JOB SATISFACTION DURING THE COVID-19 MOVEMENT CONTROL ORDER: A STATE-WIDE STUDY OF UTILITY COMPANIES IN SARAWAK, MALAYSIA

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ABSTRACT

Malaysia ordered a series of lockdowns (known as Movement Control Order) on 18 March 2020 to break the chain of COVID-19 infection within the community. The lockdown imposed brought drastic changes in working practices and thus forced workers to work from home. This paper investigates the changes in job satisfaction before and during the MCO. Utility services were chosen because they are essential services outlined by the Malaysian National Security Council during the COVID-19 pandemic. This study was a state-wide study (in Sarawak, Malaysia), gathering 10,320 employee data over two years (2019-2020). Based on the one-sample *t*-test, the level of job satisfaction during the COVID-19 pandemic has significantly increased. Future research should investigate possible factors that could explain job satisfaction during the pandemic. Organizations and policymakers should take note of these findings and be vigilant of inconveniences of remote working to preserve a good level of job satisfaction.

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1. INTRODUCTION

A novel coronavirus (SARS-CoV-2) caused major worldwide outbreaks of COVID-19 disease. Association of Southeast Asian Nations (ASEAN) countries, including Malaysia, have not been spared from COVID-19. In Malaysia (as of March 15, 2022), there were 33,899 COVID-19 fatalities recorded by the Ministry of Health, including 7,076 Brought-In-Death (BID) cases ("COVIDNOW in Malaysia" 2021). Meanwhile, there were 1,644 total deaths recorded in Sarawak ("Sarawak COVID-19 Tracker" 2022). The COVID-19 outbreak forced announcement of the 2020 Movement Control Order (the first MCO) on March 18, 2020, which signified a major action taken by the Malaysian Government to contain the spread of COVID-19 (Pang et al., 2021). The Movement Control Order restricts inter-district and interstate travel while ceasing/limiting the operation of non-essential services such as recreational and entertainment facilities, cosmetics, fashion and jewelry stores, and many others. Whitelisted products and services include health services, banking, oil and gas, logistics, agriculture, utilities, and pharmacies. The enforcement of the movement restriction forced companies to make the mandatory shift from traditional forms of work to working remotely from home (or teleworking), utilizing online conferencing and collaborative tools to communicate. Various terms refer to teleworking in the literature, such as 'work from home', 'remote working', and 'telecommuting' (Tokarchuk, Gabriele, and Neglia, 2021). In this paper, we use these terms interchangeably. The changes in the working practices and work environment negatively affect employee well-being (Bulińska-Stangrecka, and Bagieńska, 2021).

In the light of the pandemic, research on employee well-being is becoming increasingly important. As work environment and processes change, there is a dire need to reassess and rethink the possible shift in job satisfaction during the pandemic because it has brought new questions on employee adaptation to these new work norms (Nemteanu, Dinu, and Dabija, 2021; Yu, and Wu, 2021) Job satisfaction is an important aspect of working life because a low level of job satisfaction can negatively affect job performance and personal life (Karácsony, 2021).

Defined simply, job satisfaction is a measure of contentment and enjoyment at work. Job satisfaction has been extensively investigated in the past. No consensus however exists on how to

quantify it (Rainey, 2014). Job satisfaction (Awalom et al., 2015; Spector, 1997) is measured in two ways. First, Global job satisfaction" is a single-item measurement to measure the sense of how employees feel about their jobs in general. Second, multidimensional job satisfaction assesses a variety of factors, including benefits, career advancement, leadership, and job status, among others (Awalom et al., 2015; Spector, 1997).

2. LITERATURE REVIEW

2.1 DISCREPANCY IN THE JOB SATISFACTION LEVEL DURING PANDEMIC

Mandatory remote working during the pandemic increases stress and work-related burnout (Hayes et al., 2021). Chanana (2021) noted that job satisfaction level among private school teachers in India was low during the pandemic, especially for teachers with low job engagement and a sense of commitment toward their school. In Slovakia, however, the mandatory teleworking introduced had a significant positive effect on job satisfaction. Working from home improved employee work-life balance and relationship with their managers. Moreover, they would maintain teleworking norms post-pandemic (Karácsony, 2021). Țălnar-Naghi (2021) discovered that younger employees reported a higher level of job satisfaction, but during the pandemic, workers over 40 showed dramatic improvement in job satisfaction.

In the health sector, where teleworking was irrelevant during the pandemic, there is overwhelming evidence that job satisfaction is lower as reported by Labrague and de Los Santos (2021) in the Philippines and Abd-Ellatif et al. (2021) in Egypt. In both cases, the fear of COVID-19 negatively affected job satisfaction and increased turnover intention among healthcare personnel. In China, Yu et al. (2020) found that job satisfaction among healthcare personnel was decent, noting that good relationships with colleagues, work recognition, increased work fulfilment, sense of contribution, and moral value contributed to the increased job satisfaction among medical practitioners. This study contributes to the discourse on change in job satisfaction level during the COVID-19 pandemic.

3. METHODOLOGY

3.1 SAMPLES AND INSTRUMENTS

Total observation of 10,320 comprises employees from 3 companies in the utility sectors in Sarawak over 2 years (2019 and 2020). N = 5,052, male = 3,929, female = 1,123, technical = 3175 non-technical = 1,877. N=5,268, male= 4,095, female = 1,173, technical = 3,383 non-technical =1,885. During MCO, all companies require employees to work from home whenever possible. While some employees need to work on-site, most employees were required to work from home during this period. Data from 2020 were collected during October 2020, the 3rd wave of the COVID-19 pandemic

Instruments to measure job satisfaction consist of 5 Likert-type items (five response anchors). The instrument was validated using Rasch analysis, namely the Andrich Rating Scale model. The model fit indices show that the model is acceptable. The model also shows good differential item functioning for male and female employees. Ten aspects of job satisfaction are measured in this study: satisfaction with the working environment, job position, compensation and benefits, salary, facilities, job performance, work motivation, leadership/supervision, career advancement opportunity, and relationship with co-workers.

3.2 HYPOTHESIS AND ANALYSIS

The median job satisfaction score for 2019 was calculated to serve as the test value for the one-sample *t*-test. For the one-sample *t*-test in this study, the sample mean is used as the location estimate. For this test, Cohen's *d* is the indicator for the effect size. The alternative hypothesis specifies that the mean is significantly different from 79. For this analysis, the scores for the year 2019 (N = 5052) are mean =79.3, median = 80, SD =13.8. Meanwhile, the scores for 2020 (N = 5268) are as follows: Mean = 81.81, Median = 84.29, SD = 14.22.

- Null Hypothesis H0: Job satisfaction mean score is equal to 79
- Alternative Hypothesis: H1: Job satisfaction mean score is not equal to 79

This study uses the Bayesian framework to map the predictive performance of null and alternative hypotheses in addition to using p-value as frequentist null-hypothesis significance testing (NHST). The Bayesian framework provides evidence for the null as well as the alternative hypothesis. Furthermore, it is possible to use prior knowledge to develop a more informative analysis with the capacity to illustrate the change in the evidence for both hypotheses as the data accumulate (van Doorn et al., 2021). The Bayesian framework does not revolve around the notion of type I error but instead allocates relative evidence to a hypothesis given the data. Ruiz-Ruano García and López Puga (2018) mentioned that Bayesian factors are an excellent addition to the traditional NHST because they could help researchers avoid claiming false statistical findings. Therefore, they suggested that classical NHST is used in conjunction with Bayesian statistics. In JASP, the NHST also provides a more mysterious measure: the maximum Diagnosticity of p-value "Vovk-Sellke maximum p-ratio" or VS-MPR. Diagnosticity refers to the extent to which a source of data can discriminate between a particular hypothesis and its alternatives. For this maximum p-ratio for a two-tailed p-value, the maximum possible odds in favor of the alternative hypothesis over the null hypothesis equals $1/(-e\ p \log(\ p\ ))$ for $p \leq .37$ (Sellke, Bayarri, and Berger 2001).

4. RESULTS

Figure 1 illustrates the distribution of job satisfaction scores in the study sample, showing a unimodal pattern with a mean of 81.81, a median of 84.29, and a 95% confidence interval ranging from 81.43 to 82.20. The narrow 95 % confidence interval reflects low variability in the estimated mean, implying that the observed average is a reliable indicator of the population's job satisfaction level. Based on the classical one-sample *t*-test results in Table 1, job satisfaction level is significantly higher (M = 81.81, SD = 14.22) than the test value 79, $t(5267) = 14.537$, $p < .001$, d=5.753. In addition, the VS-MPR value of 4.810e +42 indicates there is a good case for the alternative hypothesis because it shows p-values of <.001 is 4.810e+42 times more likely favoring H_1 over H_0. This value shows a strong case for rejecting the null hypothesis. Bayesian one-sample test results in Table 2 provide more information on the hypothesis predictive quality given the data.

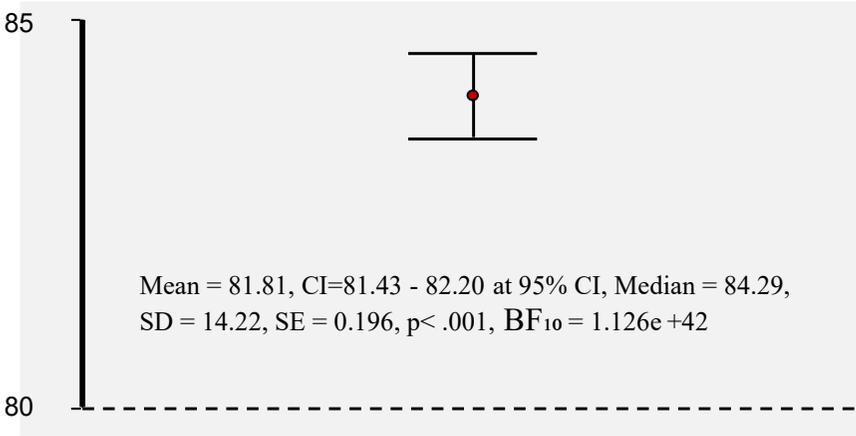FIGURE 1
The Distribution of the Job Satisfaction Median Score

85

80

Mean = 81.81, CI=81.43 - 82.20 at 95% CI, Median = 84.29,
SD = 14.22, SE = 0.196, p< .001, BF$_{10}$ = 1.126e +42

TABLE 1
One-Sample Test

| t | df | p | VS-MPR* | Sample Mean | 95% CI for Sample Mean | | Cohen's d | 95% CI for Cohen's d | |
					Lower	Upper		Lower	Upper
14.35	5267	< 0.001	4.810 e +42	81.81	81.43	82.2	5.75	5.65	5.85

Note: For the one-sample t-test, the alternate hypothesis specifies that job satisfaction mean score is not equal to 79.

In Table 2, BF$_{10}$ indicates the Bayes factor in favoring of alternative hypothesis over null. Bayes factors range from 0 to ∞, and Bayes factor of 1 indicates that both hypotheses predicted the data equally well. As the Bayes factor deviates from 1, which indicates equal support for H$_1$ and H$_0$., more support is gained for either H$_1$ or H$_0$. Larger values of BF$_{10}$ indicate more support for H$_1$. Bayes factors >10 is considered strong evidence. As in Table 2, BF$_{10}$ = 1.126E+42 also indicates overwhelming evidence for the alternate hypothesis. This is depicted in Figure 2, which illustrates the posterior and prior distributions of the estimated effect size (δ), showing a sharp posterior peak around δ ≈ 0.20 (median = 0.198, 95% CI [0.170, 0.225]).

TABLE 2
Bayesian One-Sample T-Test

	BF_{10}	error %
Job Satisfaction	1.126e +42	5.131e -47

Note: For all tests, the alternative hypothesis specifies that the population mean differs from 79.

FIGURE 2
Evidence for H_1 over H_0
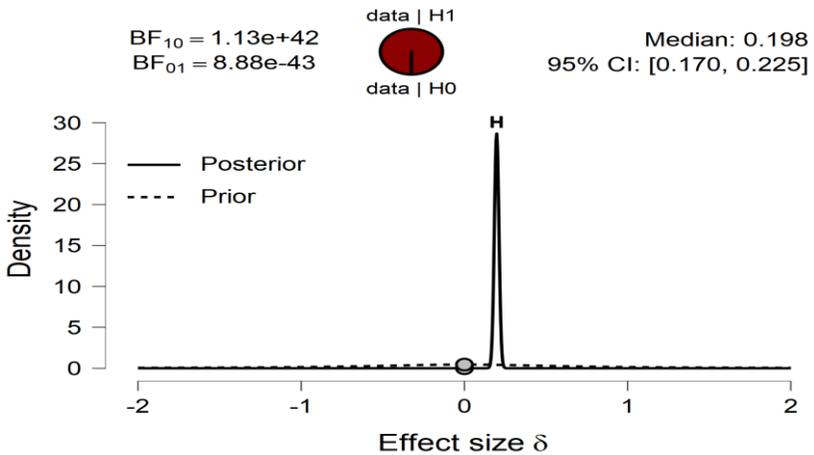
In Figure 3, the maximum BF_{10} is attained when the prior, r = 0.1959. As stated previously, the default Cauchy prior (r = 0.707) gives BF_{10} = 1.126E+42, indicating unwavering support for H_1. As in the figure, using a range of different plausible prior distributions (default, wide, or ultrawide) does not sway the qualitative conclusions. The evidence for H_1 is relatively stable across these prior distributions. In other words, this pattern indicates that the analysis is robust. Figure 4 shows the stability of the qualitative conclusion based on the sample size, n. The graph consistently shows evidence for H_1 across different sample sizes. When the sample size is small, the evidence for H_1 is not particularly convincing. However, as the sample size increases, the evidence for H_1 also increases. Current sample size gives BF_{10} = 1.126E+42 and BF_{01} = 8.88e-43.

FIGURE 3
BF_{10} Values with Different Priors are Used

- ● max BF_{10}:   2.176e+42 at r = 0.1959
- ◐ user prior: BF_{10} = 1.126e+42
- ● wide prior: BF_{10} = 8.262e+41
- ○ ultrawide prior: BF_{10} = 5.954e+41
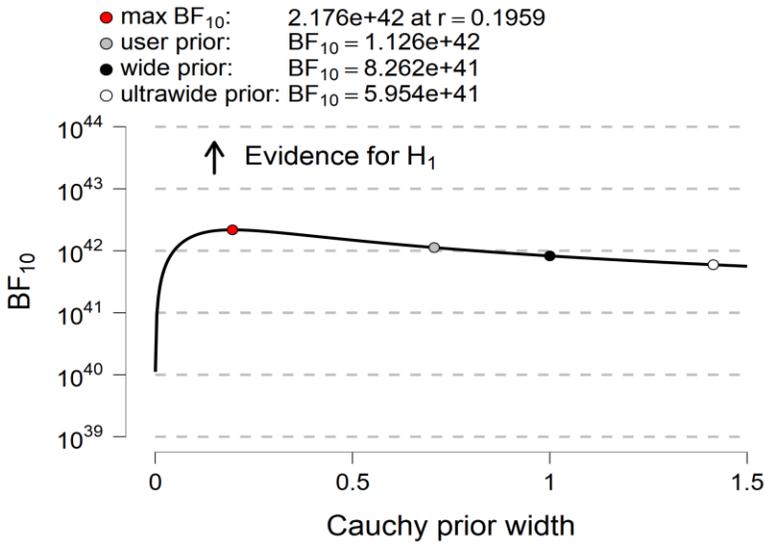
FIGURE 4
Evidence for H_1 and H_0 as the Sample Size Increases

$BF_{10} = 1.13e+42$
$BF_{01} = 8.88e-43$

data | H1

data | H0

— user
— wide
·· ultrawide
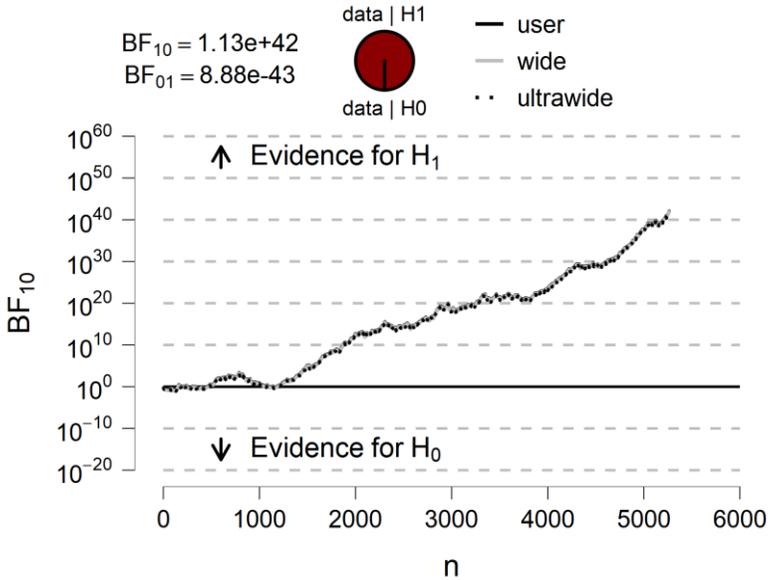
5. DISCUSSION

One of the strengths of this study is its large sample size to characterize job satisfaction during the COVID-19 pandemic effectively. A shift in the work norms during a series of MCO in Malaysia prior to the endemic stage provides an unparalleled opportunity to address the paucity of research in this area, especially in Malaysia. A large-scale job satisfaction study during a pandemic has been unexplored until recently considering the unique circumstances arising from the pandemic.

The increase in the job satisfaction level found in this study corroborates those of several other studies conducted in different countries on the increase in job satisfaction levels during the COVID-19 pandemic. Among them was Karácsony (2021), who provided substantial evidence on an increase in job satisfaction level in Slovakia, where enforcement of more flexible work norms, namely teleworking, has also improved work-life balance. Trust-based employee relationships are the bedrock of a healthy remote working environment (Bulińska-Stangrecka and Bagieńska 2021). Therefore, managing job expectations is crucial (Irawanto, Novianti, and Roz 2021).

We are aware that while restrictive measures during the pandemic impacted all enterprises and compelled them to rely on telework, some organizations were more prepared for this shift in work norms than others. This study collected data from Government-linked companies (GLCs), which were reputable for having adequate and regionally state-of-the-art facilities and resources to facilitate the transition to alternating teleworking schedules. This readiness includes technical support for employees and bulk purchasing of teleworking tools. Tokarchuk et al. (2021) echo this sentiment, noting that different organizations may vary in teleworking readiness, especially when the lack of IT support for teleworking can reduce job satisfaction (Irawanto et al., 2021).

Further investigation into the literature found other factors that contribute to higher job satisfaction during the pandemic. For example, Sousa-Uva et al. (2021) found that the work environment and company culture significantly impacted job satisfaction. Numerous variables may enhance job satisfaction, including more work autonomy, no work commute, and improved work-life balance (Karácsony 2021). The reduction in commute time and the reduced concern of exposure to COVID-19 may contribute to higher job

satisfaction. Without several factors, such as a suitable workspace, digital social support, and an acceptable monitoring mechanism, it was discovered that long-term WFH undermines job satisfaction (X. Yu et al., 2020). Moreover, Irawanto et al. (2021) noted that while working from home, workers may develop a stronger bond with their families, potentially increasing job satisfaction as their work-life balance improves.

While some researchers discovered that workers reported high levels of job satisfaction during the pandemic, Mahmood et al. (2023) noticed a decrease in job satisfaction among teachers during the pandemic. Other sectors reported a lower level of job satisfaction, namely the healthcare sector. Frontline healthcare workers reported a lower level of job satisfaction because for this group, addressing the fear of COVID-19 could improve job satisfaction, lower stress levels, and lower turnover intention (Labrague and de Los Santos 2021).

5.1 MANAGERIAL IMPLICATIONS

The evolving labor climate and work practices created by the COVID-19 regulations present new challenges for human resource management. To accommodate the changes in the working environment following remote working, organizations must embrace sustainable human resource strategies, such as staffing, compensation, work-family balance, benefits, and workplace regulations, to guarantee a high degree of employee job satisfaction (Davidescu et al., 2020; Jonathan et al., 2020). Employees must be supported in rearranging their work styles, communicating effectively within their teams, and staying up to date on business objectives while working remotely (Tokarchuk et al., 2021). After all, workspace flexibility is linked to higher job satisfaction (Davidescu et al., 2020). It was noted that the extent to which organizations implement teleworking varies depending on their resources and preparedness (Tokarchuk et al., 2021). Organizations should anticipate that not all workers will be proficient in utilizing teleworking or collaborative tools since not all employees will have access to the same resources or prior expertise with these technologies (Mahmood et al., 2023).

Human resource managers should establish (and budget for) training plans that assist employees in acquiring the essential abilities to deal with uncommon and unexpected changes in job demands. Future recruitment processes should examine candidates' fundamental knowledge and expertise in information technology. Furthermore,

organizations should also note that it is imperative to maintain a good working relationship during remote working to guarantee optimal well-being throughout the pandemic. A sound support system and relationship with co-workers are becoming increasingly vital due to various factors impacting employee well-being, such as fear of disease and social isolation (Bulińska-Stangrecka and Bagieńska 2021). However, organizations should also be aware that a high job satisfaction level does not necessarily translate into excellent job performance (Hashim et al., 2020).

5.2 THEORETICAL IMPLICATIONS

Many factors contribute to higher job satisfaction during the COVID-19 pandemic, such as flexible job arrangements, fewer distractions, enhanced autonomy, ergonomic home working environment, absence of commute, and digital social support (Vyas and Butakhieo, 2020; Yu et al., 2020; Davidescu et al., 2020). On the other hand, absence of these factors and a lack of social connection results in decreased job satisfaction (Vyas and Butakhieo, 2020). While prior studies have highlighted factors affecting job satisfaction during a pandemic, the disparity in the literature on the level of job satisfaction during a pandemic emphasizes the importance of more investigations into this matter. This study contributes to this discourse by offering evidence of higher job satisfaction during the COVID-19 pandemic.

5.3 LIMITATION AND RECOMMENDATIONS

In this study, a comparative study of job satisfaction between teleworking and on-site workers was not possible for two main reasons: First is the implementation of a rotating work system (work on-site/ at the office or working from home). Second, the utility sector is a critical service during MCO. Therefore, employees who work from home may sometimes need to report for office duty. Work meetings, on the other hand, are done online, as specified in MCO regulations. As a result, all employees engaged in telework (but not entirely).

The study focuses on utility companies. While this approach avoids heterogeneity in the sample and reduces nuisance variables that could arise when using samples from diverse sectors, the findings of this study should not be extrapolated to other sectors. For this reason, prospective studies should investigate different sectors/industries to

corroborate the findings of this study. Additional research is required to evaluate potential confounding variables that influence job satisfaction during a pandemic. We are also aware of the potential selection bias introduced by a sample with a higher level of education and a potentially better financial situation, which may imply improved working conditions at home (space, equipment, and a better working environment), thereby inflating satisfaction levels. Finally, this study utilizes a self-reported instrument to capture employee job satisfaction. Therefore, we do not rule out the possibility of information bias related to self-reporting.

6. CONCLUSION

The study's huge sample size allows it to define work satisfaction throughout the COVID-19 pandemic properly. A shift in work norms during a succession of MCO provided an opportunity to address the paucity of studies on this subject in Malaysia because large-scale job satisfaction research during a pandemic has never been conducted. Because of the disparities in the literature on the level of job satisfaction during a pandemic, more research is needed. This study adds to the discussion by showing increased job satisfaction during the COVID-19 epidemic. During the COVID-19 pandemic, job satisfaction increased significantly, according to a one-sample t-test. Researchers should look at possible explanations for the rise in work satisfaction during pandemics. Organizations and policymakers should take heed of these findings to maintain a high level of job satisfaction.

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REFERENCES

Abd-Ellatif, E.E., M.M. Anwar, A.A. AlJifri, and M.M. El Dalatony. "Fear of COVID-19 and Its Impact on Job Satisfaction and Turnover Intention Among Egyptian Physicians." *Safety and Health at Work* 12, no. 4 (2021): 490–95.

Awalom, M.T., A.F. Tesfa, M.E. Kidane, M.R. Ghebremedhin, and A.H. Teklesenbet. "Eritrean Pharmacists' Job Satisfaction and Their Attitude to Re-Professionalize Pharmacy into Pharmaceutical Care." *International Journal of Clinical Pharmacy* 37, no. 2 (2015): 335–41.

Bulińska-Stangrecka, H., and A. Bagieńska. "The Role of Employee Relations in Shaping Job Satisfaction as an Element Promoting Positive Mental Health at Work in the Era of COVID-19." *International Journal of Environmental Research and Public Health* 18, no. 4 (2021): 1903.

Chanana, N. "The Impact of COVID-19 Pandemic on Employees Organizational Commitment and Job Satisfaction in Reference to Gender Differences." *Journal of Public Affairs* 21, no. 4 (2021): e2695.

"COVIDNOW in Malaysia." 2021. COVIDNOW. 2021. https://covidnow.moh.gov.my/

Davidescu, A.A., S.A. Apostu, A. Paul, and I. Casuneanu. "Work Flexibility, Job Satisfaction, and Job Performance among Romanian Employees—Implications for Sustainable Human Resource Management." *Sustainability* 12, no. 15 (2020): 6086.

Hashim, R., A. Bakar, I. Noh, and H.A. Mahyudin. "Employees' Job Satisfaction and Performance through Working from Home during the Pandemic Lockdown." *Environment-Behaviour Proceedings Journal* 5, no. 15 (2020): 461–67.

Hayes, S.W., J.L. Priestley, B.A. Moore, and H.E. Ray. "Perceived Stress, Work-Related Burnout, and Working from Home Before and During COVID-19: An Examination of Workers in the United States." *SAGE Open* 11, no. 4 (2021): 1-12.

Irawanto, D.W., K.R. Novianti, and K. Roz. "Work from Home: Measuring Satisfaction between Work–Life Balance and Work Stress during the COVID-19 Pandemic in Indonesia." *Economies* 9, no. 3 (2021): 96.

Jonathan, V., S.A. Zaidi Adruce, D. Stephen, and D.S.A. Abang Suhaili. "Socially Responsible Human Resource Management Practices from Employees' Perspective: A Study in a Malaysian GLC." *International Journal of Psychosocial Rehabilitation* 24, no. 5 (2020): 11021–1032.

Karácsony, P. "Impact of Teleworking on Job Satisfaction among Slovakian Employees in the Era of COVID-19." *Problems and Perspectives in Management* 19, no. 3 (2021): 1–9.

Labrague, L.J., and J.A.A. de Los Santos. "Fear of COVID-19, Psychological Distress, Work Satisfaction, and Turnover Intention among Frontline Nurses." *Journal of Nursing Management* 29, no. 3 (2021): 395–403.

Mahmood, F., A. Ariza-Montes, M. Saleem, and H. Han. "Teachers' Teleworking Job Satisfaction during the COVID-19 Pandemic in Europe." *Current Psychology* 42 (2023): 8540-553.

Nemteanu, M.S., V. Dinu, and D.C. Dabija. "Job Insecurity, Job Instability, and Job Satisfaction in the Context of the COVID-19 Pandemic." *Journal of Competitiveness* 13, no. 2 (2021): 65–82.

Pang, N.T.P., A. Kamu, M.A. Mohd Kassim, and C.M. Ho. "Monitoring the Impact of Movement Control Order (MCO) in Flattening the Cummulative Daily Cases Curve of Covid-19 in Malaysia: A Generalized Logistic Growth Modeling Approach." *Infectious Disease Modelling* 6 (2021): 898–908.

Rainey, Hal G. *Understanding and Managing Public Organizations*. 5th ed. Jossey-Bass. 2014.

Ruiz-Ruano García, A.M., and J. López Puga. "Deciding on Null Hypotheses Using P-Values or Bayesian Alternatives: A Simulation Study." *Psicothema* 30, no. 1 (2018): 110–15.

"Sarawak COVID-19 Tracker." 2022. https://covid19.sarawak.com.my.

Sellke, T., M.J. Bayarri, and J.O. Berger. "Calibration of ρ Values for Testing Precise Null Hypotheses." *The American Statistician* 55, no. 1 (2001): 62–71.

Sousa-Uva, M., A. Sousa-Uva, M.M. e Sampayo, and F. Serranheira. "Telework during the COVID-19 Epidemic in Portugal and Determinants of Job Satisfaction: A Cross-Sectional Study." *BMC Public Health* 21, no. 1 (2021): 1-11.

Spector, Paul E. *Job Satisfaction: Application, Assessment, Causes, and Consequences*. Sage, Thousand Oaks. 1997.

Țălnar-Naghi, D.I. "Research Note: Job Satisfaction and Working from Home in Romania, before and during Covid-19." *Revista Calitatea Vieții* 32, no. 2 (2021): 1-22.

Tokarchuk, O., R. Gabriele, and G. Neglia. "Teleworking during the Covid-19 Crisis in Italy: Evidence and Tentative Interpretations." *Sustainability* 13, no. 4 (2021): 1-11.

van Doorn, J., van den Bergh, D., Böhm, U., Dablander, F., Derks, K., Draws, T.,….. and E.J. Wagenmakers, "The JASP Guidelines

for Conducting and Reporting a Bayesian Analysis." *Psychonomic Bulletin & Review* 28, no. 3 (2021): 813–26.

Vyas, L., and N. Butakhieo. "The Impact of Working from Home during COVID-19 on Work and Life Domains: An Exploratory Study on Hong Kong." *Policy Design and Practice* December (2020): 1–18.

Yu, J., and Y. Wu. "The Impact of Enforced Working from Home on Employee Job Satisfaction during COVID-19: An Event System Perspective." *International Journal of Environmental Research and Public Health* 18, no. 24 (2021): 13207.

Yu, X., Y. Zhao, Y. Li, C. Hu, H. Xu, X. Zhao, and J. Huang. "Factors Associated with Job Satisfaction of Frontline Medical Staff Fighting Against COVID-19: A Cross-Sectional Study in China." *Frontiers in Public Health* 8 (August) (2020): 1-9.