with your operation manager, and you can assess them if you wish that.