# A Study on Workplace Bullying and Job Performance in Multinational Companies Located in Kuala Lumpur, Malaysia

**Nurulhuda Ahmad Razali\***
*College of Business Management and Accounting, Universiti Tenaga Nasional*
Email: huda@uniten.edu.my

**Aisyah Nurain Salmizi**
*College of Business Management and Accounting, Universiti Tenaga Nasional*

**Sharifah Nurul Aliyah Syed Ali**
*College of Business Management and Accounting, Universiti Tenaga Nasional*

**Fadhilah Abdul Ghani**
*College of Business Management and Accounting, Universiti Tenaga Nasional*

**Maizatul Akmar Mohd Rasli**
*College of Business Management and Accounting, Universiti Tenaga Nasional*

*\* Corresponding Author*

**Abstract**
Workplace bullying has become an issue nowadays. Statistics revealed that estimates of bullying prevalence vary greatly from country to country. Sweden was the first country to find out about workplace bullying and the earliest country to pass an anti-workplace bullying law in 1993. Workplace bullying has been identified as one of the global issues affecting all countries all over the world. A survey found out that 39.1% of 5,235 responses collected from 47 companies in Malaysia stated that they have been bullied in the workplace (Chan et al., 2019). Almost half of the survey respondents reported that they have been bullied or indicated that they had been subjected to at least occasional bullying. The objective of this study is to investigate the relationship between workplace bullying and job performance. Data were collected using questionnaires distributed to employees of selected multinational companies located in Kuala Lumpur. This research found out that there is a negative relationship between workplace bullying and job performance. This finding can contribute to the understanding on how workplace bullying affects job performance
**Purpose:** The purpose of this study is to investigate the relationship between workplace bullying and job performance.
**Design/methodology/approach:** Quantitative study, descriptive analysis, reliability, and correlation analysis.
**Findings:** This paper examined the relationship between workplace bullying and job performance.
**Research limitations/implications:** The research findings are only limited to respondents working in multinational companies located in Kuala Lumpur.
**Practical implications:** To meet organisational goals, this study should highlight that organisations should have certain mechanisms in place to eliminate bullying from the workplace.

**Originality/value:**

**Introduction**

Workplace bullying is a widespread phenomenon that is rising in number both locally and internationally. Several studies have shown that employees in Malaysia are bullied by other people who hold information on them, such as through spreading gossip. However, only a few studies have been conducted on the relationship between workplace bullying with elements such as job performance and organisational commitment (Rai & Agarwal, 2018). Employees can also be bullied by being assigned tasks with unreasonable deadlines, which in turn affects the employee's performance (Bir & Hasan, 2014). Therefore, all organisations need to initiate healthy workplace habits where employees can respect each other and have good teamwork. The management of an organisation can create a platform where employees can lodge reports if there is any form of bullying in the workplace for the management to take necessary action to solve the matter.

Workplace bullying refers to situations that could be done in front of people or in private (D'Cruz, 2015). Nowadays, workplace bullying can happen anywhere to anyone regardless of age, gender, status, race, and religion. The effects of bullying behaviour among employees are always irritating and often long-lasting (Townend, 2008). A psychologist at Monash University Malaysia, Dr. Vanlal Thanzami, stated that bullying is a repetitive behaviour that someone does to harm others (New Straits Times, 2017).

Tan (2013) in his study found out that there is a crisis in organisations in Malaysia connected to workplace bullying. Although various studies' results have led organisations towards better management of hazards and culture for improved management, bullying at the workplace still remains a substantial problem in several formations. Moreover, a study conducted in the healthcare industry supports this notion as it shows that 42.6% of organisations in Malaysia face workplace injustice in their organisations (Yusop, Dempster, & Stevenson, 2014). Nonetheless, there is still little evidence on workplace bullying happening in Malaysia as most research on the issue is conducted in European countries (Bir & Hasan, 2014).

Additionally, many bullied employees are terrified to make a report due to their fear of losing their jobs. Thus, workplace bullying causes many problems to organisations and industries (Mete & Sokmen, 2016). This shows that employees in Malaysia have become increasingly affected by mental issues which can lead to staff absence. These incidents would also negatively affect the productivity and performance of an organisation.

According to Bir and Hasan (2014), 82.2% of employees in an organisation had been bullied by people through the spread of hearsay and gossip. 81.4% of employees are bullied by people who conceal information that may affect the employee's job performance. Moreover, 82.3% of employees are bullied by being given tasks with unreasonable deadlines. Kwan et al. (2020) recorded 47 bullying cases experienced by target participants. They also reported that most of the perpetrators hold a high position in the organisation.

Dr. Marhani Midin from Pusat Perubatan UKM reported that employees who have experiences of being bullied feel unhappy and stressed. This can affect the employees' productivity (The Star Online, 2016). A study found that employees in Malaysia experience high prevalence rates of workplace bullying. Chan et al. (2019) also reported that the ratio of employees who experienced workplace bullying at least once is more than one in every three employees (39.1%).
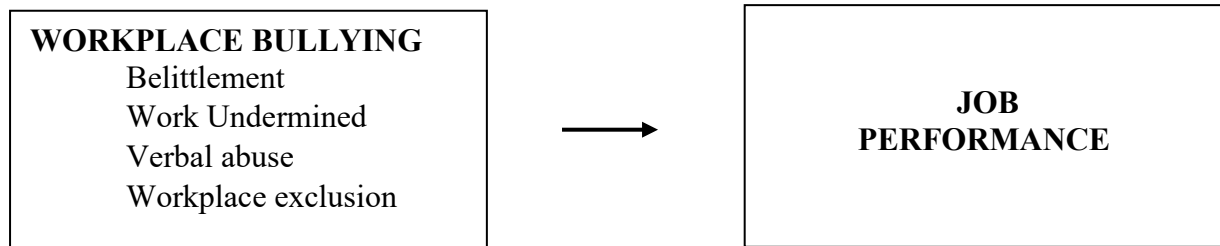
## Literature Review

Heather (2004) defined workplace bullying essentially as an aggressive act. It usually involves acts of violence and includes the behaviour of criticising. Other examples include invention of mistakes (Namie, 2003) and the act of undermining the abilities and skills of others (Brotheridge & Lee, 2010). Bullying at work also means offending and harassing, and these acts can affect work performance (Einarsen et al., 2003). The behaviour is also considered as an act of power usually done by perpetrators who target those deemed powerless (Einarsen, 2011).Workplace bullying also refers to situations where one or more individuals perceive they are subjected to repetitive negative acts that are meant to harm (Yahaya et al., 2012). Ramsay et al. (2011) noted that workplace bullying is considered an unethical behaviour that goes against universal social rules and acceptability. Bullying can have significant and serious effects on people's physical and mental health.

Ahmad (2018) highlighted that workplace bullying is a form of negative interpersonal behaviour of formal and informal power imbalance. Then, Attel et al. (2017) stated that workplace bullies most likely make targets doubt their own self and worth. These negative acts can lead to poor physical and mental health which in turn reduces job performance (Gardner et al., 2016). However, there is still limited research done to examine incidents of this negative act and its relation with work performance (Samnani et al., 2013). Belittlement is defined as a bad approach that makes a person feel bad about himself. This form of behaviour could be physical in nature by involving exclusion and isolation, rumors, and ignorance towards employees (Hershcovis, 2010). Bullying causes employees to perform poorly in their work. Besides that, belittlement in the workplace is also considered a severe form of antisocial behaviour. Victims may be intimidated, belittled, and openly humiliated.

In addition, work-undermining behaviour can also be considered as one of elements of workplace bullying as it includes hurting the feelings of others (Ong & Tay, 2015). This negative attitude is intended to hinder the main positive interpersonal relationships and favorable reputation (Duffy et al., 2002). Undermining at work occurs due to insecurities and lack of respect felt by the offender. Furthermore, verbal abuse can also be one of the elements of workplace bullying as it has the potential to become problematic by causing interpersonal conflict and emotional problems that prevents a person from becoming happy and productive (Hadley, 1990). Verbal abuse is acts of hurtful verbal communications and can include screaming in person (Spector et al., 2015). Workplace exclusion is related to many workplace aggression elements such as bullying, incivility, and social undermining that are "conceptually distinct, but operationally similar" (Hershcovis et al., 2012). Exclusion in the workplace is mistreatment that targets feel especially when they have been socially ignored, avoided, or rejected by other members in the organisation (Reilly & Banki, 2015). An example is such as when someone is excluded from important meetings or events.

Many authors have defined job performance as interactions that happen between all levels of colleagues with the aim of finishing the task and goals of an organisation (Robert, 2018). The main objectives of an organisation that have an impact on behaviour or people's actions are identified as performance according to the job performance theory (Campbell et al., 2015). Job performance (Murphy & Kroker, 1988) can also be affected by other components such as maintenance of good interpersonal relations, absenteeism, and other behaviours that encourage hazards at the workplace (Murphy, 1989). Then, Yang (2016) emphasized that victims of bullying tend to reduce their helping behaviour towards other people.

**Theoretical Framework and Hypothesis Development**

| WORKPLACE BULLYING | | JOB PERFORMANCE |
|---|---|---|
| Belittlement<br>Work Undermined<br>Verbal abuse<br>Workplace exclusion | ⟶ | |

**Source: Ashraf and Khan (2014)**

**Hypothesis Development**

Hypothesis 1: There is a significant relationship between belittlement and job performance.
Hypothesis 2: There is a significant relationship between work undermining and job performance.
Hypothesis 3: There is a significant relationship between verbal abuse and job performance.
Hypothesis 4: There is a significant relationship between workplace exclusion and job performance,
Hypothesis 5: There is a significant relationship between workplace bullying and job performance.

**Method**
142 out of 200 questionnaires were collected and analysed using SPSS version 25 to obtain results for the descriptive analysis, reliability analysis, and correlation analysis. The results were then used to identify whether workplace bullying has a relationship with job performance for people working in multinational companies located in Kuala Lumpur, Malaysia. We administered the survey questionnaire through personal visits and online surveys. For this research, we used the convenience sampling technique. According to Rahi (2017), convenience sampling is defined as a process of data collection from a population that is available at a given time and is easily accessible to researcher. After listing the organisations that met the sampling criteria, employees from five multinational companies (HR Wallingford Asia Sdn Bhd, Alliance Life Insurance (M) Bhd, Ramco Systems Sdn Bhd. Lardoff Corporation Berhad, and Tabung Haji) were chosen as respondents for this survey. Workplace bullying was measured using a questionnaire by Brotheridge and Lee (2010) which contained 43 items. The authors also referred to a questionnaire by Ashraf and Khan (2014) where 19 items were used in this study to measure workplace bullying. The items were measured using a 5-point Likert scale ranging from strongly disagree (value of 1) to strongly disagree (value of 5). The authors chose only 19 items suggested by Beaton and Guillem (2000) to make sure cross-cultural similarity in measuring bullying. Then, the authors measured job performance according to measurements from Blickle et al. (2009) that contained five items which assess task performance, adaptive performance, and job dedication.

**Findings**
**Descriptive Analysis**

| Criteria | Category | Number | Percentage |
|---|---|---|---|
| Gender | Male | 77 | 53.5 |
| | Female | 66 | 46.5 |
| Age | 21 and below | 32 | 22.5 |
| | 22 – 30 years old | 95 | 6.9 |
| | 31 – 40 years old | 10 | 7.0 |
| | 41 – 50 years old | 4 | 2.8 |
| | 51 years old and above | 1 | 0.7 |
| Marital status | Single | 116 | 81.7 |
| | Married | 26 | 18.3 |
| Ethnicity | Malay | 130 | 91.5 |
| | Chinese | 1 | 0.7 |
| | Indian | 8 | 5.6 |
| | Others | 3 | 2.1 |
| Work Experience | Less than 6 months | 51 | 35.9 |
| | 6 months – 1 year | 43 | 30.3 |
| | 1 – 3 years | 34 | 23.9 |
| | 3 - 5 years | 5 | 3.5 |
| | More than 5 years | 9 | 6.3 |
| Working Position | Top level | 19 | 13.4 |
| | Middle evel | 55 | 38.7 |
| | Lower level | 68 | 47.9 |
| Education Level | Phd | 1 | 0.7 |
| | Master | 5 | 3.5 |
| | Bachelor degree or equivalent | 82 | 57.7 |
| | Diploma or equivalent | 48 | 33.8 |
| | SPM or equivalent | 6 | 4.2 |
| Nationality | Malaysian | 140 | 98.6 |
| | Non-malaysian | 2 | 1.4 |

Descriptive analysis was measured for demographic section of data collected in order to explain the characteristics of a variable. The statistics were used to make the conclusion about the characteristics of the entire population when surveys are collected.

**Reliability Analysis**

| Construct | Cronbach's Alpha | Number of Items |
|---|---|---|
| Belittlement | 0.883 | 6 |
| Work undermined | 0.898 | 6 |
| Work abuse | 0.889 | 5 |
| Work exclusion | 0.805 | 2 |
| Job performance | 0.945 | 6 |

The reliability of independent variables which are belittlement, work undermined, work abuse and work exclusion were 0.883, 0.898, 0.889, and 0.805 respectively. The dependent variable

which is the job performance had an excellent reliability coefficient of 0.945. These analyses confirmed that measurement scales used in this study have met the acceptable standards of reliability analysis.

## Correlation Analysis

| Correlation | | iv1 | iv2 | iv3 | iv4 | dv1 |
|---|---|---|---|---|---|---|
| **IV1** | Pearson Correlation | 1 | .803** | .805** | .657** | .910** |
| | Sig. (2-tailed) | | .000 | .000 | .000 | .000 |
| | N | | 142 | 142 | 142 | 142 |
| **IV2** | Pearson Correlation | .803** | 1 | .749** | .683** | .907** |
| | Sig. (2-tailed) | .000 | | .000 | .000 | .000 |
| | N | 142 | | 142 | 142 | 142 |
| **IV3** | Pearson Correlation | .805** | .749** | 1 | .684** | .903** |
| | Sig. (2-tailed) | .000 | .000 | | .000 | .000 |
| | N | 142 | 142 | | 142 | 142 |
| **IV4** | Pearson Correlation | .657** | .683** | .684** | 1 | .852** |
| | Sig. (2-tailed) | .000 | .000 | .000 | | .000 |
| | N | 142 | 142 | 142 | | 142 |
| **DV** | Pearson Correlation | .910** | .907** | .903** | .852** | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | .000 | |
| | N | 142 | 142 | 142 | 142 | 142 |
| **\*\*. Correlation is significant at the 0.01 level (2-tailed)** | | | | | | |

Regarding to the results, research has shown that there is relationship between workplace bullying and job performance. Thus, all hypotheses were well supported. This suggest that workplace bullying was positively related to job performance. This method used to find the possible association between two or more variables. It showed that all dimensions of workplace bullying have a relationship with job performance.

## Discussion and Conclusion

Workplace bullying has received growing scholars' interest for the past two decades. As suggested by studies conducted before, this negative behaviour not only destroys the physical and mental well-being of an individual, but also affects productivity and performance in the workplace, thus reducing job satisfaction and engagement (Pradhan & Joshi, 2019). Based on this research, the overall results revealed that there is the existence of significant relationships between workplace bullying with job performance. Only a few prior studies have examined workplace bullying and job performance (Naseer et al., 2018). In this study, workplace bullying indeed has a relationship with job performance, and the results are supported by Ashraf and Khan (2014), Duffy et al., (2002), Brewer et al., (2013), Pejie (2005) and Hitlan (2009). Among the dimensions of workplace bullying, belittlement has the strongest relationship with job performance, followed by work undermining, verbal abuse, and workplace exclusion. Research found that workplace bullying not only affects people's mental and physical health. It also, in turn, affects employees' job performance. In terms of practical implications, managers should notice any bullying at workplace because it affects employees' job performance as well as productivity. Other than that, obvious signs should be placed on walls as a reminder. Organisations should also provide training to all of their employees to explain the consequences of someone participating in any form of workplace bullying. A good workplace environment

can educate employees about the importance of workplace bullying and job performance. The result of this paper could be used by organisations to strategise ideas and actions to overcome workplace bullying.

## References

Ahmad, S. (2018). Can ethical leadership inhibit workplace bullying across East and West: exploring cross-cultural interactional justice as a mediating mechanism. Eur. Manag. J. 36, 223–234. doi: 10.1016/j.emj.2018.01.003

Al Bir, A. T. S., & Hassan, A. (2014). Workplace bullying in Malaysia: an exploratory study. *Malaysian Management Review*, *49*(1), 1-8.

Aryanne, O. (2009). Managing Workplace Bullying. Palgrave Macmillan, New York. P.2-3

Ashraf, F., & Khan, M. A. (2014). Does emotional intelligence moderate the relationship between workplace bullying and job performance? Asian Business & Management, 13(2), 171-190.

Attell, B. K., Kummerow, B. K., and Treiber, L. A. (2017). Workplace bullying, perceived job stressors, and psychological distress: gender and race differences in the stress process. Soc. Sci. Res. 65, 210–221. doi: 10.1016/j.ssresearch.2017. 02.001

Beaton, D.E. and Guillemin, F. (2000) Guidelines for the process of cross-cultural adaptation of self-report measures. Spine 25(24): 3186–3191.

Blickle, G., Kramer, J., Zettler, I., Momm, T., Summers, J. K., Munyon, T. P., & Ferris, G. R. (2009). Job demands as a moderator of the political skill-job performance relationship. *Career Development International*.

Brewer, C. S., Kovner, C. T., Obeidat, R. F., & Budin, W. C. (2013). Positive work environments of early-career registered nurses and the correlation with physician verbal abuse. Nursing outlook, 61(6), 408-416.

Brotheridge, C. M., & Lee, R. T. (2010). Restless and confused: Emotional responses to workplace bullying in men and women. Career Development International, 15(7), 687-707

Campbell, J. P., & Wiernik, B. M. (2015). The modeling and assessment of work performance.

Chan, C. M. H., Wong, J. E., Yeap, L. L. L., Wee, L. H., Jamil, N. A., & Nantha, Y. S. (2019). Workplace bullying and psychological distress of employees across socioeconomic strata: a cross-sectional study. *BMC public health*, *19*(4), 608.

Duffy, M. K., Ganster, D. C., & Pagon, M. (2002). Social undermining in the workplace. Academy of management Journal, 45(2), 331-351

D'Cruz, P. (2015). *Depersonalized bullying at work: From evidence to conceptualization*. Springer India.

Einarsen, S., Hoel, H., & Cooper, C. (Eds.). (2003). Bullying and emotional abuse in the workplace: International perspectives in research and practice. CRC Press.

Einarsen, S., & Nielsen, M. B. (2015). Workplace bullying as an antecedent of mental health problems: a five-year prospective and representative study. International archives of occupational and environmental health, *88*(2), 131- 142.

Chan, C. M. H., Wong, J. E., Yeap, L. L. L., Wee, L. H., Jamil, N. A., & Swarna Nantha, Y. (2019). Workplace bullying and psychological distress of employees across socioeconomic strata: A cross-sectional study. *BMC Public Health*, *19*(Suppl 4), 1–8. https://doi.org/10.1186/s12889-019-6859-1

Gardner, D., O'Driscoll, M., Cooper-Thomas, H. D., Roche, M., Bentley, T., Catley, B., Teo, S. T. T., & Trenberth, L. (2016). Predictors of workplace bullying and cyber-bullying in New Zealand. *International Journal of Environmental Research and Public Health*, *13*(5). https://doi.org/10.3390/ijerph13050448

Naseer, S., Raja, U., Syed, F., & Bouckenooghe, D. (2018). Combined effects of workplace bullying and perceived organizational support on employee behaviors: does resource availability help? *Anxiety, Stress and Coping*, *31*(6), 654–668. https://doi.org/10.1080/10615806.2018.1521516

Pradhan, A., & Joshi, J. (2019). Impact of Workplace Bullying on Employee Performance. *International Research Journal of Management Science*, *4*(1), 1–13. https://doi.org/10.3126/irjms.v4i0.27882

Rai, A., & Agarwal, U. A. (2018). A review of literature on mediators and moderators of workplace bullying: Agenda for future research. *Management Research Review*, *41*(7), 822–859. https://doi.org/10.1108/MRR-05-2016-0111

Reilly, J. O., & Banki, S. (2015). *Research in Work and Organizational Psychology : Social Exclusion in the Workplace Workplace Social Exclusion : Conceptualization*. 133–155. https://doi.org/10.1007/978-3-319-33033-4

Robert, F. (2018). Impact of Workplace Bullying on Job Performance and Job Stress. *Journal of Management Info*, *5*(3), 12–15. https://doi.org/10.31580/jmi.v5i3.123

Samnani, A.-K., Singh, P., & Ezzedeen, S. (2013). Workplace bullying and employee performance. *Organizational Psychology Review*, *3*(4), 337–359. https://doi.org/10.1177/2041386613475370

Spector, P. E., Yang, L., & Zhou, Z. E. (2015). *A longitudinal investigation of the role of violence prevention climate in exposure to workplace physical violence and verbal abuse*. *8373*(November). https://doi.org/10.1080/02678373.2015.1076537

Healther Falconer, (2004). IRS Managing Conflict in the Workplace. Reed Elsevier (UK) Ltd. United Kingdom.

Hershcovis, M. S., & Barling, J. (2010). Towards a multi-foci approach to workplace aggression: A meta-analytic review of outcomes from different perpetrators. Journal of Organizational Behavior, 31, 24–44

Hershcovis, M. S., Reich, T. C., Parker, S. K., & Bozeman, J. (2012). The relationship between workplace aggression and target deviant behaviour: The moderating roles of power and task interdependence. *Work & Stress*, *26*(1), 1-20.

Hitlan, R. T., & Noel, J. (2009). The influence of workplace exclusion and personality on counterproductive work behaviours: An interactionist perspective. European Journal of Work and Organizational Psychology, 18(4), 477-502.

Hofstede G. Culture's consequences: International differences in work-related values. Thousand Oaks: Sage; 1980.

Kwan, S. S. M., Tuckey, M. R., & Dollard, M. F. (2020). The Malaysian Workplace Bullying Index (MWBI): A new measure of workplace bullying in Eastern countries. *PLoS one*, *15*(1), e0223235.

Merecz, D., Drabek, M., & Mościcka, A. (2009). Aggression at the workplace—psychological consequences of abusive encounter with coworkers and clients. International journal of occupational medicine and environmental health, 22(3), 243-260.

Mete, E. S., & Sökmen, A. (2016). The influence of workplace bullying on employee's job performance, job satisfaction and turnover intention in a newly established private hospital. International Review of Management and Business Research, 5(1), 65.

Mohamad, Z. (2017, November 4). SMART PARENTING: Bullies and victims need help. *New Straits Times*. Retrieved from https://www.nst.com.my/lifestyle/ pulse /2017/11/299024/smart-parenting-bullies-and-victims-need-help

Murphy, K. R., & Kroeker, L. P. (1988). *Dimensions of job performance*. Colorado State Univ Fort Collins.

Murphy, K. R. (1989). Is the relationship between cognitive ability and job performance stable over time?. *Human performance*, *2*(3), 183-200.

Namie, G. (2003). Workplace bullying: Escalated incivility. *Ivey Business Journal*, 68(2), 1-6.

Namie, G., & Namie, R. (2009). US Workplace bullying: Some basic considerations and consultation interventions. *Consulting Psychology Journal: Practice and Research*, *61*(3), 202.

Neall AM, Tuckey MR. A methodological review of research on the antecedents and consequences of workplace harassment. Journal of Occupational and Organisational Psychology. 2014; 87; 225–257.

Ong, L. D., & Tay, A. (2015). The effects of co-workers' social undermining behaviour on employees' work behaviors

O'Driscoll, M.P., Cooper-Thomas, H.D., Bentley, T., Catley, B.E., Gardner, D.H., and Trenberth, L., 2011. Workplace Bullying in New Zealand: A Survey of Employee Perception and Attitudes. Asia Pacific Journal of Human Resources, pp. 390-408.

Pejic, A. R. (2005). Verbal Abuse: A problem for pediatric nurses. *Pediatric Nursing, 31*, 271-279

Rahi, S. (2017). Research Design and Methods: A Systematic Review of Research Paradigms, Sampling Issues and Instruments Development. *International Journal of Economics & Management Sciences, 6*(2).

Ramsay, S., Troth, A. and Branch, S. (2011). Workplace bullying through the lens of social psychology: a grouplevel analysis. Journal of Occupational and Organizational Psychology,84, pp. 799–816.

Raziq, A., & Wiesner, R. (2016). High Performance Management Practices and Sustainability of SMEs. Evidence from Manufacturing and Services- based Industries in Pakistan. Journal of Management Sciences, 3(2), 83- 107

Tan, K. (2013, October 22). Bullying in the workplace. The Star Online. Retrieved from http://www.thestar.com.my/lifestyle/features/2013/10/22/bullying-in-the-workplace/

Townend, A. (2008), "Understanding and addressing bullying in the workplace", *Industrial and Commercial Training*, Vol. 40 No. 5, pp. 270-273

Vantage Circle, (2020). Workplace Bullying: A Major Concern for Companies Throughout the World. Retrieved from https://blog.vantagecircle.com/workplace-bullying/

Yahaya, A., Ing, T. C., Lee, G. M., Yahaya, N., Boon, Y., Hashim, S., ... & Jesus, S. K. C. I. (2012). The impact of workplace bullying on work performance. Archives Des Sciences, 65(4), 18-28.

Yang, J. (2016). Thriving organizational sustainability through innovation: Incivility climate and teamwork. Sustainability (Switzerland). https://doi.org/10.3390/su8090860

Yusop, Y. M., Dempster, M., & Stevenson, C. (2014b). Understanding Inappropriate Behaviour: Harassment, Bullying and Mobbing at Work in Malaysia. Procedia - Social and Behavioral Sciences. https://doi.org/10.1016/j.sbspro.2014.03.236