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Signs of Work from Home Depression: A Digital Wellness View

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Abstract

Depression is now classified as the leading cause of disability worldwide, with an estimated 3 people in every 100 in Asia having depression. The coronavirus is presenting new and unique challenges to this emerging disability. We are navigating unchartered waters with this pandemic, and the Philippines is no exception. It is crucial to find new ways to work and interact while caring for our mental health and well-being. This research aims to discuss the mental health and well-being of employees at the time of the pandemic. Specifically, this study seeks to understand the factors and signs contributing to employee depression while working from home. How can Human Resource Department extend its assistance by checking the digital wellness of employees? Two hundred two (202) work from home employees joined the survey from Greater Manila Area. Using the enhanced Depression Model, HR support positively affects self-esteem but negatively affects work from home stress. Indeed, work-from-home-related stress positively affects depression signs. It is essential to understand the well-being of our employees in the time of COVID-19 due to the blurring lines of work-life balance, including its context, to be able to empathize and reach out to the organization's workforce.

Keywords: Quarantine Protocols, Depression Signs, Work from Home, Digital Wellness

Introduction

The World Health Organization declared COVID-19 as a pandemic last March 11, 2020. Several media organizations reported to the public the seriousness of COVID-19 (Vallejo & Ong, 2020). According to CNN, COVID-19 infected 168 million people worldwide and claimed almost 4 million lives as of May 26, 2021 (Retrieved from https://edition.cnn.com/interactive/2020/health/coronavirus-maps-and-cases/). This CNN report showed 1.19 million COVID-19 cases and 20,019 deaths in the Philippines as of May 26, 2021. Governments worldwide, including the Philippines, strictly enforced physical distancing, community lockdowns, curfew, and contact tracing of persons under investigation (Biana & Joaquin, 2020). The government utilized social media to encourage people to follow quarantine protocols.

The Enhanced Community Quarantine (ECQ) was declared on March 13, 2020, in Metro Manila and was expanded to Greater Manila Area (Vallejo & Ong, 2020). Under ECQ, all modes of travel were suspended (Prasetyo et al., 2020). The residents were advised to stay at home, and only one family member can buy essential goods to prevent the spread of COVID-19. Some companies announced a temporary work holiday, while others were agile enough to allow their

employees to work remotely or from home (Prasetyo et al., 2020). The basic quarantine protocols include handwashing, physical distancing, covering nose and mouth with mask and face shield, and staying at home. In case of difficulty breathing and fever, seek medical attention and undergo quarantine for 14 days (Torneo et al., 2020). The quarantine protocols went smooth in the initial weeks but were criticized late by those who need to work to feed their families due to the no work, no pay policy of other companies.

Employers are advised to carry out a workplace risk assessment, taking everyone into account, to determine employees' safety. If the risk is too significant, employers are forced to accept alternative working methods by practicing physical distancing at work or implementing a work from home or WFH. Before the pandemic, discussions on the future of work-life were unclear and often questioned. COVID-19 forced a decision upon people, and with the world having to adapt quickly, many businesses opted to try WFH (Vyas & Butakhieo, 2020). Today, even with the availability of vaccines, public and private organizations still offer working from home as an alternative way of managing employees, given the situation called new normal (Thorstensson, 2020).

COVID-19 protocols and work from home in the Philippines

Many places worldwide have adopted different ways and means to deal and defend themselves against the pandemic; the Philippines is no exception. Metro Manila was among the areas severely hit by the disease; area-wide lockdowns were declared as early as March 13, 2020 (Retrieved from https://edition.cnn.com/interactive/2020/health/coronavirus-maps-and-cases/). However, Metro Manila has not enforced a complete lockdown; instead, a series of measures have been implemented, which include public-gathering limits, suspended schools, special work arrangements including WFH and remote working for government employees, and appeal to private sector organizations to make similar arrangements (Suplico-Jeong et al., 2021).

Others gave credit to the quick action on the pandemic crisis of the local government, while some tended to give credit to the community with their initiative to help one another with the advent of community pantries. Initially, it appears that the public has reservations about the local government's action. The situation escalates, stricter measures were rolled out to control the spread of the virus, such as the new rules on mandatory masks and face shields in all public places. However, some government regulations like the suspension of dine-in services sparked intense controversy, especially from those that could not work from home due to the nature of their job, citing inconvenience and lack of places to eat (Vyas & Butakhieo, 2020).

Work from home: an overview

WFH is currently known as an alternative way to work to minimize the threat of the spread of COVID-19. However, WFH is not new terminology. This has been discussed by several schools of thought previously. Nilles initially mentioned the WFH concept (1988), dating back to 1973, known as "telecommuting" or "telework" (Vyas & Butakhieo, 2020). WFH was defined in various terms over the last four decades as remote work, flexible workplace, telework, telecommuting, and e–working. These terminologies refer to the ability of employees to work in flexible workplaces, especially at home, by using technology (Vyas & Butakhieo, 2020). Gajendran and Harrison

(2007) define "an alternative work arrangement in which bonafide employees perform tasks elsewhere that are normally done in offices, for at least a part of their work schedule, using new media to interact within and outside the organization," They indicated that "elsewhere" refers to "home" (Vyas & Butakhieo, 2020).

A recent study by Dingel and Neiman (2020) reported that 37% of the job could be accomplished at home during the pandemic in the U.S., including financial work, business management, professional and scientific services. Some jobs, specifically related to healthcare, farming, and hospitality, cannot be performed remotely. Although the acceptance of WFH has increased worldwide, the academe argues the pros and cons (Thorstensson, 2020; Vyas & Butakhieo, 2020).

Self-esteem and drawbacks of work from home arrangement

WFH has beneficial effects on both employers and employees. The advantages include reduced commuting time, avoiding traffic, using less office space and electricity, increased motivation and self-esteem, improved gender diversity, healthier workforces concerning absenteeism and turnover. (Mello 2007; Robertson, Maynard, and McDevitt 2003).

Other studies point out that telework can reduce turnover rate and increase employees' self-esteem, productivity, job engagement, and job performance (Collins and Moschler 2009; Delanoeije and Verbruggen 2020). Similarly, e–working can increase productivity, flexibility, job satisfaction, reducing work-life conflict and commuting (Grant et al. 2019). Additionally, Purwanto et al. (2020) argued that WFH could help employees manage time flexibility to complete the task and save money for commuting to work.

On the contrary, the disadvantage of WFH includes the blurred line between work and family time, distractions, social isolation, and employees bearing the costs related to WFH. According to Purwanto et al. (2020), there are known drawbacks of WFH, such as employees working at home need to pay for electricity and the high but intermittent internet costs. Collins and Moschler (2009) found that workers are isolated from their colleagues, and managers may manifest low productivity. Employees might be distracted by the presence of their children or family members while working at home (Baruch 2000; Kazekami 2020). The indistinct boundaries between work and family life may lead to overwork (Grant et al. 2019). Similarly, the management boundaries between work and family of remote employees studied by Eddleston and Mulki (2017) uncovered that WFH relates to the inability of remote employees to disengage from work.

Work from home related stress

Many companies adopt work from home phase during the pandemic and provide work transition changes. Some individuals are better suited to work from home while others are not suitable. The current pandemic significantly affects occupational groups with an impact on low-wage and even lay off. Employees have limited movement, concentrated in occupations that suffer from high turnover and poor working conditions, plus the intermittent and slow internet connection. At present, most companies adopt flexible work arrangements for their employees working from home or remotely. The results of this arrangement are both positive and negative.

The employees' willingness to work from home is stressful due to their children at home, uncomfortable space at home, lack of quiet environment at home, and poor internet connectivity (Evanoff et al., 2021; Vijai & Nivetha, 2021).

Stress is defined as a state of mental and emotional pressure or strain caused by challenging or unfavorable circumstances. Stress represents a situation where a person is under pressure and does not have sufficient ability to cope. It indicates a direct adverse reaction both for individuals and organizations by undermining the original goal attainment. Physical and physiological effects on a person can be a mental, physical, or emotional strain. Nervous tension arises from internal conflicts because of external situations (Vijai & Nivetha, 2021). The COVID-19 pandemic promotes physical distancing to reduce the threat of the spread of the virus. Most companies or organizations closed regular operations or adapted a skeleton workforce, while others provide work-from-home arrangements. Switching to work from home favors the white-collared job more than those with lower incomes and high school degrees. However, information on employees' actual work from home behavior shows a little relationship with employment outcomes. Home-based workers in hard-hit industries became unemployed, which suggests that labor demand also plays a role in employment losses (Evanoff et al., 2020a).

HR Support

The current pandemic has resulted in many sudden and unexpected changes to work practices that potentially create uncertainty for employees, necessitating regular communication to ensure clarity around role expectations, clearly defined performance measures, appropriate workloads, and access to human resources support. Systems that optimize regular, reliable, and consistent communication, using appropriate methods for employers and employees, need to be negotiated and implemented. In addition, HRD and the organization need to provide training and assistance for managers supervising WFH employees (Oakman et al., 2020). Organizations may also consider financial compensation to employees for costs associated with work from home. Formal coworker support that occurs in teams when people are collocated, such as sharing tasks and incidental problem solving, requires facilitation while WFH. In the current mandated WFH situation, the provision of regular face-face online contact opportunities and social support could replace the day in the office (Evanoff et al., 2020b; Oakman et al., 2020).

Self-esteem and Depression

Self-esteem is giving respect and admiration to oneself (American Psychological Association, 2021). A person's self-esteem is how a person views himself, including personality, accomplishments, skills, capabilities, experiences, relationships, and physical attributes, including how a person wants to be perceived by others. While depression is a mental health condition that impacts the mind and body, self-esteem describes how we think and feel. Additionally, some people have more stable self-esteem, while others may not be the same (Classen et al., 2016). While the two concepts overlap, low self-esteem is considered a risk factor for depression (Classen et al., 2016).

Susceptibility of Depression

For individuals working from home for more than a year now, understanding why they are susceptible to depression can be helpful to differentiate chronic stress from depression due to unlimited deadlines and the inability to distinguish work-life balance. However, just knowing that someone may be susceptible to depression does not mean that they will develop depression. Nor does it change the symptoms that are being experienced. The impact of depression for some can bring some element of shame and responsibility. This, in turn, impacts their digital wellness, knowing the factors that can influence depression.

The causes of depression should also only be viewed as an influencing factor because these factors can influence the development of depression. It does not mean that depression will occur, nor does it mean that people cannot get better. It just implies a possibility. It is estimated that depression affects approximately 1 in 6 people (McManus *et al*. 2016). The number of people within the work environment or on the road on which we live, for every six people, potentially one person could be experiencing the symptoms of depression without him even knowing. Having an awareness of the statistics helps understand that depression is now seen as one of the leading causes of disease burden worldwide (Vos *et al*., 2013). Some of the conditions and disorders that can be comorbid with depression are other mental health conditions.

Occupational Impact of Depression

Research into the brain structure and functioning tell that the brain of an individual experiencing depression can have some differences in its structure (Maletic et al., 2007). When emotions are generated, nerve cell connections grow, and circuits are created within the brain. Depending on the emotion, the area of the brain that gets impacted varies (Harvard Medical School 2017). Loss of motivation may not just impact the ability to do social activities but also the ability to participate in occupational activities. For some, it may limit their motivation and confidence, and abilities to complete their role at work. If concentration and attention are affected by depression, it can lead to mistakes being made. It can also lead to a loss of employment when their employer feels that they are no longer able to complete their role. It is important to remember that depression is an illness, and for some who experience enduring symptoms, it is a disability. Depression accounts for 15% of disabilities in high-income countries (Burton *et al*., 2014).

Physiological Impact

Although depression being a mental health issue for some people, there can be a physical impact. People who experience depression may report increased headaches or gastrointestinal issues that cannot be accounted for from any physical cause. They may also report changes in their appetite by either finding that they are eating more or, on the other hand, having a reduced appetite. For some, these changes may be evident in the early stages and may be an early sign that the person is experiencing depression. Although not all people with these symptoms have depression and physical symptoms should be investigated thoroughly. Observing these changes and changes in mood and social activities builds a picture of someone experiencing a depressive episode (Maletic et al., 2007).

Psychological and Behavioral Impact

Depression is a psychological disorder, so it will invariably have a psychological impact, but this need not be the same for everyone. A vital feature of the psychological impact that depression has is the negative thoughts that the person will experience. For some people, not achieving a goal can lead to thoughts that they have failed in that activity. For example, if a student failed the exam, this will provide negative emotion and ultimately will not be a pleasant emotional experience. Depression does not just influence how a person feels and thinks; it also influences the energy levels and the motivation to do things. Often one early sign that we may look for when someone is in the early stages of a depressive illness is their enjoyment levels in activities that they have previously participated in and their withdrawal from these activities (Pryjmachuk, 2011).

For some, depression can evoke another negative emotion; it can create intolerance and, in some cases, anger towards others. This can especially be seen in children and young people and is essential to note as anger often sends a message of bad behavior, but for some, this is also a sign that their mood is decreasing, and they are experiencing some level of depression (Pryjmachuk, 2011).

Figure 1
The Continuum of Depression (Pryjmachuk, 2011).
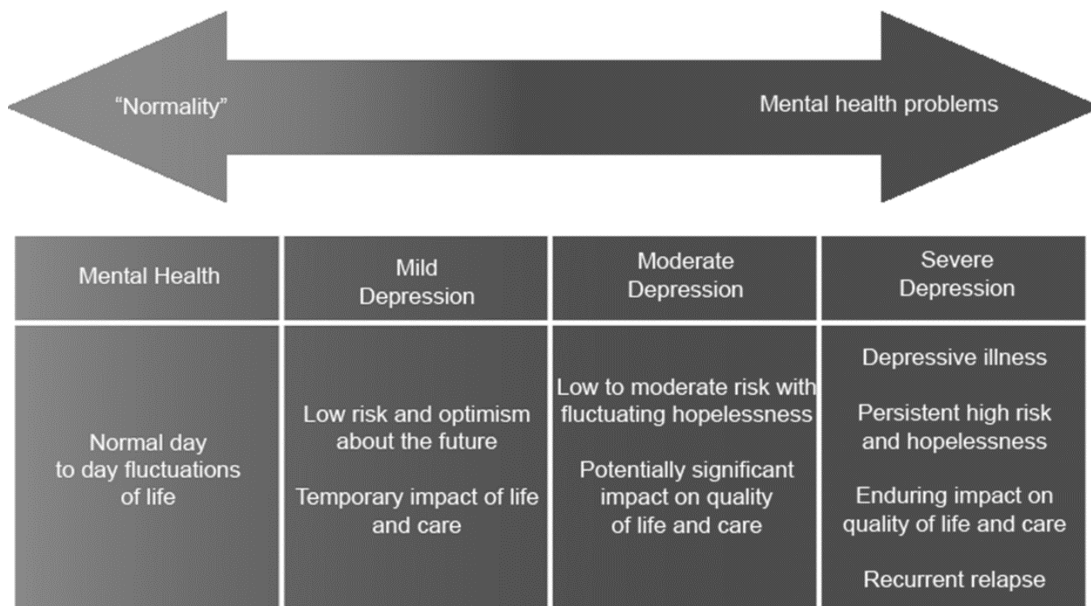
Digital Wellness

Digital wellness refers to the physical and psycho-social well-being of people in the digital world. With the increasing frequency of work from home employees exposed to various technologies, health and wellness are areas that need to be addressed to develop a well-balanced workforce (Mayer, 2016). Smartphones have much higher accessibility rates than desktop computers. There is increasing concern that work from home employees are becoming internet-dependent as they manifest compulsive behavior that interferes with everyday living and causes

high stress levels on family, friends, and one's work environment. Achieving balance in line with an employee value proposition is still a relevant characteristic of healthy employees. HR policies can help in guiding personnel, anticipating that no one-size-fits-all wellness exists. Rewards and benefits that employees receive for commendable performance despite emergency remote work. (Carlsson & Walden, 2016; Spiro et al., 2021).

Employee Value Proposition

The employee value proposition is the employees' set of benefits in return for commendable skills and performance. This is how they communicate and deliver value to customers. Happy and satisfied customers make it easy to communicate the brand promise, and in turn, the employees are rewarded by the company for a job well done in delighting, acquiring, and retaining customers.

Theoretical Framework

The researcher used the "Depression Model" of Ratanasiripong (2012) for the theoretical framework, who hypothesized that stress positively affects depression, while social support and self-esteem negatively affect depression.

Figure 2
*Ratanasiripong (2012) Depression Model*
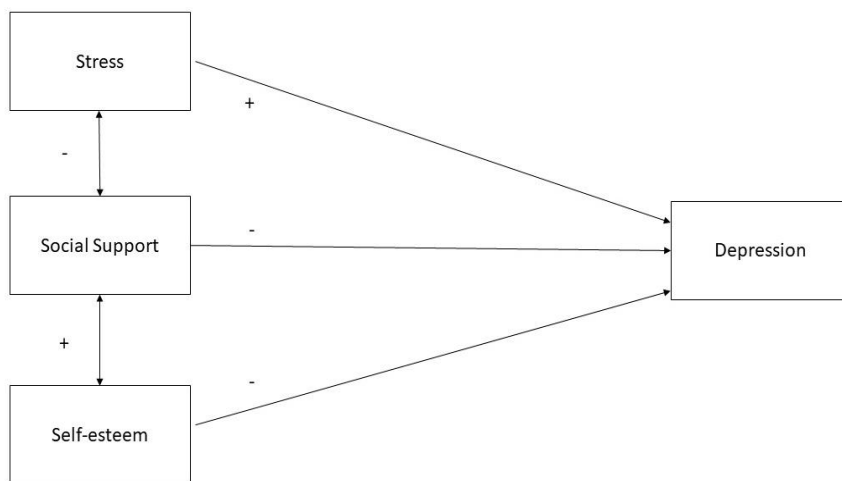
Conceptual Framework

The researcher improved the existing model taking into consideration the current influence of the pandemic. This research updates Ratanasiripong's (2012) research model by adding COVID-19 quarantine protocols (COVID-19) as a moderating variable between work from home stress (WFHS), HR support (HRS), self-esteem (SE), and depression signs (DS) and, later on, its effect on the employee value proposition (EVP).

Figure 3
Conceptual Model Depression: The Moderating Effect of COVID-19 Protocols
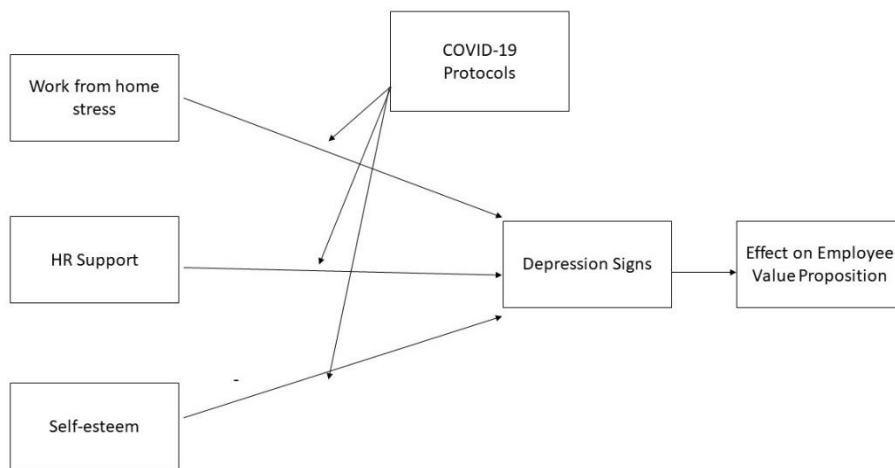
Hypotheses

Hypothesis 1:
H1. Work from home stress positively affects depression signs.
Hypothesis 2:
H2. HR support negatively affects depression signs.
Hypothesis 3:
H3. Self-esteem negatively affects depression
Hypothesis 4:

H4a. COVID-19 protocols moderate the relationship between work from home stress and depression signs
H4b. COVID-19 protocols moderate the relationship between HR support and depression signs.
H4c. COVID-19 protocols moderate the relationship between self-esteem and depression signs.
Hypothesis 5:
H5.   Depression signs significantly affect the employee value proposition.

Methodology

This study utilized a survey research method. It is a collection of information from a sample of individuals through their responses to questions (Check & Schutt, 2012). This type of research allows various methods to recruit participants, collect data, and utilize multiple instrumentation methods. As it is often used to describe and explore human behavior, surveys are frequently used in social and psychological research (Singleton & Straits, 2009). Primary data came from the online survey. Secondary data to support findings came from scholarly articles and similar studies. The researcher utilized purposive sampling and received a total of 203 survey responses administered online. There were 113 females and 90 male respondents. The respondents showed that 46% were non-teaching employees, while 54% are teaching associates. The respondents came from Philippine Women's University, De La Salle-College of Saint Benilde Antipolo, World Citi

Colleges- North Manila, and Neocomptronix.

The online survey was administered from May 01 to May 12, 2021, with dates of transition from modified, enhanced community quarantine (MECQ) to general community quarantine (GCQ). It had six sections: Work from home stress (WFHS), HR support (HRS), Self-esteem (SE), COVID-19 protocols (COVID-19), Depression signs (DS), and Effect on the employee value proposition (EVP). Each section measured the participants' perceptions based on the Likert five-point scale (1 – Strongly disagree, 2 – Disagree, 3 – Neutral, 4- Agree, and 5- Strongly agree) with some profiling questions. The survey method allows the researcher to collect data that can be analyzed via Structural Equation Modeling- Partial Least Square "SEM-PLS." Data collected suggest possible reasons for relationships between variables measured and latent constructs (Hair, Ringle, & Sarstedt, 2011; Hair, Wolfinbarger Celsi, et al., 2011). To test the validity of the survey questionnaire, the researcher conducted a pre-test with emphasis on each variable's Cronbach alpha.

Results and Discussion

Evaluation of the structural model

The researcher assessed the structural and predictive capabilities between constructs. Cronbach's alpha was used to ensure scale reliability and consistency (Cronbach, 1951). According to Peterson (1994), a good Cronbach alpha value is at least 0.70 while at least 0.60 is still acceptable in social psychology research (Robinson, Shaver & Wrightsman, 1991). Table 1 shows that the constructs have internal consistency because they are higher than 0.70 (Ketchen, 2013).

Table 1
Reliabilities, convergent and discriminant validities, and correlations among latent constructs of the measurement model

Latent Constructs	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
WFHS	0.940	0.941	0.950	0.814
HRS	0.923	0.931	0.939	0.835
SE	0.912	0.914	0.958	0.911
Covid-19 Protocols	0.931	0.933	0.948	0.812
DS	0.928	0.928	0.945	0.839
EVP	0.935	0.936	0.947	0.903

Figure 4 shows the survey responses regarding work from home-related stress. Employees working from home are pressured to work long hours although they knew their deliverables; they just do not know when to take a break. However, they have to keep moving as they have a family to support. The survey shows that the employees work more than 9 hours daily and are

experiencing intermittent internet connection.
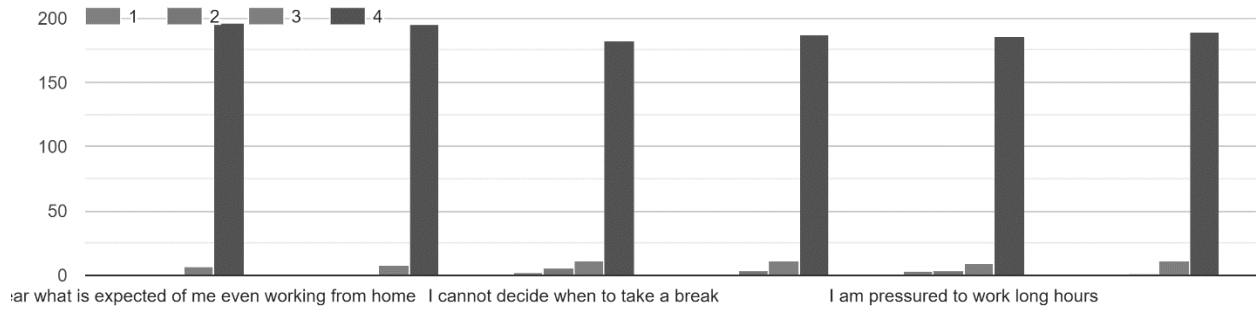
Figure 4a

Work from home related stress

Figure 4b

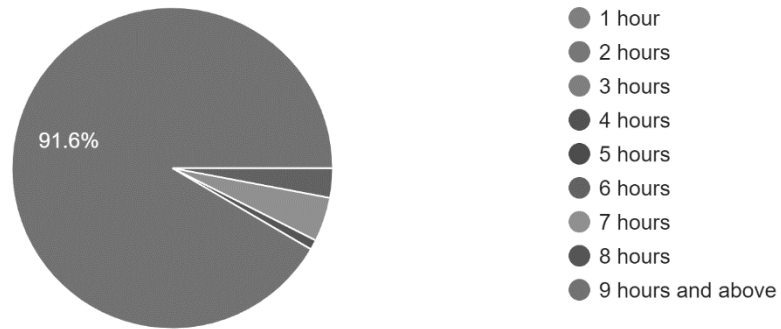*Hours spent per day working from home*

Figure 5 signifies that employees who work from home are primarily educators and non-teaching staff from the academe. They feel inefficient and useless most of the time, but they knew that everything would be all right after the pandemic.
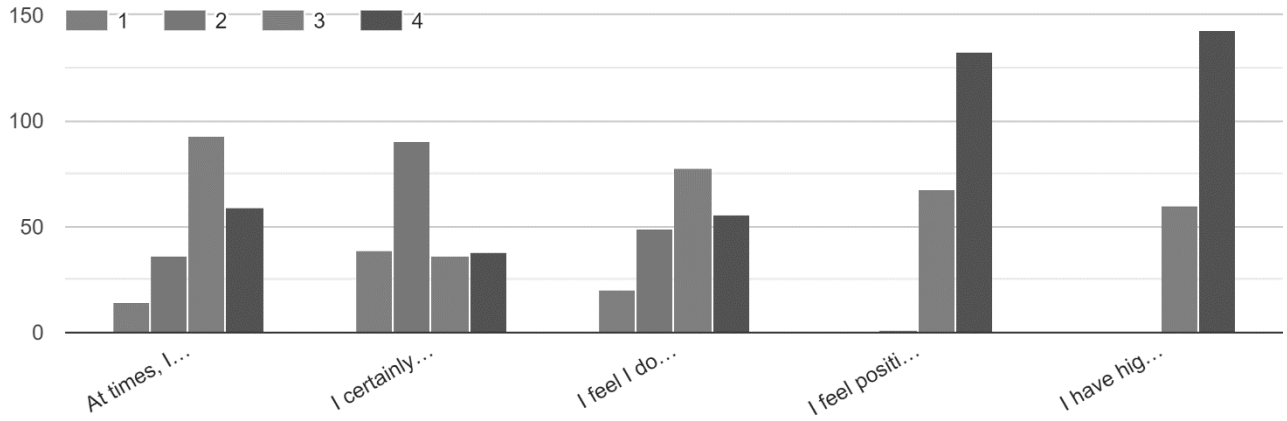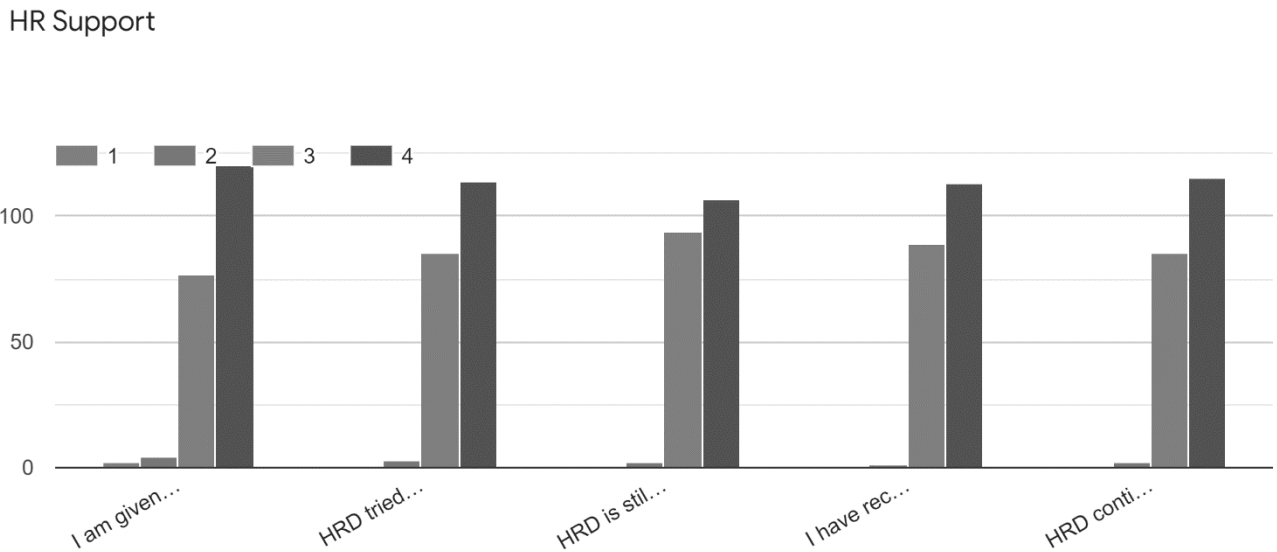
Figure 5
Self-esteem

Figure 6 shows that HR is trying its best to reach out and support its employees. The employees do acknowledge the virtual visibility and readiness of their HR department to help.

Figure 6
HR Support

The survey results are shown in Figure 7 signify employees' compliance to quarantine protocols despite their negative feelings. They are abiding by the instructions given by the local and national governments.
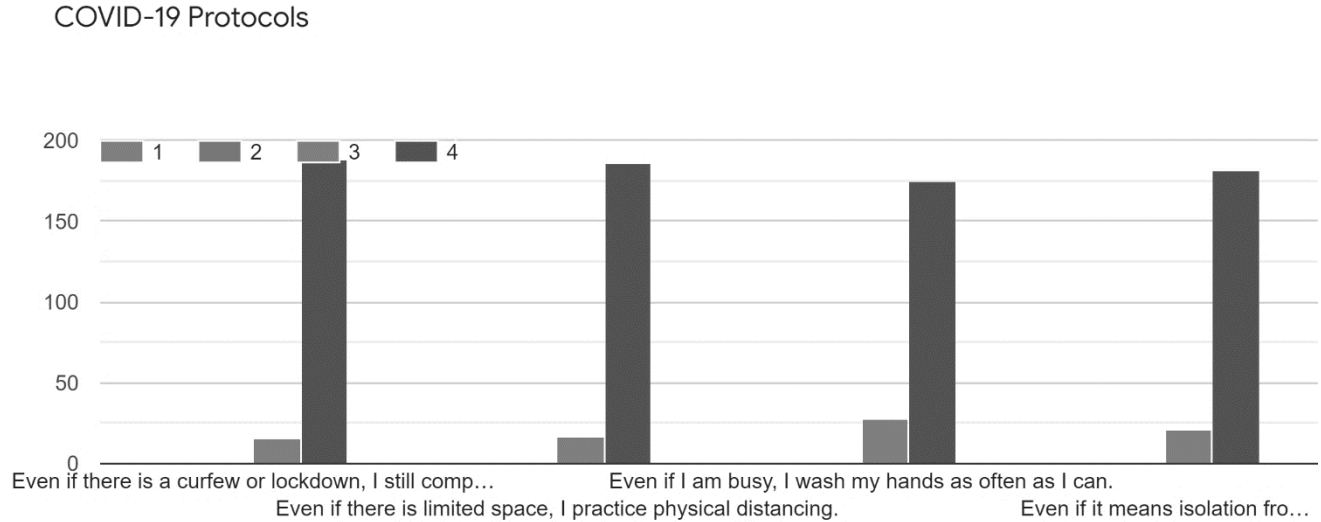
Figure 7
Covid-19 Protocols

Figure 8 shows the susceptibility of employees to depression from simple anxiety and stress. Compliance with specific tasks takes longer than usual, and they are emotionally worried about the news. They felt that there is no joy in life anymore. Symptoms include lack of sleep and trust issues with friends and family members. They are agitated or irritated most of the time.
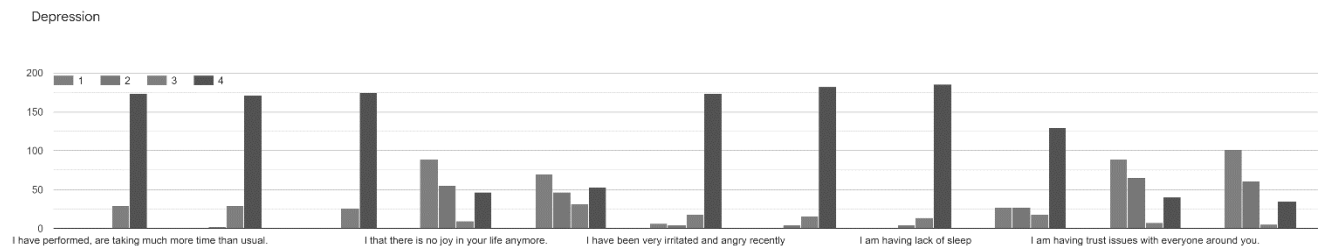
Figure 8
Depression

Figure 9 shows the age group which is clustered using cohort analysis (Mayer, 2016). 21-25 years old, Gen Z (20.7%); 26-41 years old, Millennials (36.5%); 42-56 years old, Gen X (22.2%); 57-75 years old, Baby Boomers (20.7%).

Figure 9
Age Group of the Respondents

Age Group
203 responses

- 21-25 years old
- 26-41 years old
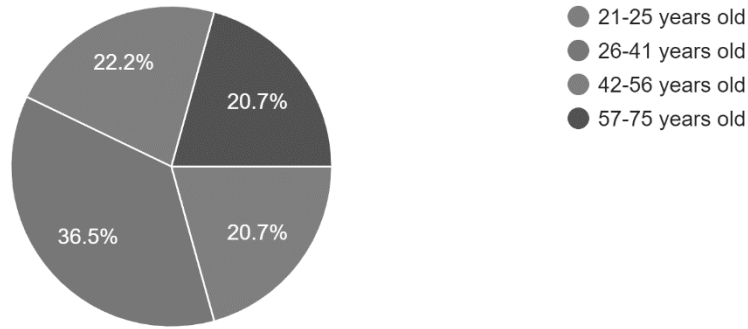- 42-56 years old
- 57-75 years old

22.2%
20.7%
36.5%
20.7%

Figure 10 illustrates that employees working from home could deliver what is expected from them regardless of how they feel. They feel the support of their company and will keep going regardless of the working condition. However, the respondents also mentioned that they are open and will check possible job openings from other companies soon.

Figure 10
Effect on Employee Value Proposition

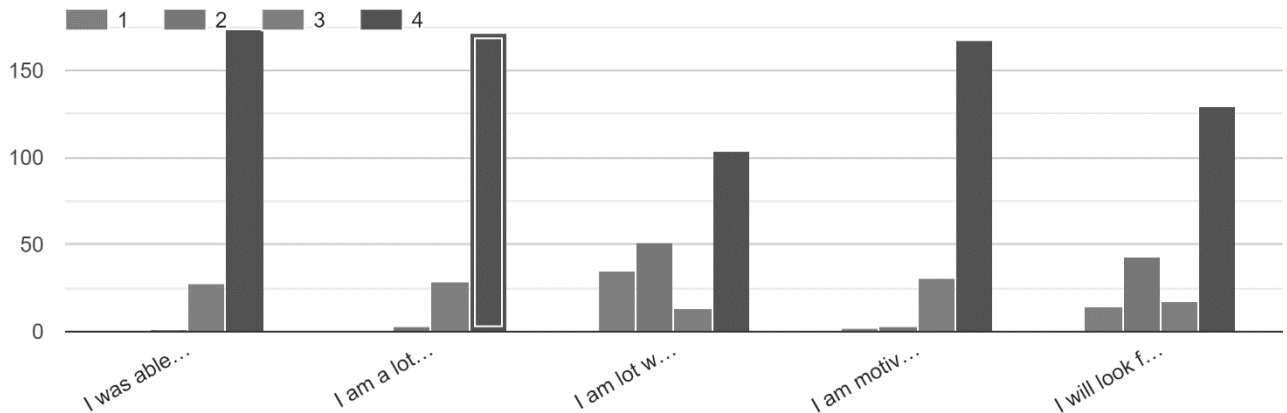
Effect on Employee Value Proposition

Table 2 present the results through bootstrapping analysis using SMART-PLS. The researcher turned to basic statistical principles in interpreting the results: if the P-value is less than 0.01, the results are considered highly significant, and if the P-value is greater (but not close to) 0.05, the results are considered non-significant (Rumsey, 2010). It also summarizes the direct paths. The only significant path is work from home-related stress to depression signs, as others are statistically non-significant.

Table 2
Hypothesis Test Results

	Path	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
H1	**WFHM Stress -> Depression Signs**	0.429	0.424	0.213	2.014	**0.045**
H2	**HR Support -> Depression signs**	-0.181	-0.090	0.216	0.839	**0.402**
H3	**Self-esteem -> Depression signs**	-0.052	-0.070	0.163	0.319	**0.750**
H4a	**Covid-19 Protocols -> HR Support**	-0.187	-0.082	0.228	0.820	**0.413**
H4b	**Covid-19 Protocols -> Self-esteem**	-0.197	-0.117	0.173	1.142	**0.254**
H4c	**Covid 19 Protocols -> WFHM Stress**	0.196	0.213	0.176	1.113	**0.266**
H5	**Depression signs -> Effect on EVP**	0.216	0.044	0.296	0.730	**0.466**

The results show that work from home stress is a predictor of depression signs which validates the "Depression Model" of Ratanasiripong (2012). WFHM stress is due to the blurring lines of work-life balance, with 92% working more than 9 hours daily while experiencing intermittent internet connection. However, HR support to depression signs and self-esteem to depression signs show an insignificant relationship. Although the support from HR is somewhat limited, the fluctuating self-esteem leading to depression is short-lived.

In addition, COVID-19 protocols are automatic among work-from-home employees, regardless of how they feel. It does not mediate the relationship between HR support and depression signs, Self-esteem and depression signs, and WFHM stress and depression signs. Employees can still deliver and perform because they need to have a source of living to support their families. With the gradual opening of the economy, the lifting of ECQ to GCQ allows more movement of people, which can be an additional motivation for work from home employees (Suplico-Jeong et al., 2021; Torneo et al., 2020).

Conclusion and Human Resource Management Implication

We all experience stress and short-term depression. We may not know it, but Filipino employees are generally resilient because we have a family to support. The global pandemic has drastically accelerated several pre-existing trends and introduced new tensions as we find our way to the new normal. Susceptibility to depression does not mean that the person has it. It is just a possibility until a medical doctor or psychiatrist certifies the condition (McManus *et al*., 2016). The study contributes to the existing literature by providing information about the signs of work from home depression among Filipinos and its impact on the employee value proposition. Thus, help HR further understand what employees are experiencing nowadays with the advent of digital wellness. The respondents include Baby Boomers (57-75 years old) and Generation X (42-56 years old). The study shows that the older generation is more positive and resilient than the younger generation.

Some conditions and disorders that can be comorbid with depression are considered other mental health conditions. Research has been used to provide an idea of the prevalence of these conditions co-occurring with depression. Digital wellness is not just for HR to comprehend but for the entire organization. Working remotely or from home does not mean convenience. It can lead to long exposure to digital tools and can cause prolonged stress which is highly susceptible to depression. Digital wellness is about understanding the limitation of employees on what they can and cannot do. Setting boundaries on the amount of work given per employee would benefit their mental health and well-being in the long run. It talks about acceptance that the COVID-19 pandemic is an extraordinary time, and we have to take care of the people who create and deliver value to customers.

Organizations, particularly HR, can adapt social listening by understanding conversations and trends both internally and externally. They can also implement "Design Thinking," a creative way of solving problems in the organization by involving key employees on what they think matters to them. A process to empathize, define, ideate, prototype, and test. Healthy and engaged employees support the organization to attain its mission, objectives and generate significant business results. Online employee engagement practices can be virtual team meet-ups, virtual learning and development, virtual town halls, e.g., kamustahan, webinars with industry experts, digital classrooms, e-learning modules, online guidance for exercise and meditation, online recognition of employees, family day, short online game session, virtual challenges, and competitions. These various engagement practices help boost employees' morale; they feel motivated and committed to the organization in this extraordinary time.

Study's Limitations and Areas for Future Research

Since the research was delimited to employees of PWU, Benilde Antipolo, WCC, and Neocomptronix in the Greater Manila Area, the findings of this study may not apply to other areas in the country. Future research may check other industries aside from the academe and study how employees cope with depression, including motivation and inspiration. Future researchers may conduct qualitative analysis regarding pandemic behavior or a comparative analysis of the susceptibility to depression to gender, whether married or single.

References

American Psychological Association (2021). Self-esteem. APA Dictionary of Psychology.

Bearden W. O, Netemayer R. G. (1999). Handbook of Marketing Scales (3rd ed.). New York, Sage Publications.

Bruin, J. (2006). Newtest: command to compute new test. UCLA: Statistical Consulting Group. https://stats.idre.ucla.edu/stata/ado/analysis/.

Burton, M., Pavord, E., and Williams, B. (2014) An introduction to child and adolescent mental health. London: Sage.

Carlsson, C., & Walden, P. (2016). Digital wellness services for young elderly- A missed opportunity for mobile services. *Journal of Theoretical and Applied Electronic Commerce Research*, *11*(3), 20–34. https://doi.org/10.4067/S0718-18762016000300003

Clasen PC, Fisher AJ, Beevers CG. Mood-reactive self-esteem and depression vulnerability: person-specific symptom dynamics via smartphone assessment. *PLoS One*. 2015;10(7):e0129774. doi:10.1371/journal.pone.0129774

Check, J. W., & Schutt, R. K. (2012). *Research methods in education*. Thousand Oaks, Calif: Sage Publications.

CNN Health. *Tracking coronavirus' global spread*. Retrieved from https://edition.cnn.com/interactive/2021/health/coronavirus-maps-and-cases/.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16(3), 297–334. doi:10.1007/bf02310555

Evanoff, B. A., Strickland, J. R., Dale, A. M., Hayibor, L., Page, E., Duncan, J. G., Kannampallil, T., & Gray, D. L. (2020a). Work-related and personal factors associated with mental well-being during COVID-19 response: A survey of health care and other workers. In *medRxiv*. https://doi.org/10.1101/2020.06.09.20126722

Evanoff, B. A., Strickland, J. R., Dale, A. M., Hayibor, L., Page, E., Duncan, J. G., Kannampallil, T., & Gray, D. L. (2020b). Work-related and personal factors associated with mental well-being during the COVID-19 response: Survey of health care and other workers. *Journal of Medical Internet Research*. https://doi.org/10.2196/21366

Evanoff, B. A., Strickland, J. R., Dale, A. M., Hayibor, L., Page, E., Duncan, J. G., Kannampallil, T., Gray, D. L., Vijai, C., & Nivetha, P. (2021). Work-related and personal factors associated with mental well-being during COVID-19 response: A survey of health care and other workers. *MedRxiv*, *8*(3), 37–45. https://doi.org/10.34293/management.v8i3.3371

Garfin, D. R., Silver, R. C., & Holman, E. A. (2020). The Novel Coronavirus (COVID-2019) Outbreak: Amplification of Public Health Consequences by Media Exposure. *Health Psychology*. http://dx.doi.org/10.1037/hea0000875.

Gui, M., Fasoli, M., & Carradore, R. (2017). Digital well-being. Developing a new theoretical tool for media literacy research. *Italian Journal of Sociology of Education*, *9*(1), 155–173. https://doi.org/10.14658/pupj-ijse-2017-1-8

Hair Jr., J. F., Anderson, R. E., Tatham, R. L., & Black, W. C. (2015). Multivariate data analysis (5th ed.). New Jersey, Prentice-Hall International.

Hair, Jr., J. F., Hollingsworth, C. L., Randolph, A. B., and Chong, A. Y. L (2017). An Updated and Expanded Assessment of PLS-SEM in Information Systems Research. *Industrial Management & Data Systems*, 117(3): 442-458.

Hair Jr., J. F., Hult, G. T. M., Ringle, C. M., and Sarstedt, M. (2011). A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)., 2nd Ed., Thousand Oakes, CA: Sage.

Ketchen, D. J. (2013). A Primer on Partial Least Squares Structural Equation Modeling. *Long Range Planning*, 46(1-2), 184–185. doi:10.1016/j.lrp.2013.01.002

Mayer, K. (2016). What makes a successful digital wellness tool? *Ebn.Benefitsnews.Com*, *July*, 1. http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=117401190&site=ehost-live

McManus S., Bebbington, P., Jenkins, R., and Brugha, T. (eds.) (2016) *Mental health and well-being in England: Adult Psychiatric Morbidity Survey 2014*. Leeds: NHS Digital. [Online] Available at: http://content.digital.nhs.uk/catalogue/PUB21748/apms-2014-full-rpt.pdf (Accessed: May 12, 2017).

Netemeyer, R. G., Boles, J. S., & McMurrian, R. (1996). Development and validation of work-family conflict and family-work conflict scales. *Journal of Applied Psychology, 81*(4), 400–410. https://doi.org/10.1037/0021-9010.81.4.400

Oakman, J., Kinsman, N., Stuckey, R., Graham, M., & Weale, V. (2020). A rapid review of mental and physical health effects of working at home: how do we optimize health? *BMC Public Health*. https://doi.org/10.1186/s12889-020-09875-z

Pryjmachuk, S. (2011) Mental health nursing: an evidence-based introduction. London, UK: Sage.

Ratanasiripong, P. (2012). Mental Health of Muslim Nursing Students in Thailand. *ISRN Nursing*, *2012*(March), 1–7. https://doi.org/10.5402/2012/463471

Singleton R. A., Straits B. C (2009). Approaches to social research. New York: Oxford Univ. Press

Spiro, N., Perkins, R., Kaye, S., Tymoszuk, U., Mason-Bertrand, A., Cossette, I., Glasser, S., & Williamon, A. (2021). The Effects of COVID-19 Lockdown 1.0 on Working Patterns, Income, and Wellbeing Among Performing Arts Professionals in the United Kingdom (April–June 2020). *Frontiers in Psychology*. https://doi.org/10.3389/fpsyg.2020.594086

Suplico-Jeong, L., Bautista, R. A., Guillen, N. B., & Murad, N. S. (2021). Adherence to quarantine protocols to prevent the spread of COVID-19: the mediating effect of intrinsic and extrinsic motivations. *Asian Education and Development Studies*. https://doi.org/10.1108/AEDS-05-2020-0122

Torneo, Ador; Andres, Audrey Angeli; Berse, Kristoffer; Borja, Redento; Salvosa, Felipe and Soriano, Cheryll Ruth (2020) . Setting up a COVID-19 Community Response Strategy in Local Government Units: Immediate, Transitory, and Medium-Term Considerations for Planning. *Policy Brief* 1(2). Retrieved from https://covid19arc.ph/research-think-pieces/.

Thorstensson, E. (2020). The Influence of Working from Home on Employees ' Productivity. *Electronic Publications from Karistad University*, 1–20. https://www.diva-portal.org/smash/get/diva2:1446903/FULLTEXT01.pdf

Vallejo, Benjamin & Ong, Rodrigo Angelo (2020).Policy responses and government science advice for the COVID 19 pandemic in the Philippines: January to April 2020.*Progress in Disaster Science* 7. https://doi.org/10.1016/j.pdisas.2020.100115

Vijai, C., & Nivetha, P. (2021). A Study of Stress Complications among Employees during Covid-19 Pandemic Special References to Chennai City. *Shanlax International Journal of Management*, *8*(3), 37–45. https://doi.org/10.34293/management.v8i3.3371

Vyas, L., & Butakhieo, N. (2020). The impact of working from home during COVID-19 on work and life domains: an exploratory study on Hong Kong. *Policy Design and Practice*, *4*(1), 1–18. https://doi.org/10.1080/25741292.2020.1863560