

PSYCHOSOCIAL RISK FACTORS AND WORK  
PERFORMANCE OF CHEMICAL  
MANUFACTURING INDUSTRY WORKERS

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We hereby declare that we have checked this thesis and in our opinion, this thesis is adequate in terms of scope and quality for the award of the degree of Master of Science.



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## STUDENT'S DECLARATION

I hereby declare that the work in this thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Malaysia Pahang or any other institutions.

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## ABSTRAK

Kemerosotan kesihatan mental dalam kalangan komuniti bekerja menjadi isu baru-baru ini. Salah satu kemungkinan bagi masalah ini adalah wujudnya risiko psikososial di tempat kerja. Risiko ini boleh menyebabkan keadaan negatif terhadap fizikal dan emosi pekerja yang mana membawa kepada prestasi kerja yang buruk. Oleh itu, penumpuan pada kajian berkenaan risiko psikososial di tempat kerja adalah penting. Sehubungan dengan itu, dalam kerangka kerja di Malaysia, sektor pembuatan telah direkod sebagai industri yang menonjol dengan kejadian kemalangan pekerjaan yang agak membimbangkan berbanding industri lain. Statistik yang ketara ini membuahkan andaian bahawa kemungkinan wujud risiko psikososial sebagai salah satu faktor risiko yang menyumbang kepada berlakunya kemalangan pekerjaan di kilang pembuatan. Memandangkan terdapat kekurangan pada instrumen yang sedia ada untuk digunakan bagi mengkaji faktor risiko psikososial bersama dengan faktor prestasi kerja, oleh itu, satu instrumen telah dibentuk. Kajian ini bertujuan untuk mengkaji hubungan antara dua pemboleh ubah utama iaitu faktor risiko psikososial dan faktor prestasi kerja selain mengenalpasti faktor risiko yang mempengaruhi kesejahteraan para pekerja di tempat kerja. Satu borang kaji selidik telah dibangunkan dengan mengadaptasi daripada tiga soal selidik generik yang berbeza. Kesahan dan kebolehpercayaan telah diuji ke atas borang kaji selidik yang diadaptasi dan diambil daripada *Copenhagen Psychosocial Questionnaire (COPSOQ III)*, *NIOSH Generic Job Stress Questionnaire* dan *Individual Work Performance Questionnaire (IWPQ 1.0)*. Kemudiannya, ia telah diuji bagi kesahan konstruk dengan menggunakan analisis *Exploratory Factor Analysis (EFA)*. Hasil kajian telah menunjukkan bahawa sepuluh faktor yang asal bagi faktor risiko psikososial dan prestasi kerja telah dikurangkan menjadi lapan faktor setelah melaksanakan analisis faktor dengan menggunakan *Principal Component Analysis (PCA)* sebagai kaedah pengurangan dimensi. Selain itu, menggunakan analisis Min dan ujian *Kruskal-Wallis* untuk menentukan faktor risiko psikososial yang signifikan di sebuah kilang pembuatan. Faktor-faktor risiko yang didapati termasuklah, para pekerja merasakan terdapat tuntutan kerja yang tinggi (Mean = 3.42). Walau bagaimanapun, kawalan pekerjaan (Mean = 2.95) dan kandungan pekerjaan (Mean = 3.21) adalah pada tahap yang sederhana. Sementara itu, faktor perkembangan kerjaya (Mean = 4.03), interpersonal (Mean = 4.07), dan faktor persekitaran (Mean = 2.52) secara khususnya adalah pada tahap yang baik dalam kalangan para pekerja. Selain itu, kedua-dua faktor prestasi tugas dan prestasi kontekstual dianggap sangat baik dengan tingkah laku kerja negatif yang minimum. Seterusnya, faktor-faktor penting yang berbeza secara signifikan dengan faktor-faktor prestasi kerja termasuk interpersonal ( $p = 0.07$ ), kawalan kerja ( $p = 0.008$ ), pembangunan kerjaya ( $p = 0.000$ ), persekitaran ( $p = 0.000$ ) dan kandungan kerja ( $p = 0.001$ ). Kemudian, analisis korelasi diuji di antara faktor psikososial dan faktor prestasi kerja menggunakan *Spearman's rho*. Sementara itu, faktor-faktor signifikan yang dikaitkan dengan faktor prestasi kerja adalah interpersonal ( $r = 0.152$ ,  $p < 0.05$ ), perkembangan kerjaya ( $r = 0.243$ ,  $p < 0.05$ ), persekitaran ( $r = 0.237$ ,  $p < 0.05$ ), dan tuntutan kerja ( $r = 0.200$ ,  $p < 0.05$ ). Ini menunjukkan bahawa terdapat korelasi positif yang lemah ( $r = 0.1-0.39$ ) antara faktor risiko psikososial dan faktor prestasi kerja pada tahap signifikan 0.05. Kesimpulannya, kajian ini menyediakan maklumat asas bagi penyelidikan pada masa hadapan berkenaan dengan faktor risiko psikososial yang menggabungkan prestasi kerja dalam kajian yang akan dijalankan.

## ABSTRACT

The deterioration of mental health well-being among the working population has become an issue recently. One of the possible assumptions regarding this issue is the existent of psychosocial risk at the workplace. This particular risk can induce a worker's negative physical and emotional state, which can lead to poor work performance. Thus, tending to research on psychosocial risk is significant at the workplace. In association with that, in the Malaysian working context, the manufacturing sector was recorded as the prominent industry with an alarming occurrence of occupational accidents compared to other industries. This notable statistic led to the assumption of the potential existent of psychosocial risk to be one of the contributing risk factors to the occurrence of occupational accidents in the manufacturing plant. Considering there was limited established instrument to investigate the psychosocial risk factors incorporated with work performance factors, an instrument was developed. This study aim to investigates the correlation between two main variables: psychosocial risk factors and work performance factors other than to determine significant risk factors that can affect the workers well-being at work. A questionnaire was made by adapting and adopting the construct from three different generic questionnaires. The validity and reliability were tested to the questionnaire that was adapted and adopted from Copenhagen Psychosocial Questionnaire (COPSOQ III), NIOSH Generic Job Stress Questionnaire, and Individual Work Performance Questionnaire (IWPQ 1.0). Then, it was tested for construct validity using Exploratory Factor Analysis (EFA). The results showed that the identified ten psychosocial risk factors and work performance were reduced into eight factors understudy after conducting factor analysis by Principal Component Analysis as a dimensional reduction method. Besides, using mean analysis and Kruskal-Wallis test to determine the significant psychosocial risk factors present in a manufacturing plant. The risk factors presented include the workers perceived as having high job demand (Mean= 3.42). However, job control (Mean= 2.95) and job content (Mean=3.21) were somehow at a moderate level. While, career development (Mean=4.03), interpersonal (Mean= 4.07), and environmental (Mean=2.52) factors were notably as good among the workers. Besides, both task and contextual performance (Mean= 3.73) are considered as excellent as well with minimal negative work behaviour (Mean= 1.86). Next, the significant factors that were significantly different with work performance factors include Interpersonal ( $p = 0.07$ ), Job control ( $p = 0.008$ ), Career development ( $p = 0.000$ ), Environment ( $p = 0.000$ ) and Job content ( $p = 0.001$ ). Then, The correlation analysis was tested between psychosocial factors and work performance factors using Spearman's rho. Meanwhile, the significant factors that were associated with work performance factors were Interpersonal ( $r = 0.152$ ,  $p < 0.05$ ), Career development ( $r = 0.243$ ,  $p < 0.05$ ), Environment ( $r = 0.237$ ,  $p < 0.05$ ), and Job demands ( $r = 0.200$ ,  $p < 0.05$ ). This shows that there was a weak positive correlation ( $r = 0.1-0.39$ ) between psychosocial risk factors and work performance at a 0.05 level of significance. In sum, this study provides baseline data for future research purposes regarding psychosocial risk factors that incorporated work performance in the study.

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## REFERENCES

- Abrey, M., & Smallwood, J. J. (2014). The effects of unsatisfactory working conditions on productivity in the construction industry. In *Procedia Engineering* (Vol. 85, pp. 3–9). Elsevier Ltd. <https://doi.org/10.1016/j.proeng.2014.10.522>
- Agaba, D., Ssebagala, C., Micheal, T., Pastor, K., & Osunsan, O. K. (2020). Workplace Environment and Employee Performance in Fort Portal Referral Hospital, Uganda. *International Research Journal of Multidisciplinary Scope*. <https://doi.org/10.47857/irjms.2020.v01si02.025>
- Akoglu, H. (2018, September 1). User's guide to correlation coefficients. *Turkish Journal of Emergency Medicine*. Emergency Medicine Association of Turkey. <https://doi.org/10.1016/j.tjem.2018.08.001>
- Akuh, E. A. (2016). Industrial harmony for academic excellence: an imperative for a productive educational system in Nigeria. *European Centre for Research Training and Development UK (Www.Eajournals.Org)*, 4(4), 63–71.
- Ali, A. J., Islam, M. A., & Lim, P. H. (2013). A study of sustainability of continuous improvement in the manufacturing industries in Malaysia. *Management of Environmental Quality: An International Journal*, 24(3), 408–426. <https://doi.org/10.1108/14777831311322695>
- Aminian, M., Dianat, I., Miri, A., & Asghari-Jafarabadi, M. (2016). The Iranian version of the Copenhagen Psychosocial Questionnaire (COPSOQ) for assessment of psychological risk factors at work. *Health Promotion Perspectives*, 7(1), 7–13. <https://doi.org/10.15171/hpp.2017.03>
- Anthony, P. J. (2015). ScholarWorks Motivation and Career-Development Training Programs: Use of Regulatory Focus to Determine Program Effectiveness Motivation and Career-Development Training Programs: Use of Regulatory Focus to Determine Program Effectiveness. *Higher Learning Research Communications*, 5(2), 24–33. Retrieved from [http://scholarworks.waldenu.edu/sm\\_pubs](http://scholarworks.waldenu.edu/sm_pubs)
- Arvey, R. D., & Mussio, S. J. (1973). A test of expectancy theory in a field setting using female clerical employees. *Journal of Vocational Behavior*, 3(4), 421–432. [https://doi.org/10.1016/0001-8791\(73\)90054-7](https://doi.org/10.1016/0001-8791(73)90054-7)
- Assunta, C., Ilaria, S., Simone, D. S., Gianfranco, T., Teodorico, C., Carmina, S., ... Valeria, R. M. (2015). Noise and cardiovascular effects in workers of the sanitary fixtures industry. *International Journal of Hygiene and Environmental Health*, 218(1), 163–168. <https://doi.org/10.1016/J.IJHEH.2014.09.007>
- Asuncion, R. B., & Galita, W. M. (2015). Development of an Electric Tri-Wheel Scooter. *OALib*, 02(06), 1–7. <https://doi.org/10.4236/oalib.1101558>

- Ayob, A. M. (1992). Kaedah penyelidikan sosioekonomi. Kuala Lumpur: DBP - Google Search. (n.d.). Retrieved October 16, 2020, from [https://www.google.com/search?sxsrf=ALeKk01RFum9IKi49XRPERUCkMYnWVLAzw%3A1602834203281&source=hp&ei=G0-JX7HXDq3gz7sP2YK48AI&q=Ayob%2C+A.+M.+%281992%29.+Kaedah+penyelidikan+sosioekonomi.+Kuala+Lumpur%3A+DBP&oq=Ayob%2C+A.+M.+%281992%29.+Kaedah+penyelidikan+sosioekonomi.+Kuala+Lumpur%3A+DBP&gs\\_lcp=CgZwc3ktYWIQA1CeEFieEGDJG2gAcAB4AIABd4gBd5IBAzAuMZgBAKABAqABAaoBB2d3cy13aXo&scient=psy-ab&ved=0ahUKEwjx0MXazrjsAhUt8HMBHVkBDi4Q4dUDCAc&uact=5](https://www.google.com/search?sxsrf=ALeKk01RFum9IKi49XRPERUCkMYnWVLAzw%3A1602834203281&source=hp&ei=G0-JX7HXDq3gz7sP2YK48AI&q=Ayob%2C+A.+M.+%281992%29.+Kaedah+penyelidikan+sosioekonomi.+Kuala+Lumpur%3A+DBP&oq=Ayob%2C+A.+M.+%281992%29.+Kaedah+penyelidikan+sosioekonomi.+Kuala+Lumpur%3A+DBP&gs_lcp=CgZwc3ktYWIQA1CeEFieEGDJG2gAcAB4AIABd4gBd5IBAzAuMZgBAKABAqABAaoBB2d3cy13aXo&scient=psy-ab&ved=0ahUKEwjx0MXazrjsAhUt8HMBHVkBDi4Q4dUDCAc&uact=5)
- Azer, I., Che Hamzah, H., Aishah Mohamad, S., Abdullah, H., Azer, I., Che Hamzah Á SA Mohamad Á H Abdullah, Á. H., ... Abdullah, H. (2016). Contribution of Economic Sectors to Malaysian GDP. *Technology and Social Sciences*, (Regional Conference on Science, Technology and Social Sciences (RCSTSS 2014)), 183–189. [https://doi.org/10.1007/978-981-10-1458-1\\_17](https://doi.org/10.1007/978-981-10-1458-1_17)
- Baç, N., & Ekmekçi, I. (2021). Psychosocial risk assessment using COPSOQ II questionnaire - A case study with maintenance workers in a metal plant in Istanbul Turkey. *Heliyon*, 7(4), e06777. <https://doi.org/10.1016/j.heliyon.2021.e06777>
- Bagozzi, R. P. (1984). A Prospectus for Theory Construction in Marketing. *Journal of Marketing*, 48(1), 11. <https://doi.org/10.2307/1251307>
- Bagyo, Y. (2018). The Effect of Counterproductive Work Behavior ( CWB ) And Organizational Citizenship Behavior ( OCB ) on Employee Performance With Employee Engagement As Intervening Variable. *IOSR Journal of Business and Management*, 20(2), 83–89. Retrieved from [https://www.researchgate.net/publication/335586826\\_The\\_Effect\\_of\\_Counterproductive\\_Work\\_Behavior\\_CWB\\_And\\_Organizational\\_Citizenship\\_Behavior\\_OCB\\_on\\_Employee\\_Performance\\_With\\_Employee\\_Engagement\\_As\\_Intervening\\_Variable](https://www.researchgate.net/publication/335586826_The_Effect_of_Counterproductive_Work_Behavior_CWB_And_Organizational_Citizenship_Behavior_OCB_on_Employee_Performance_With_Employee_Engagement_As_Intervening_Variable)
- Bank Negara Malaysia. (2014). Developments in the Malaysian Ec. Retrieved from <https://www.bnm.gov.my/files/publication/qb/2014/Q2/p3.pdf>
- Baughner, J. E., & Roberts, J. T. (2004). Workplace Hazards, Unions, and Coping Styles, 29(2), 83–106.
- Bergh, L. I. V., Leka, S., & Zwetsloot, G. I. J. M. (2017). Tailoring Psychosocial Risk Assessment in the Oil and Gas Industry by Exploring Specific and Common Psychosocial Risks. *Safety and Health at Work*, 1–8. <https://doi.org/10.1016/j.shaw.2017.05.001>
- Bergh, L. I. V., Ringstad, A. J., Leka, S., & Zwetsloot, G. I. J. M. (2014). Psychosocial risks and hydrocarbon leaks: An exploration of their relationship in the Norwegian oil and gas industry. *Journal of Cleaner Production*, 84(1), 824–830. <https://doi.org/10.1016/j.jclepro.2013.09.040>

- Blackmore, E. R., Stansfeld, S. A., Weller, I., Munce, S., Zagorski, B. M., & Stewart, D. E. (2007). Major depressive episodes and work stress: Results from a national population survey. *American Journal of Public Health*. <https://doi.org/10.2105/AJPH.2006.104406>
- Boone, H. N. J., & Boone, D. A. (2012). Analyzing Likert Data Likert-Type Versus Likert Scales. *Journal of Extension*, *50*(2), 30. Retrieved from <http://ezproxy.lib.ed.ac.uk/login?url=http://search.ebscohost.com/login.aspx?direct=true&db=edo&AN=75361715&site=eds-live&scope=cite%5Cnhttp://www.joe.org/joe/2012april/tt2p.shtml>
- Borman, W., & Motowidlo, S. J. (1993). *Expanding the criterion domain to include elements of contextual performance: The meaning for personal selection research. Personnel Selection in Organizations*. Retrieved from [https://www.scirp.org/\(S\(i43dyn45teexjx455qlt3d2q\)\)/reference/ReferencesPapers.aspx?ReferenceID=1480874](https://www.scirp.org/(S(i43dyn45teexjx455qlt3d2q))/reference/ReferencesPapers.aspx?ReferenceID=1480874)
- Boschman, J. S., van der Molen, H. F., Sluiter, J. K., & Frings-Dresen, M. H. W. (2013). Psychosocial work environment and mental health among construction workers. *Applied Ergonomics*, *44*(5), 748–755. <https://doi.org/10.1016/j.apergo.2013.01.004>
- Bouckenooghe, D., De Clercq, D., & Deprez, J. (2014). Interpersonal Justice, Relational Conflict, and Commitment to Change: The Moderating Role of Social Interaction. *Applied Psychology*, *63*(3), 509–540. <https://doi.org/10.1111/apps.12006>
- Bowman, N. D., & Goodboy, A. K. (2020). Evolving considerations and empirical approaches to construct validity in communication science. *Annals of the International Communication Association*, *0*(0), 219–234. <https://doi.org/10.1080/23808985.2020.1792791>
- Brocal, F., González, C., & Sebastián, M. A. (2018). Technique to identify and characterize new and emerging risks: A new tool for application in manufacturing processes. *Safety Science*, *109*, 144–156. <https://doi.org/10.1016/j.ssci.2018.05.005>
- Brocal, F., & Sebastián, M. A. (2015). Identification and Analysis of Advanced Manufacturing Processes Susceptible of Generating New and Emerging Occupational Risks. *Procedia Engineering*, *132*, 887–894. <https://doi.org/10.1016/J.PROENG.2015.12.574>
- Bruhn, A., & Frick, K. (2011). Why it was so difficult to develop new methods to inspect work organization and psychosocial risks in Sweden. *Safety Science*, *49*(4), 575–581. <https://doi.org/10.1016/j.ssci.2010.07.011>
- Burr, H., Berthelsen, H., Moncada, S., Nübling, M., Dupret, E., Demiral, Y., ... Pohrt, A. (2019). The Third Version of the Copenhagen Psychosocial Questionnaire. *Safety and Health at Work*, *10*(4), 482–503. <https://doi.org/10.1016/j.shaw.2019.10.002>
- Callejón-ferre, Á. J., Montoya-garcía, M. E., & Pérez-alonso, J. (2015). The psychosocial risks of farm workers in south-east Spain, *78*, 77–90. <https://doi.org/10.1016/j.ssci.2015.04.015>

- Calma, R. R. (2020). a Tracer Study of the Master in Business Administration Graduates From 2014 To 2018, (May).
- Cambridge Dictionary. (2018). psychological Meaning in the Cambridge English Dictionary. Retrieved April 13, 2018, from <https://dictionary.cambridge.org/dictionary/english/psychological>
- Cambridge English Dictionary. (2018). Psycho Meaning in the Cambridge English Dictionary. Retrieved January 8, 2018, from <https://dictionary.cambridge.org/dictionary/english/psycho>
- Campbell, J. P. (1990). *Modeling the performance prediction problem in industrial and organizational psychology*. In: Dunnette MD, Hough LM, eds. *Handbook of Industrial and Organizational Psychology*. Consulting Psychologists Press.
- Chan, A. P. C., Wong, F. K. W., Hon, C. K. H., Lyu, S., & Javed, A. A. (2017). Investigating ethnic minorities' perceptions of safety climate in the construction industry. *Journal of Safety Research*, 63, 9–19. <https://doi.org/10.1016/j.jsr.2017.08.006>
- Cheah, Y. K., Azahadi, M., Phang, S. N., & Abd Manaf, N. H. (2020). Sociodemographic, Lifestyle, and Health Factors Associated With Depression and Generalized Anxiety Disorder Among Malaysian Adults. *Journal of Primary Care & Community Health*, 11, 215013272092173. <https://doi.org/10.1177/2150132720921738>
- Cheng, W. J., & Cheng, Y. (2017). Minor mental disorders in Taiwanese healthcare workers and the associations with psychosocial work conditions. *Journal of the Formosan Medical Association*, 116(4), 300–305. <https://doi.org/10.1016/j.jfma.2016.05.004>
- Chew, Y. T. (2005). Achieving Organisational Prosperity through Employee Motivation and Retention: A Comparative Study of Strategic HRM Practices in Malaysian Institutions. Retrieved from <http://rphrm.curtin.edu.au/2005/issue2/malaysia.html>
- Chylova, M. (2019). PSYCHOSOCIAL FACTORS IN WORK ENVIRONMENT AND EMPLOYEE MENTAL HEALTH. In *17th International Conference on Work and Organizational Psychology - Past, Present, and Challenges to the Future* (pp. 176–186).
- Cochran, M. N. (2014). *COUNTERPRODUCTIVE WORK BEHAVIORS, JUSTICE, AND AFFECT: A META-ANALYSIS*.
- Collins, P. A., & Gibbs, A. C. C. (2003). Stress in police officers: A study of the origins, prevalence and severity of stress-related symptoms within a county police force. *Occupational Medicine*, 53(4), 256–264. <https://doi.org/10.1093/occmed/kqg061>
- Cox, Thomas, & Griffiths, A. (2005). The nature and measurement of work-related stress: theory and practice, 2005.
- Cox, Tom. (1985). The Nature and Measurement of Stress. *International Handbook of Anger*, (April 2016), 403–412. <https://doi.org/10.1007/978-0-387-89676-2>



- Cox, Tom, Griffiths, A., Barlowe, C., Randall, R., Thomson, L., & Rial-Gonzalez, E. (2000). Organisational interventions for work stress -A risk management approach. Retrieved from [http://www.hse.gov.uk/research/crr\\_pdf/2000/crr00286a.pdf](http://www.hse.gov.uk/research/crr_pdf/2000/crr00286a.pdf)
- Cox, Tom, Griffiths, A., & Rial-González, E. (2000). European Agency for Safety and Health at Work. Retrieved from <https://osha.europa.eu/en/tools-and-publications/publications/reports/203>
- Cvirn, M. A., Dorrian, J., Smith, B. P., Vincent, G. E., Jay, S. M., Roach, G. D., ... Ferguson, S. A. (2019). The effects of hydration on cognitive performance during a simulated wildfire suppression shift in temperate and hot conditions. *Applied Ergonomics*, 77(May 2018), 9–15. <https://doi.org/10.1016/j.apergo.2018.12.018>
- Dang-Pham, D., Pittayachawan, S., & Bruno, V. (2017). Applying network analysis to investigate interpersonal influence of information security behaviours in the workplace. *Information and Management*, 54(5), 625–637. <https://doi.org/10.1016/j.im.2016.12.003>
- Dawal, S. Z., Taha, Z., & Ismail, Z. (2009). Effect of job organization on job satisfaction among shop floor employees in automotive industries in Malaysia. *International Journal of Industrial Ergonomics*, 39(1), 1–6. <https://doi.org/10.1016/j.ergon.2008.06.005>
- Dawal, Siti Zawiah, & Taha, Z. (2006). The effect of job and environmental factors on job satisfaction in automotive industries. *International Journal of Occupational Safety and Ergonomics*, 12(3), 267–280. <https://doi.org/10.1080/10803548.2006.11076687>
- De Spiegelare, S., Ramioul, M., & Van Gyes, G. (2017). Good employees through good jobs: A latent profile analysis of job types and employee outcomes in the Belgian electricity sector. *Employee Relations*, 39(4), 503–522. <https://doi.org/10.1108/ER-02-2016-0034>
- de Vet, H. C. W., Mokkink, L. B., Mosmuller, D. G., & Terwee, C. B. (2017). Spearman–Brown prophecy formula and Cronbach’s alpha: different faces of reliability and opportunities for new applications. *Journal of Clinical Epidemiology*, 85, 45–49. <https://doi.org/10.1016/j.jclinepi.2017.01.013>
- de Wit, F. R. C., Jehn, K. A., & Scheepers, D. (2013). Task conflict, information processing, and decision-making: The damaging effect of relationship conflict. *Organizational Behavior and Human Decision Processes*, 122(2), 177–189. <https://doi.org/10.1016/j.obhdp.2013.07.002>
- Demerouti, E., Veldhuis, W., Coombes, C., & Hunter, R. (2018). Burnout among Pilots : Psychosocial Factors related to Happiness and Score on Simulator Training. *Ergonomics*, 0139, 1–39. <https://doi.org/10.1080/00140139.2018.1464667>

- Department of Environment, M. of N. R. and E. M. (2012). Guidelines for Siting and Zoning of Industry and Residential Areas. *Ministry of Natural Resources and Environment Malaysia*, (October), 1–124. Retrieved from <http://www.doe.gov.my/eia/wp-content/uploads/2012/02/Guidelines-For-Siting-and-Zoning-of-Industry-and-Residential-Areas-2012.pdf>
- Department of Occupational Safety and Health Malaysia. (2019). *Statistik Penyakit dan Keracunan Pekerja bagi Jan-Sept 2018* (Vol. 2019). Retrieved from <https://www.dosh.gov.my>
- Department of Statistics Malaysia. (2017). DEPARTMENT OF STATISTICS MALAYSIA PRESS RELEASE MANUFACTURING SECTOR ECONOMIC CENSUS 2016. Retrieved from <https://www.dosm.gov.my/v1/index.php?r=column/pdfPrev&id=WHdFamIwN0ltRXFWMnRZYXZXcUZGZz09>
- Department of Statistics Malaysia. (2020). *Jabatan perangkaan malaysia, 2014-2016. Jabatan Perangkaan Malaysia* (Vol. August 202).
- Dettmers, J., & Stempel, C. R. (2021). How to use questionnaire results in psychosocial risk assessment: Calculating risks for health impairment in psychosocial work risk assessment. *International Journal of Environmental Research and Public Health*, 18(13). <https://doi.org/10.3390/ijerph18137107>
- Devonish, D., & Greenidge, D. (2010). The effect of organizational justice on contextual performance, counterproductive work behaviors, and task performance: Investigating the moderating role of ability-based emotional intelligence. *International Journal of Selection and Assessment*. <https://doi.org/10.1111/j.1468-2389.2010.00490.x>
- Dewa, C. S., McDaid, D., & Ettner, S. L. (2007). An International Perspective on Worker Mental Health Problems: Who Bears the Burden and How are Costs Addressed? *The Canadian Journal of Psychiatry*, 52(6), 346–356. <https://doi.org/10.1177/070674370705200603>
- Dharmaratne, E. K. ., & Gunasekara, U. L. T. . (2016). The Relationships between Career-related Human Resources Management Practices and Perceived Organizational Support on Affective Organizational Commitment : Evidences from Higher Educational Institutions of Sri Lanka. *Nternational Journal of Multidisciplinary Studies (IJMS)*, 3(2), 45–52.
- Di Tecco, C., Jain, A., Valenti, A., Iavicoli, S., & Leka, S. (2017). An evaluation of the impact of a policy-level intervention to address psychosocial risks on organisational action in Italy. *Safety Science*. <https://doi.org/10.1016/j.ssci.2017.05.015>
- DOSH. (2016). Website Department of Occupational Safety and Health Malaysia - DOSH Profile. Retrieved September 25, 2018, from <http://www.dosh.gov.my/index.php/en/occupational-accident-statistics/by-sector>

- Dupret, E., Teherani, M., Feltrin, M., Bocéréan, C., & Pejtersen, J. H. (2012). Psychosocial risk assessment: French validation of the Copenhagen Psychosocial Questionnaire (COPSOQ). *Scandinavian Journal of Public Health*, 40(5), 482–490. <https://doi.org/10.1177/1403494812453888>
- Eatough, E. M., Way, J. D., & Chang, C. H. (2012). Understanding the link between psychosocial work stressors and work-related musculoskeletal complaints. *Applied Ergonomics*, 43(3), 554–563. <https://doi.org/10.1016/J.APERGO.2011.08.009>
- Engelbrecht, A. S., & Fischer, A. H. (1995). The Managerial Performance Implications of a Developmental Assessment Center Process. *Human Relations*, 48(4), 387–404. <https://doi.org/10.1177/001872679504800405>
- English by Oxford Dictionaries. (2019). Definition of Psychosocial in English by Oxford Dictionaries. Retrieved April 13, 2018, from <https://en.oxforddictionaries.com/definition/psychosocial>
- English Oxford Dictionaries. (2018a). psychological | Definition of psychological in English by Oxford Dictionaries. Retrieved April 13, 2018, from <https://en.oxforddictionaries.com/definition/psychological>
- English Oxford Dictionaries. (2018b). social | Definition of social in English by Oxford Dictionaries. Retrieved April 13, 2018, from <https://en.oxforddictionaries.com/definition/social>
- Etikan, I. (2016). Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics*, 5(1), 1. <https://doi.org/10.11648/j.ajtas.20160501.11>
- European Agency for Safety and Health at Work. (2007). Expert forecast on emerging psychosocial risks related to occupational safety and health European Agency for Safety and Health at Work EUROPEAN RISK OBSERVATORY REPORT. Retrieved from <https://osha.europa.eu/en/tools-and-publications/publications/reports/7807118>
- European Agency for Safety and Health at Work. (2009). European Risk Observatory Report-OSH in figures:Stress at work-facts and figures. Retrieved from [http://www.stress-lavoro.com/140\\_stress/TE](http://www.stress-lavoro.com/140_stress/TE)
- European Agency for Safety and Health at Work. (2012). Management of psychosocial risks at work: An analysis of the findings of the European Survey of Enterprises on New and Emerging Risks (ESENER) European Risk Observatory Report European Agency for Safety and Health at Work. Retrieved from <https://osha.europa.eu/en/tools-and-publications/publications/reports/management-psychosocial-risks-esener>
- Fadaee, M., & Monz, C. (2018). Back-Translation Sampling by Targeting Difficult Words in Neural Machine Translation. *Proceedings of the 2018 Conference on Empirical Methods in Natural Language Processing, EMNLP 2018*, 436–446. Retrieved from <http://arxiv.org/abs/1808.09006>

- Farrastama, D. N., Asmony, T., & Hermanto, H. (2019). Effect of emotional intelligence on counterproductive work behavior with job stress as an intervening variable. *International Journal of Social Sciences and Humanities*, 3(1), 14–25. <https://doi.org/10.29332/ijssh.v3n1.248>
- Federation of Malaysian Manufacturers. (2017). Industrial Accidents in the Manufacturing Sector, A Cause for Concern (Apr 14, 2011). Retrieved April 13, 2018, from [http://www.fmm.org.my/Press\\_Releases-@-Industrial\\_Accidents\\_in\\_the\\_Manufacturing\\_Sector,\\_A\\_Cause\\_for\\_Concern\\_\(Apr\\_14,\\_2011\).aspx](http://www.fmm.org.my/Press_Releases-@-Industrial_Accidents_in_the_Manufacturing_Sector,_A_Cause_for_Concern_(Apr_14,_2011).aspx)
- Ferguson, S. A., Allread, W. G., Burr, D. L., Heaney, C., & Marras, W. S. (2012). Biomechanical, psychosocial and individual risk factors predicting low back functional impairment among furniture distribution employees. *Clinical Biomechanics*, 27(2), 117–123. <https://doi.org/10.1016/j.clinbiomech.2011.09.002>
- Fernandes, A., Figueiredo, M., Ribeiro, J., Neves, J., & Vicente, H. (2020). Psychosocial Risks Assessment in Cryopreservation Laboratories. *Safety and Health at Work*, 11(4), 431–442. <https://doi.org/10.1016/j.shaw.2020.07.003>
- France Ministry of Labour. (2017). Psychosocial definition. Retrieved April 13, 2018, from <http://travail-emploi.gouv.fr/>
- Freedman, B. D. (2019). Risk factors and causes of interpersonal conflict in nursing workplaces: Understandings from neuroscience. *Collegian*, 26(5), 594–604. <https://doi.org/10.1016/j.colegn.2019.02.001>
- French, J. R. P., & Caplan, R. D. (1970). Psychosocial Factors in Coronary Heart Disease. Retrieved from <https://ntrs.nasa.gov/archive/nasa/casi.ntrs.nasa.gov/19730008327.pdf>
- Furnham, A., Taylor, J., Furnham, A., & Taylor, J. (2004). Counterproductive Behaviours at Work. In *The Dark Side of Behaviour at Work* (pp. 83–129). Palgrave Macmillan UK. [https://doi.org/10.1057/9780230510104\\_4](https://doi.org/10.1057/9780230510104_4)
- Galloway, A. (2004). Non-Probability Sampling. *Encyclopedia of Social Measurement*, 859–864. <https://doi.org/10.1016/B0-12-369398-5/00382-0>
- Ghasemi, A., & Zahediasl, S. (2012). Normality tests for statistical analysis: A guide for non-statisticians. *International Journal of Endocrinology and Metabolism*, 10(2), 486–489. <https://doi.org/10.5812/ijem.3505>
- Ghodse, H. (2005). *Addiction at Work: Tackling Drug Use and Misuse in the Workplace* - Google Books. Retrieved from <https://books.google.com.my/books?id=Cr8ws7Pp5FwC&pg=PA131&lpg=PA131&dq=indirect+cost+of+psychosocial+at+work+are+insurance+cost,retirement+funds,+safety+and+health,+medical+assistance,+counselling&source=bl&ots=OE46i2KCxE&sig=x7mmAELJn1teK-bQiVtHOxfzOaM&>
- Google Maps. (2018). *Location of Pahang State*. Google Maps. <https://www.google.com/maps/>

- Guadix, J., Carrillo-Castrillo, J., Onieva, L., & Lucena, D. (2015). Strategies for psychosocial risk management in manufacturing. *Journal of Business Research*, 68(7), 1475–1480. <https://doi.org/10.1016/j.jbusres.2015.01.037>
- Habibi, E., Poorabdian, S., & Shakerian, M. (2015). Job strain (demands and control model) as a predictor of cardiovascular risk factors among petrochemical personnel. *Journal of Education and Health Promotion*, 4(March), 16. <https://doi.org/10.4103/2277-9531.154034>
- Hair, J., Babin, B., & Samouel, A. (2003). *Essentials of Business Research Methods*. Lehigh Publishing (Vol. 4). <https://doi.org/10.4013/sdrj.2011.42.02>
- Hakim, A. (2020). Effect of compensation, career development, work environment on job satisfaction and its impact on organizational commitments in pt Jakarta Tourisindo. *Journal of Critical Reviews*. <https://doi.org/10.31838/jcr.07.12.99>
- Hampel, N., & Sassenberg, K. (2021). Needs-oriented communication results in positive attitudes towards robotic technologies among blue-collar workers perceiving low job demands. *Computers in Human Behavior Reports*, 3, 100086. <https://doi.org/10.1016/j.chbr.2021.100086>
- Hanafiah, A. N., & Van Bortel, T. (2015). A qualitative exploration of the perspectives of mental health professionals on stigma and discrimination of mental illness in Malaysia. *International Journal of Mental Health Systems*, 9(1), 1–12. <https://doi.org/10.1186/s13033-015-0002-1>
- Harpe, S. E. (2015). How to analyze Likert and other rating scale data. *Currents in Pharmacy Teaching and Learning*, 7(6), 836–850. <https://doi.org/10.1016/j.cptl.2015.08.001>
- Hassan, Z. A., Schattner, P., & Mazza, D. (2006). Doing A Pilot Study: Why Is It Essential? *Malaysian Family Physician : The Official Journal of the Academy of Family Physicians of Malaysia*, 1(2–3), 70–73. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/27570591>
- Hemingway, H., & Marmot, M. (1999). Clinical review Evidence based cardiology Psychosocial factors in the aetiology and prognosis of coronary heart disease: systematic review of prospective cohort studies. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1115843/pdf/1460.pdf>
- Hennekam, S., Richard, S., & Grima, F. (2020). Coping with mental health conditions at work and its impact on self-perceived job performance. *Employee Relations*, 42(3), 626–645. <https://doi.org/10.1108/ER-05-2019-0211>
- Hirokawa, K., Taniguchi, T., & Fujii, Y. (2014). Job Stress and Agentic-Communal Personality Traits Related to Serum Cortisol Levels of Male Workers in a Japanese Medium-Sized Company: A Cross-Sectional Study. *International Journal of Behavioral Medicine*, 1–7. <https://doi.org/10.1007/s12529-014-9403-9>
- Ho, V. T. (2012). Interpersonal Counterproductive Work Behaviors: Distinguishing Between Person-Focused Versus Task-Focused Behaviors and Their Antecedents. *Journal of Business and Psychology*, 27(4), 467–482.

<https://doi.org/10.1007/s10869-012-9256-7>

- Hooi, L. W. (2016). Organisational Justice and Citizenship Behaviour in Malaysia, (November 2014), 21–37. <https://doi.org/10.1007/978-981-10-0030-0>
- Houdmont, J., Randall, R., Kerr, R., & Addley, K. (2013). Psychosocial risk assessment in organizations: Concurrent validity of the brief version of the Management Standards Indicator Tool. *Work and Stress*, 27(00), 403–412. <https://doi.org/10.1080/02678373.2013.843607>
- Hu, Q., & Schaufeli, W. B. (2011). Job insecurity and remuneration in Chinese family-owned business workers. *Career Development International*, 16(1), 6–19. <https://doi.org/10.1108/13620431111107784>
- Idris, M. A., Dollard, M. F., Coward, J., & Dormann, C. (2012). Psychosocial safety climate: Conceptual distinctiveness and effect on job demands and worker psychological health. *Safety Science*, 50(1), 19–28. <https://doi.org/10.1016/j.ssci.2011.06.005>
- Ikechukwu, N. P., Achori, T. D., Uchenna, S., & Okechukwu, A. K. E. (2019). Work environment as a tool for improving Employees performance and organizational productivity, 5(8), 241–247.
- Ikuma, L. H., Nussbaum, M. A., & Babski-Reeves, K. L. (2009). Reliability of physiological and subjective responses to physical and psychosocial exposures during a simulated manufacturing task. *International Journal of Industrial Ergonomics*, 39(5), 813–820. <https://doi.org/10.1016/j.ergon.2009.02.005>
- Ilies, R., Lanaj, K., Pluut, H., & Goh, Z. (2018). Intrapersonal and interpersonal need fulfillment at work: Differential antecedents and incremental validity in explaining job satisfaction and citizenship behavior. *Journal of Vocational Behavior*, 108, 151–164. <https://doi.org/10.1016/j.jvb.2018.07.005>
- Institute for Work & Health. (2015). What researchers mean by... Cross-sectional and longitudinal studies. *At Work*, (81), 2.
- International Labour Organization. (1986). PSYCHOSOCIAL FACTORS AT WORK: Recognition and control. Retrieved from [http://www.who.int/occupational\\_health/publications/ILO\\_WHO\\_1984\\_report\\_of\\_the\\_joint\\_committee.pdf](http://www.who.int/occupational_health/publications/ILO_WHO_1984_report_of_the_joint_committee.pdf)
- International Labour Organization. (2009). Sectoral Activities Department, 1–7.
- International Labour Organization. (2012). *SOLVE: Integrating health promotion into work place OSH Policies: Participant's Workbook*. Retrieved from <https://books.google.com.my/books?id=Cr8ws7Pp5FwC&pg=PA131&lpg=PA131&dq=indirect+cost+of+psychosocial+at+work+are+insurance+cost,retirement+funds,+safety+and+health,+medical+assistance,+counselling&source=bl&ots=OE46i2KCxE&sig=x7mmAELJn1teK-bQiVtHOxfzOaM&>
- International Monetary Fund. (2015). MALAYSIA SELECTED ISSUES APPROACH. Retrieved from <http://www.imf.org>

International Network. (2020). COPSOQ III. Guidelines and questionnaire.

- Isha, A. S. N., Javaid, M. U., Zaib Abbasi, A., Bano, S., Zahid, M., Memon, M. A., ... Imtiaz, N. (2020). Malay Validation of Copenhagen Psychosocial Work Environment Questionnaire in Context of Second Generation Statistical Techniques. *BioMed Research International*, 2020, 11. <https://doi.org/10.1155/2020/7680960>
- Ismaila, S. O., & Odusote, A. (2014). Noise exposure as a factor in the increase of blood pressure of workers in a sack manufacturing industry. *Beni-Suef University Journal of Basic and Applied Sciences*, 3(2), 116–121. <https://doi.org/10.1016/J.BJBAS.2014.05.004>
- Jackson, P. R., & Mullarkey, S. (2000). Lean production teams and health in garment manufacture. *Journal of Occupational Health Psychology*, 5(2), 231–245. <https://doi.org/10.1037/1076-8998.5.2.231>
- Jackson, Paul R., & Martin, R. (1996). Impact of just-in-time on job content, employee attitudes and well-being: A longitudinal study. *Ergonomics*, 39(1), 1–16. <https://doi.org/10.1080/00140139608964429>
- Jacobs, K., Hellman, M., Markowitz, J., & Wuest, E. (2013). Psychosocial Work Environment. In *Encyclopedia of Behavioral Medicine* (pp. 1587–1587). New York, NY: Springer New York. [https://doi.org/10.1007/978-1-4419-1005-9\\_920](https://doi.org/10.1007/978-1-4419-1005-9_920)
- Jandali, D., & Sweis, R. (2018). Assessment of factors affecting maintenance management of hospital buildings in Jordan. *Journal of Quality in Maintenance Engineering*, 24(1), 37–60. <https://doi.org/10.1108/JQME-12-2016-0074>
- Javaid, M. U., Bano, S., Mirza, M. Z., Isha, A. S. N., Nadeem, S., Jawaid, A., ... Kaur, P. (2019). Connotations of psychological and physiological health in the psychosocial work environment: An industrial context. *Work*, 64(3), 551–561. <https://doi.org/10.3233/WOR-193016>
- Jia, Y. A., Rowlinson, S., & Ciccarelli, M. (2016). Climatic and psychosocial risks of heat illness incidents on construction site. *Applied Ergonomics*, 53, 25–35. <https://doi.org/10.1016/j.apergo.2015.08.008>
- Jiambalvo, J. (1979). Performance Evaluation and Directed Job Effort: Model Development and Analysis in a CPA Firm Setting. *Journal of Accounting Research*, 17(2), 436. <https://doi.org/10.2307/2490512>
- Jiang, L., Yu, G., Li, Y., & Li, F. (2010). Perceived colleagues' safety knowledge/behavior and safety performance: Safety climate as a moderator in a multilevel study. *Accident Analysis & Prevention*, 42(5), 1468–1476. <https://doi.org/10.1016/J.AAP.2009.08.017>
- Jin, X., Sun, I. Y., Jiang, S., Wang, Y., & Wen, S. (2018). The relationships between job and organizational characteristics and role and job stress among Chinese community correctional workers. *International Journal of Law, Crime and Justice*, 52, 36–46. <https://doi.org/10.1016/j.ijlcrj.2017.09.002>

- Johnstone, R., Quinlan, M., McNamara, M., & Richard Johnstone, Michael Quinlan, M. M. (2011). OHS inspectors and psychosocial risk factors: Evidence from Australia. *Safety Science*, 49(4), 547–557. <https://doi.org/10.1016/j.ssci.2010.09.016>
- Kacmar, K. M., Bachrach, D. G., Harris, K. J., & Noble, D. (2012). Exploring the role of supervisor trust in the associations between multiple sources of relationship conflict and organizational citizenship behavior. *Leadership Quarterly*, 23(1), 43–54. <https://doi.org/10.1016/j.leaqua.2011.11.004>
- Kahn, R. L., Wolfe, D. M., Quinn, R. P., & Snoek, J. D. (1964). PsycNET Record Display - PsycNET. Retrieved April 10, 2018, from <http://psycnet.apa.org/record/1965-08866-000>
- Kahya, E. (2009). The effects of job performance on effectiveness. *International Journal of Industrial Ergonomics*, 39(1), 96–104. <https://doi.org/10.1016/j.ergon.2008.06.006>
- Karasek, R. a. (1979). Job Demands , Job Decision Latitude , and Mental Strain : Implications for Job Redesign. *Administrative Science Quarterly*, 24(2), 285–308. <https://doi.org/10.2307/2392498>
- Karasek, R., Baker, D., Marxer, F., Ahlbom, A., & Theorell, T. (1981). Job Decision Latitude, Job Demands, and Cardiovascular Disease: A Prospective Study of Swedish Men. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1619770/pdf/amjph00667-0024.pdf>
- Kasim, H. (2019). *Development of Matrix Assessment Level of Safety Practice for Radiation Risk in Malaysian Radiation Facilities*. University of Malaya, Kuala Lumpur.
- Kasim, H., Che Hassan, C. R., Hamid, M. D., Emami, S. D., & Danaee, M. (2018). Determination of factors affecting safety practices in Malaysian radiation facilities. *Safety Science*, 104, 70–80. <https://doi.org/10.1016/j.ssci.2017.12.031>
- Kim, D. J. (2012). An investigation of the effect of online consumer trust on expectation, satisfaction, and post-expectation. *Information Systems and E-Business Management*, 10(2), 219–240. <https://doi.org/10.1007/s10257-010-0136-2>
- Koopmans, L. (2014). *Measuring Individual Work Performance*. Netherlands: CPI Koninklijke Wöhrmann, Zutphen.
- Koopmans, L., Bernaards, C., Hildebrandt, V., Van Buuren, S., Van Der Beek, A. J., & de Vet, H. C. w. (2012). Development of an individual work performance questionnaire. *International Journal of Productivity and Performance Management*, 62(1), 6–28. <https://doi.org/10.1108/17410401311285273>
- Kozlova, L., & Lakiša, S. (2016). Prevalence of Psychosocial Risk Factors in Selected Industries in Latvia. *Proceedings of the Latvian Academy of Sciences, Section B: Natural, Exact, and Applied Sciences*, 70(5), 278–285. <https://doi.org/10.1515/prolas-2016-0043>



- Krejcie, R. V., & Morgan, D. (1970). Sample size determination using Krejcie and Morgan table. *Educational and Psychological Measurement*, 30, 607–610.
- Kristensen, T. S., Hannerz, H., Høgh, A., & Borg, V. (2005). The Copenhagen Psychosocial Questionnaire - A tool for the assessment and improvement of the psychosocial work environment. *Scandinavian Journal of Work, Environment and Health*, 31(6), 438–449. <https://doi.org/10.5271/sjweh.948>
- Kumar, D. (2012). Malaysia's industrial sector.
- Kundi, Y. M., & Badar, K. (2021). Interpersonal conflict and counterproductive work behavior: the moderating roles of emotional intelligence and gender. *International Journal of Conflict Management*, 32(3), 514–534. <https://doi.org/10.1108/IJCM-10-2020-0179>
- Kunyk, D., Craig-Broadwith, M., Morris, H., Diaz, R., Reisdorfer, E., & Wang, J. (2016). Employers' perceptions and attitudes toward the Canadian national standard on psychological health and safety in the workplace: A qualitative study. <https://doi.org/10.1016/j.ijlp.2015.08.030>
- Lazauskaite-zabielske, J., & Urbanaviciute, I. (2018). From psychosocial working environment to good performance : the role of work engagement. *Baltic Journal of Management*. <https://doi.org/10.1108/BJM-10-2017-0317>
- Leather, P., Beale, D., & Sullivan, L. (2003). Noise, psychosocial stress and their interaction in the workplace. *Journal of Environmental Psychology*, 23(2), 213–222. [https://doi.org/10.1016/S0272-4944\(02\)00082-8](https://doi.org/10.1016/S0272-4944(02)00082-8)
- Lee, H., Ahn, H., Park, C. G., Kim, S. J., & Moon, S. H. (2011). Psychosocial Factors and Work-related Musculoskeletal Disorders among Southeastern Asian Female Workers Living in Korea. *Safety and Health at Work*, 2(2), 183–193. <https://doi.org/10.5491/SHAW.2011.2.2.183>
- Lee Lam Thye. (2018). Lam Thye: Introduce a mental health assessment system in the country. *New Straits Times*. Retrieved from <https://www.nst.com.my/news/nation/2018/06/383156/lam-thye-introduce-mental-health-assessment-system-country>
- Leitão, S., & Greiner, B. A. (2017). Psychosocial, Health Promotion and Safety Culture management – Are Health and Safety Practitioners involved? *Safety Science*, 91, 84–92. <https://doi.org/10.1016/j.ssci.2016.07.002>
- Leka, S., Cox, T., Jain, A., Hassard, J., Ertel, M., Stilianow, U., ... Sutela, S. (2008, January 1). Guidance on the European Framework for Psychosocial Risk Management: a resource for employers and worker representatives. World Health Organization (WHO). Retrieved from <https://www.narcis.nl/publication/RecordID/oai:tudelft.nl:uuid:0cf821bc-bb09-4d70-b01b-6d12eddf2f1>
- Leka, Stavroula, & Cox, T. (2008). The European Framework for Psychosocial Risk

- Management: PRIMA-EF. Retrieved from [http://www.prima-ef.org/uploads/1/1/0/2/11022736/prima-ef\\_ebook.pdf](http://www.prima-ef.org/uploads/1/1/0/2/11022736/prima-ef_ebook.pdf)
- Leka, Stavroula, Griffiths, A., & Cox, T. (2003). Work Organization & Stress. Retrieved from [http://www.who.int/occupational\\_health/publications/en/oehstress.pdf](http://www.who.int/occupational_health/publications/en/oehstress.pdf)
- Leka, Stavroula, & Jain, A. (2010). *Health impact of Psychosocial Hazards at Work: An Overview*. World Health Organization. World Health Organization (WHO). Retrieved from [http://apps.who.int/iris/bitstream/10665/44428/1/9789241500272\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/44428/1/9789241500272_eng.pdf)
- Leka, Stavroula, Jain, A., Widerszal-Bazyl, M., Żołnierczyk-Zreda, D., & Zwetsloot, G. (2011). Developing a standard for psychosocial risk management: PAS 1010. *Safety Science*, 49(7), 1047–1057. <https://doi.org/10.1016/J.SSCI.2011.02.003>
- Leka, Stavroula, Van Wassenhove, W., & Jain, A. (2015). Is psychosocial risk prevention possible? Deconstructing common presumptions. *Safety Science*, 71(Part A), 61–67. <https://doi.org/10.1016/j.ssci.2014.03.014>
- Leroyer, A., Kraemer-Heriaud, H., Marescaux, L., & Frimat, P. (2006). Prospective evaluation of the impact of a change in the organization of work on perceived stress and health in assembly-line workers in an automobile plant. *Revue d'Epidemiologie et de Sante Publique*, 54(1), 15–25. [https://doi.org/10.1016/S0398-7620\(06\)76691-3](https://doi.org/10.1016/S0398-7620(06)76691-3)
- Levi, L. (1984). STRESS IN INDUSTRY CAUSES, EFFECTS AND PREVENTION. Retrieved from [http://www.ilo.org/wcmsp5/groups/public/---ed\\_protect/---protrav/--safework/documents/publication/wcms\\_250130.pdf](http://www.ilo.org/wcmsp5/groups/public/---ed_protect/---protrav/--safework/documents/publication/wcms_250130.pdf)
- Levin, K. A. (2006). Study design III: Cross-sectional studies. *Evidence-Based Dentistry*, 7(1), 24–25. <https://doi.org/10.1038/sj.ebd.6400375>
- Levinson, M. (2017). What is manufacturing? Why does the definition matter? *Congressional Research Service, February*, 17. Retrieved from <https://www.nist.gov/sites/default/files/documents/2017/02/08/r44755.pdf>
- Luna, L. F. N., & Galván, P. C. (2015). Analysis of Future Prospects of Environmental, Physical and Psychosocial Working Conditions on Companies Offering Services. *Procedia Manufacturing*, 3, 696–700. <https://doi.org/10.1016/j.promfg.2015.07.309>
- M Ishanuddin, N., Sukadarin, E. H., & Abdul Aziz, H. (2018). A Review of Psychosocial and Psychological and its Related Issues in the Occupational Settings. In *The National Conference for Postgraduate Research (NCON-PGR)* (pp. 147–157).
- Ma, C. C., Andrew, M. E., Fekedulegn, D., Gu, J. K., Hartley, T. A., Charles, L. E., ... Burchfiel, C. M. (2015). Shift work and occupational stress in police officers. *Safety and Health at Work*, 6(1), 25–29. <https://doi.org/10.1016/j.shaw.2014.10.001>
- Ma, C., Lin, X., Chen, (George) Zhen Xiong, & Wei, W. (2020). Linking perceived overqualification with task performance and proactivity? An examination from self-concept-based perspective. *Journal of Business Research*, 118(April 2019), 199–209. <https://doi.org/10.1016/j.jbusres.2020.06.041>

- Manapragada, A., Bruk-Lee, V., Thompson, A. H., & Heron, L. M. (2019). When safety climate is not enough: Examining the moderating effects of psychosocial hazards on nurse safety performance. *Journal of Advanced Nursing*. <https://doi.org/10.1111/jan.13911>
- Manuel D. Guido, R. (2014). Evaluation of a Modular Teaching Approach in Materials Science and Engineering. *American Journal of Educational Research*, 2(11), 1126–1130. <https://doi.org/10.12691/education-2-11-20>
- Maqsoom, A., Mughees, A., Safdar, U., Afsar, B., & Ali Zeeshan, B. ul. (2018). Intrinsic psychosocial stressors and construction worker productivity: impact of employee age and industry experience. *Economic Research-Ekonomiska Istrazivanja*, 31(1), 1880–1902. <https://doi.org/10.1080/1331677X.2018.1495571>
- Margolis, B. L., Kroes, W. H., & Quinn, R. P. (1974). Job Stress: An Unlisted Occupational Hazard: *Journal of Occupational and Environmental Medicine*. Retrieved April 10, 2018, from [https://journals.lww.com/joem/Citation/1974/10000/Job\\_Stress\\_\\_An\\_Unlisted\\_Occupational\\_Hazard.5.aspx](https://journals.lww.com/joem/Citation/1974/10000/Job_Stress__An_Unlisted_Occupational_Hazard.5.aspx)
- Marmot, M. and, & Wilkinson, R. (2006). Social Determinants of Health. Retrieved from [https://watermark.silverchair.com/dy1121.pdf?token=AQECAHi208BE49Ooan9kkhW\\_Ercy7Dm3ZL\\_9Cf3qfKAc485ysgAAAcEwggG9BgkqhkiG9w0BBwagggGuMIIBqgIBADCCAaMGCSqGSIb3DQEHAATAeBglghkgBZQMEAS4wEQQMwVkcCw4rdlydg0YYAgEQgIIBdKUpo44XSZGA\\_yD0iBwn7\\_sRsBSQ9Gg4Pt68lkOndGMcau6q](https://watermark.silverchair.com/dy1121.pdf?token=AQECAHi208BE49Ooan9kkhW_Ercy7Dm3ZL_9Cf3qfKAc485ysgAAAcEwggG9BgkqhkiG9w0BBwagggGuMIIBqgIBADCCAaMGCSqGSIb3DQEHAATAeBglghkgBZQMEAS4wEQQMwVkcCw4rdlydg0YYAgEQgIIBdKUpo44XSZGA_yD0iBwn7_sRsBSQ9Gg4Pt68lkOndGMcau6q)
- Martikainen, P., Bartley, M., & Lahelma, E. (2002). Psychosocial determinants of health in social epidemiology. Retrieved from <https://academic.oup.com/ije/article-abstract/31/6/1091/939508>
- Massingham, P. (2008). Measuring the Impact of Knowledge Loss: More Than Ripples on a Pond? *Management Learning*, 39(541). <https://doi.org/10.1177/1350507608096040>
- Metzler, Y. A., von Groeling-Müller, G., & Bellingrath, S. (2019). Better safe than sorry: Methods for risk assessment of psychosocial hazards. *Safety Science*, 114, 122–139. <https://doi.org/10.1016/j.ssci.2019.01.003>
- Milner, A., Maheen, H., Currier, D., & Lamontagne, A. D. (2017). Male suicide among construction workers in Australia: a qualitative analysis of the major stressors precipitating death. *BMC Public Health*, 17, 584. <https://doi.org/10.1186/s12889-017-4500-8>
- Mishra, P., Pandey, C. M., Singh, U., Gupta, A., Sahu, C., & Keshri, A. (2019). Descriptive statistics and normality tests for statistical data. *Annals of Cardiac Anaesthesia*, 22(1), 67–72. [https://doi.org/10.4103/aca.ACA\\_157\\_18](https://doi.org/10.4103/aca.ACA_157_18)
- Mochon, D., & Schwartz, J. (2020). The Importance of Construct Validity in Consumer Research. *Journal of Consumer Psychology*, 30(1), 208–214. <https://doi.org/10.1002/jcpy.1145>

- Morgan, G. A., Barrett, K. C., Leech, N. L., & Gloeckner, G. W. (2011). *IBM SPSS for Introductory Statistics: Use and Interpretation*. *IBM SPSS for Introductory Statistics: Use and Interpretation* (4th Editio). Taylor and Francis Group, LLC. <https://doi.org/10.4324/9780429287657>
- Mościcka-Teske, A., Sadłowska-Wrzesińska, J., Butlewski, M., Misztal, A., & Jacukowicz, A. (2017). Stressful work characteristics, health indicators and work behavior: the case of machine operators. *International Journal of Occupational Safety and Ergonomics*, 23(4), 510–518. <https://doi.org/10.1080/10803548.2016.1197577>
- Munisamy, S. (2013). IDENTIFYING FACTORS THAT INFLUENCES JOB PERFORMANCE AMONGST EMPLOYEES IN OIL PALM PLANTATION SARASVATHY MUNISAMY A Project Paper submitted in partial fulfillment of the requirements for the requirements for the degree of Bachelor in Psychology Faculty of, 79.
- Murphy, K. R. (1989). Dimensions of job performance. *Testing: Theoretical and Applied Perspectives*, (619), 218–247. Retrieved from <https://psycnet.apa.org/record/1989-97674-010>
- National Institute for Occupational Safety and Health. (2011). NIOSH Generic Job Stress Questionnaire. *NIOSH Generic Job Stress Questionnaire National Institute for Occupational Safety and Health*, 45226(513), 1–38.
- National Institute of Occupational Safety and Health US. (2017). CDC - Organization of Work: Measurement Tools: NIOSH Generic Job Stress Questionnaire - NIOSH. Retrieved October 18, 2020, from <https://www.cdc.gov/niosh/topics/workorg/detail088.html>
- National Standard of Canada. (2013). *Psychological health and safety in the workplace - Prevention, promotion, and guidance to staged implemantation*. Retrieved from [http://www.csagroup.org/documents/codes-and-standards/publications/CAN\\_CSA-Z1003-13\\_BNQ\\_9700-803\\_2013\\_EN.pdf](http://www.csagroup.org/documents/codes-and-standards/publications/CAN_CSA-Z1003-13_BNQ_9700-803_2013_EN.pdf)
- Nieuwenhuijsen, K., Bruinvels, D., & Frings-Dresen, M. (2010). Psychosocial work environment and stress-related disorders, a systematic review. *Occupational Medicine (Oxford, England)*. <https://doi.org/10.1093/occmed/kqq081>
- Noh, M. F. (2020). Malaysian in Singapore dies after falling from building. *New Straits Times*. Retrieved from <https://www.nst.com.my/news/nation/2020/10/633074/malaysian-singapore-dies-after-falling-building>
- Nunnally, J. C. (1978). *Psychometric theory* (2nd edition - Google Scholar. (n.d.). Retrieved October 16, 2020, from [https://scholar.google.com.my/scholar?q=Nunnally,+J.+C.+\(1978\).+Psychometric+theory+\(2nd+edition&hl=en&as\\_sdt=0&as\\_vis=1&oi=scholart](https://scholar.google.com.my/scholar?q=Nunnally,+J.+C.+(1978).+Psychometric+theory+(2nd+edition&hl=en&as_sdt=0&as_vis=1&oi=scholart)
- Nwinyokpugi, P. N., & Omunakwe, P. O. (2019). Interpersonal relationship at work; enhancing organizational productivity of deposit money banks in Port Harcourt.

- O'Connor, P., O'Dea, A., Kennedy, Q., & Buttrey, S. E. (2011). Measuring safety climate in aviation: A review and recommendations for the future. *Safety Science*. <https://doi.org/10.1016/j.ssci.2010.10.001>
- Occupational Safety and Health Act (OSHA). (1994). *Law of Malaysia- Occupational Safety and Health Act and Regulations (Act 514)*. (MDC Legal Advisors, Ed.) (21st ed.). Kuala Lumpur: MDC Publisher Sdn Bhd (91168-A).
- Osterholm, M. T., & Hedberg, C. W. (2014). Epidemiologic Principles. In *Mandell, Douglas, and Bennett's Principles and Practice of Infectious Diseases* (Vol. 1, pp. 146–157). Elsevier Inc. <https://doi.org/10.1016/B978-1-4557-4801-3.00013-8>
- Pacheco, H., Dennis Dayrit, R., Mishaanmashi Al Rashidi, A., Fahad Hamood Al Enezi, M., George, J., Nawaf Hazza Al Shammari, M., & Mohd Al Shammari, A. (2020). the Mediating Effect of Work Motivation Between the Psychosocial Environment and Nurses Job Performance. *International Journal of Advanced Research*, 8(11), 155–161. <https://doi.org/10.21474/ijar01/11987>
- Pan, T.-Y., Fan, H. S., & Owen, C. A. (2016). The work environment of junior doctors: their perspectives and coping strategies. *Postgraduate Medical Journal*, *postgradmedj-2016-134362*. <https://doi.org/10.1136/postgradmedj-2016-134362>
- Pareek, U., & Rao, T. V. (2007). From A Sapling to a Forest: The Saga of the Development of HRM In India. *National Human Resource Development Network Journal*, (November), 100–106.
- Parent-Thirion, A., Macías, E. F., Hurley, J., & Vermeulen, G. (2007). Fourth European Working Conditions Survey. Retrieved from [https://www.eurofound.europa.eu/sites/default/files/ef\\_publication/field\\_ef\\_document/ef0698en.pdf](https://www.eurofound.europa.eu/sites/default/files/ef_publication/field_ef_document/ef0698en.pdf)
- Park, S., Kook, H., Seok, H., Lee, J. H., Lim, D., Cho, D.-H., & Oh, S.-K. (2020). The negative impact of long working hours on mental health in young Korean workers. *PLOS ONE*, 15(8), e0236931. <https://doi.org/10.1371/journal.pone.0236931>
- Parker, J. D. A., Summerfeldt, L. J., Walmsley, C., O'Byrne, R., Dave, H. P., & Crane, A. G. (2020). Trait emotional intelligence and interpersonal relationships: Results from a 15-year longitudinal study. *Personality and Individual Differences*, (January), 110013. <https://doi.org/10.1016/j.paid.2020.110013>
- Parker, S. K., Myers, C., & Wall, T. D. (1995). The Effects of a Manufacturing Initiative on Employee Jobs and Strain. *S. A. Robertson (Ed.) Contemporary Ergonomics*, 37–42.
- Patching, A., & Best, R. (2014). An Investigation into Psychological Stress Detection

- and Management in Organisations Operating in Project and Construction Management. *Procedia - Social and Behavioral Sciences*, 119, 682–691. <https://doi.org/10.1016/j.sbspro.2014.03.076>
- Pejtersen, J. H., Kristensen, T. S., Borg, V., & Bjorner, J. B. (2010). The second version of the Copenhagen Psychosocial Questionnaire. *Scandinavian Journal of Public Health*, 38(SUPPL. 3), 8–24. <https://doi.org/10.1177/1403494809349858>
- Pendit, U. C., & Koo, A. C. (2020). OPENNESS TOWARDS MENTAL ILLNESS IN MALAYSIA. *E-BANGI: Jurnal Sains Sosial Dan Kemanusiaan*, 17(3), 46–56. Retrieved from <http://ejournals.ukm.my/ebangi/article/view/39115>
- Pereira, A., & Fernandes, C. (2016). Exposure to psychosocial risk factors in the context of work : a systematic review. <https://doi.org/10.1590/S1518-8787.2016050006129>
- Peter, J. P. (1981). Construct Validity: A Review of Basic Issues and Marketing Practices. *Journal of Marketing Research*, 18(2), 133. <https://doi.org/10.2307/3150948>
- Phipps, D. L., Malley, C., & Ashcroft, D. M. (2012). Job characteristics and safety climate: The role of effort-reward and demand-control-support models. *Journal of Occupational Health Psychology*, 17(3), 279–289. <https://doi.org/10.1037/a0028675>
- Picco, L., Yuan, Q., Vaingankar, J. A., Chang, S., Abdin, E., Chua, H. C., ... Subramaniam, M. (2017). Positive mental health among health professionals working at a psychiatric hospital. *PLoS ONE*, 12(6). <https://doi.org/10.1371/journal.pone.0178359>
- Pisanti, R. (2012). Job Demands–Control–Social Support Model and coping strategies: predicting burnout and wellbeing in a group of Italian Nurses. *Med Lav*, 103(6), 466–481. Retrieved from <http://mattioli1885journals.com/index.php/lamedicinadellavoro/article/viewFile/1388/1417>
- Piskin, M., Ersoy-Kart, M., Savci, İ., & Guldu, O. (2014). Counterproductive work behavior in relation to personality type and cognitive distortion level in academics. *European Journal of Research on Education*.
- Platt, T., & Sobotka, Y. (2010). Psychological management of individual performance. Wales. John Wiley & Sons.
- Polit, D. F., & Beck, C. T. (2006). The Content Validity Index : Are You Sure You Know What ' s Being Reported? Critique and Recommendations, 489–497. <https://doi.org/10.1002/nur>
- Polit, D. F., Beck, T., & Owen, S. V. (2007). Focus on Research Methods Is the CVI an Acceptable Indicator of Content Validity ? Appraisal and Recommendations, 459–467. <https://doi.org/10.1002/nur>
- Purwandini Sutarto, A., Abdul Wahab, M. N., & Mat Zin, N. (2012). Resonant breathing biofeedback training for stress reduction among manufacturing operators. *International Journal of Occupational Safety and Ergonomics*, 18(4), 549–561.

<https://doi.org/10.1080/10803548.2012.11076959>

- Rasheed, M. I., Okumus, F., Weng, Q., Hameed, Z., & Nawaz, M. S. (2020). Career adaptability and employee turnover intentions: The role of perceived career opportunities and orientation to happiness in the hospitality industry. *Journal of Hospitality and Tourism Management*, 44(June), 98–107. <https://doi.org/10.1016/j.jhtm.2020.05.006>
- Ribeiro, Í. J. S., Pereira, R., Freire, I. V., de Oliveira, B. G., Casotti, C. A., & Boery, E. N. (2017). Stress and quality of life among university students: A systematic literature review. *Health Professions Education*. <https://doi.org/10.1016/j.hpe.2017.03.002>
- Ribeiro, Í. J. S., Pereira, R., Freire, I. V., Oliveira, B. G. De, Casotti, C. A., & Boery, E. N. (2017). Stress and quality of life among university students: A systematic literature review. *Health Professions Education*. <https://doi.org/10.1016/j.hpe.2017.03.002>
- Rivera Domínguez, C., Pozos Mares, J. I., & Zambrano Hernández, R. G. (2021). Hazard identification and analysis in work areas within the Manufacturing Sector through the HAZID methodology. *Process Safety and Environmental Protection*, 145, 23–38. <https://doi.org/10.1016/J.PSEP.2020.07.049>
- Rivire, S., Albessard, A., Gardette, V., Lapierre-Duval, K., Schwœbel, V., & Lang, T. (2010). Psychosocial risk factors for depressive symptoms after the AZF chemical factory explosion in Toulouse, France. *European Journal of Public Health*. <https://doi.org/10.1093/eurpub/ckq081>
- Roberts, J. T. (1993). Psychosocial Effects of Workplace Hazardous Exposures: Theoretical Synthesis and Preliminary Findings. *Social Problems*, 40(1), 74–89. <https://doi.org/10.2307/3097027>
- Rodríguez-Muñoz, A., & Sanz-Vergel, A. I. (2013). Happiness and well-being at work: A special issue introduction. *Revista de Psicología Del Trabajo y de Las Organizaciones*, 29(3), 95–97. <https://doi.org/10.5093/tr2013a14>
- Rosário, S., Azevedo, L. F., Fonseca, J. A., Nienhaus, A., Nübling, M., & Da Costa, J. T. (2017). The Portuguese long version of the Copenhagen Psychosocial Questionnaire II (COPSOQ II) - A validation study. *Journal of Occupational Medicine and Toxicology*, 12(1). <https://doi.org/10.1186/s12995-017-0170-9>
- Rose, L. M. (2013). Organizational and individual effects of poor working environments at companies: methods, examples, and why we should care, 77. Retrieved from <http://urn.kb.se/resolve?urn=urn:nbn:se:kth:diva-138320>
- Rosen, P. H., & Wischniewski, S. (2019). Scoping review on job control and occupational health in the manufacturing context. *International Journal of Advanced Manufacturing Technology*, 102(5–8), 2285–2296. <https://doi.org/10.1007/s00170-018-03271-z>
- Rotundo, M. (2002). The relative importance of task, citizenship, and counterproductive performance to global ratings of job performance: a policy-capturing approach. *The*

- Journal of Applied Psychology*, 87(1), 66–80. <https://doi.org/10.1037/0021-9010.87.1.66>
- Rubio, D. M., Berg-weger, M., Tebb, S. S., Lee, E. S., & Rauch, S. (2003). Objectifying content validity : in social work research, 27(2).
- Rugulies, R., Bültmann, U., Aust, B., & Burr, H. (2006). Psychosocial work environment and incidence of severe depressive symptoms: Prospective findings from a 5-year follow-up of the Danish work environment cohort study. *American Journal of Epidemiology*, 163(10), 877–887. <https://doi.org/10.1093/aje/kwj119>
- Rus, M., & Galbeaza, A. B. (2014). Psychosocial Issues Related to the Work Environment. *Procedia - Social and Behavioral Sciences*, 149, 831–836. <https://doi.org/10.1016/j.sbspro.2014.08.321>
- Safety Institute of Australia Ltd. (2012). OHS Body of Knowledge Psychosocial Hazards and Occupational Stress. Retrieved from <http://www.ohsbok.org.au/wp-content/uploads/2013/12/19-Hazard-Psychosocial.pdf?ce18fc>
- Safikhani, S., Sundaram, M., Bao, Y., Mulani, P., & Revicki, D. A. (2013). Qualitative assessment of the content validity of the Dermatology Life Quality Index in patients with moderate to severe psoriasis, (July 2011), 50–59. <https://doi.org/10.3109/09546634.2011.631980>
- Sai, S. M., Halim, Z. A., & Said, F. (2012). Workplace injuries in Malaysian Manufacturing Industries. *Journal of Occupational Safety And Health*, 9(1), 21–32.
- Salleh, M. R. (2018). The Burden of Mental Illness : An Emerging Global Disaster. *Journal of Clinical and Health Sciences*, 3(1), 5–12.
- Samson, G. N., Waiganjo, M., & Koima, J. (2015). Effect of Workplace Environment on the Performance of Commercial Banks Employees in Nakuru Town. *International Journal of Managerial Studies and Research (IJMSR)*.
- Sanderson, K., & Andrews, G. (2006). Common Mental Disorders in the Workforce: Recent Findings From Descriptive and Social Epidemiology. *Can J Psychiatry*, 51(2). Retrieved from <http://journals.sagepub.com/doi/pdf/10.1177/070674370605100202>
- Santa Maria, A., Wörfel, F., Wolter, C., Gusy, B., Rotter, M., Stark, S., ... Renneberg, B. (2018). The Role of Job Demands and Job Resources in the Development of Emotional Exhaustion, Depression, and Anxiety Among Police Officers. *Police Quarterly*, 21(1), 109–134. <https://doi.org/10.1177/1098611117743957>
- Sato, K., Kuroda, S., & Owan, H. (2020). Mental health effects of long work hours, night and weekend work, and short rest periods. *Social Science and Medicine*, 246, 112774. <https://doi.org/10.1016/j.socscimed.2019.112774>
- Schaufeli, W. B., & Taris, T. W. (2014). A Critical Review of the Job Demands-Resources Model: Implications for Improving Work and Health. *Bridging*



- Occupational, Organizational and Public Health: A Transdisciplinary Approach*, 9789400756, 1–249. <https://doi.org/10.1007/978-94-007-5640-3>
- Schober, P., Boer, C., & Schwarte, L. A. (2018). Correlation Coefficients. *Anesthesia & Analgesia*, 126(5), 1763–1768. <https://doi.org/10.1213/ANE.0000000000002864>
- Schouteten, R., & Benders, J. (2004, June 29). Lean production assessed by Karasek's job demand-job control model. *Economic and Industrial Democracy*. SAGELondon, Thousand Oaks and New Delhi. <https://doi.org/10.1177/0143831X04044831>
- Schreiber, J. B. (2020). Issues and recommendations for exploratory factor analysis and principal component analysis. *Research in Social and Administrative Pharmacy*. <https://doi.org/10.1016/j.sapharm.2020.07.027>
- Seddigh, A., Stenfors, C., Berntsson, E., Bååth, R., Sikström, S., & Westerlund, H. (2015). The association between office design and performance on demanding cognitive tasks. *Journal of Environmental Psychology*. <https://doi.org/10.1016/j.jenvp.2015.05.001>
- Sedgwick, P. (2014). Cross sectional studies: Advantages and disadvantages. *BMJ (Online)*. <https://doi.org/10.1136/bmj.g2276>
- Seibert, S. E., Crant, J. M., & Kraimer, M. L. (1999). Proactive personality and career success. *Journal of Applied Psychology*, 84(3), 416.
- Seppälä, P., & Klemola, S. (2004). How do employees perceive their organization and job when companies adopt principles of lean production? *Human Factors and Ergonomics in Manufacturing & Service Industries*, 14(2), 157–180. <https://doi.org/10.1002/HFM.10059>
- Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). Experimental and Quasi-Experimental Designs for Generalized Causal Inference. *Journal of the American Statistical Association*, 100(470), 708–708. <https://doi.org/10.1198/jasa.2005.s22>
- Shaukat, R., Yousaf, A., & Sanders, K. (2018). Examining The Linkages Between Relationship Conflict, Performance And Turnover Intentions: Role Of Job Burnout As a Mediator. *The Eletronic Library*, 34(1), 1–5.
- Shrotryia, V. K., & Dhanda, U. (2019). Content Validity of Assessment Instrument for Employee Engagement. *SAGE Open*, 9(1). <https://doi.org/10.1177/2158244018821751>
- Sneddon, A., Mearns, K., & Flin, R. (2013). Stress, fatigue, situation awareness and safety in offshore drilling crews. *Safety Science*, 56, 80–88. <https://doi.org/10.1016/J.SSCI.2012.05.027>
- Social Security Organization. (2016). Retrieved from [https://www.perkeso.gov.my/images/laporan\\_tahunan/LaporanTahunan2016.pdf](https://www.perkeso.gov.my/images/laporan_tahunan/LaporanTahunan2016.pdf)

- Sprigg, C. A., & Jackson, P. R. (2006). Call centers as lean service environments: Job-related strain and the mediating role of work design. *Journal of Occupational Health Psychology, 11*(2), 197–212. <https://doi.org/10.1037/1076-8998.11.2.197>
- Stănescu, M., Vasiliu, A. M., & Stoicescu, M. (2012). Occupational stress in physical education and sport area. *Procedia - Social and Behavioral Sciences, 33*, 218–222. <https://doi.org/10.1016/j.sbspro.2012.01.115>
- Stansfeld, S., Head, J., Marmot, M., & Britain, G. (2000). Work-related factors and ill health: the Whitehall II study. Retrieved from [http://www.centredoc.csst.qc.ca/pdf/Publications\\_Internet/HSE/2000-2005/162770.pdf](http://www.centredoc.csst.qc.ca/pdf/Publications_Internet/HSE/2000-2005/162770.pdf)
- Straub, D., & Gefen, D. (2004). Validation Guidelines for IS Positivist Research, *13*(March). <https://doi.org/10.17705/1CAIS.01324>
- Sudman, S., Salant, P., & Dillman, D. A. (1996). How to Conduct Your Own Survey. *Journal of Marketing Research, 33*(1), 118. <https://doi.org/10.2307/3152021>
- Suebwongsuwan, W., & Nomnian, S. (2020). Thai hotel undergraduate interns' awareness and attitudes towards English as a lingua franca. *Indonesian Journal of Applied Linguistics, 9*(3), 704–714. <https://doi.org/10.17509/ijal.v9i3.23221>
- Sulea, C., Virga, D., Maricutoiu, L. P., Schaufeli, W., Zaborila Dumitru, C., & Sava, F. A. (2012). Work engagement as mediator between job characteristics and positive and negative extra-role behaviors. *Career Development International, 17*(3), 188–207. <https://doi.org/10.1108/13620431211241054>
- Tabanelli, M. C., Depolo, M., Cooke, R. M. T., Sarchielli, G., Bonfiglioli, R., Mattioli, S., & Violante, F. S. (2008). Available instruments for measurement of psychosocial factors in the work environment. *International Archives of Occupational and Environmental Health, 82*(1), 1–12. <https://doi.org/10.1007/s00420-008-0312-6>
- Taber, K. S. (2018). The Use of Cronbach's Alpha When Developing and Reporting Research Instruments in Science Education. *Research in Science Education, 48*(6), 1273–1296. <https://doi.org/10.1007/s11165-016-9602-2>
- Taherdoost, H. (2016). Validity and Reliability of the Research Instrument; How to Test the Validation of a Questionnaire/Survey in a Research. *SSRN Electronic Journal, 5*(3), 28–36. <https://doi.org/10.2139/ssrn.3205040>
- Takim, R., Talib, I. F. A., & Nawawi, A. H. (2016). Quality of Life: Psychosocial Environment Factors (PEF) in the Event of Disasters to Private Construction Firms. *Procedia - Social and Behavioral Sciences, 234*, 28–35. <https://doi.org/10.1016/j.sbspro.2016.10.216>
- Teo, S. T. T., Bentley, T., & Nguyen, D. (2020). Psychosocial work environment, work engagement, and employee commitment: A moderated, mediation model. *International Journal of Hospitality Management, 100*. <https://doi.org/10.1016/j.ijhm.2019.102415>
- The British Standards Institution. (2018). BSI to develop standard for management of

- workplace stress | BSI Group. Retrieved April 13, 2018, from <https://www.bsigroup.com/en-GB/about-bsi/media-centre/press-releases/2010/1/BSI-to-develop-standard-for-management-of-workplace-stress/>
- The German Chamber Network. (2012). Market Watch 2012 , Electrical & Electronic Industry in Malaysia. Retrieved from [http://www.malaysia.ahk.de/fileadmin/ahk\\_malaysia/Market\\_reports/Electrical\\_\\_\\_\\_Electronic\\_Industry\\_in\\_Malaysia.pdf](http://www.malaysia.ahk.de/fileadmin/ahk_malaysia/Market_reports/Electrical____Electronic_Industry_in_Malaysia.pdf)
- Times, N. S. (2018). Lam Thye: Focus on 3 Key Issues. Retrieved from <https://www.pressreader.com/malaysia/new-straits-times/20180604/281883004026901>
- Tomaschek, A., Lanfer, S. S. L., Melzer, M., Debitz, U., & Buruck, G. (2018). Measuring work-related psychosocial and physical risk factors using workplace observations: a validation study of the “Healthy Workplace Screening.” *Safety Science, 101*, 197–208. <https://doi.org/10.1016/j.ssci.2017.09.006>
- Uzman, E. (2014). Basic Psychological Needs and Psychological Health in Teacher Candidates. *Procedia - Social and Behavioral Sciences, 116*, 3629–3635. <https://doi.org/10.1016/j.sbspro.2014.01.814>
- Van der Doef, M., & Maes, S. (1999). The Job Demand-Control (-Support) Model and psychological well-being: A review of 20 years of empirical research. *Work & Stress, 13*(2), 87–114. <https://doi.org/10.1080/026783799296084>
- Velmurugan, C. (2016). *Interpersonal Relationship and Organizational Effectiveness. International Journal of Business Management and Leadership* (Vol. 7). Retrieved from <http://www.ripublication.com>
- Vestly Bergh, L. I., Hinna, S., Leka, S., & Jain, A. (2014). Developing a performance indicator for psychosocial risk in the oil and gas industry. *Safety Science, 62*, 98–106. <https://doi.org/10.1016/j.ssci.2013.08.005>
- Vincent, G. E., Aisbett, B., Larsen, B., Ridgers, N. D., Snow, R., & Ferguson, S. A. (2017). The impact of heat exposure and sleep restriction on firefighters’ work performance and physiology during simulated wildfire suppression. *International Journal of Environmental Research and Public Health*. <https://doi.org/10.3390/ijerph14020180>
- Viswesvaran, C. (1993). Modeling Job Performance: Is There a General Factor? *Department of Management and Organizations*, (June 1993), 146. <https://doi.org/10.21236/ADA294282>
- Vizzotto, A. D. B., Oliveira, A. M., Elkis, H., Cordeiro, Q., & Buchain, P. C. (2013). Psychosocial Characteristics. In *Encyclopedia of Behavioral Medicine* (pp. 1578–1580). Springer New York. [https://doi.org/10.1007/978-1-4419-1005-9\\_918](https://doi.org/10.1007/978-1-4419-1005-9_918)
- Wahab, F. I. A., & Tentama, F. (2020). Construct validity and reliability test on burnout. *International Journal of Scientific and Technology Research, 9*(1), 359–363.
- Walters, D. (2011). Worker representation and psycho-social risks: A problematic

- relationship? *Safety Science*, 49(4), 599–606.  
<https://doi.org/10.1016/J.SSCI.2010.09.008>
- Wang, J., Smailes, E., Jitender, @bullet, @bullet, S., Schmitz, N., Fick, G., & Patten, S. (2012). Three job-related stress models and depression: a population-based study. <https://doi.org/10.1007/s00127-011-0340-5>
- Warr, P. (1992). Job features and excessive stress., 1992. Retrieved from [http://www.scirp.org/\(S\(oyulxb452alnt1aej1nfow45\)\)/reference/ReferencesPapers.aspx?ReferenceID=1898040](http://www.scirp.org/(S(oyulxb452alnt1aej1nfow45))/reference/ReferencesPapers.aspx?ReferenceID=1898040)
- Watanabe, K., Kawakami, N., Shiotani, T., Adachi, H., Matsumoto, K., Imamura, K., ... Kern, M. L. (2018). The Japanese Workplace PERMA-Profil: A validation study among Japanese workers. *Journal of Occupational Health*.
- Wazqar, D. Y., Kerr, M., Regan, S., & Orchard, C. (2017). An integrative review of the influence of job strain and coping on nurses' work performance: Understanding the gaps in oncology nursing research. *International Journal of Nursing Sciences*. <https://doi.org/10.1016/j.ijnss.2017.09.003>
- Wong, K., Chan, A. H. S., & Ngan, S. C. (2019). The effect of long working hours and overtime on occupational health: A meta-analysis of evidence from 1998 to 2018. *International Journal of Environmental Research and Public Health*, 16(12). <https://doi.org/10.3390/ijerph16122102>
- World Health Organization. (2002). *Occupational health: a manual for primary health care workers*, World Health Organization Regional Office for the Eastern Mediterranean Cairo. World Health Organization. Regional Office for the Eastern Mediterranean.
- World of Buzz. (2020). Malaysian Girl Shares How Stress and Isolation Took Her Brother's Life. *World of Buzz*. Retrieved from <https://worldofbuzz.com/malaysian-girl-shares-how-stress-and-isolation-took-her-brothers-life/>
- Xavier, I. M., & Jepsen, D. M. (2015). The Impact of Specific Job Stressors on Psychological Contract Breach and Violation. *Human Factors and Ergonomics in Manufacturing*, 25(5), 534–547. <https://doi.org/10.1002/hfm>
- Yaghmaie, F. (2003). Content validity and its estimation. *Journal of Medical Education*, 3(1), 25–27. <https://doi.org/doi:10.22037/jme.v3i1.870>.
- Zamanzadeh, V., Ghahramanian, A., Rassouli, M., Abbaszadeh, A., Alavi-Majd, H., & Nikanfar, A.-R. (2015). Design and Implementation Content Validity Study: Development of an instrument for measuring Patient-Centered Communication. *Journal of Caring Sciences*, 4(2), 165–178. <https://doi.org/10.15171/jcs.2015.017>