

# DIGITALES ARCHIV

Ho, Bradley C. Y.; Norizah Mohd Mustamil; Sharmila Jayasingam

## Article

### Quality of work life and lifelong learning among working adults in Malaysia : the mediating role of employee engagement

#### Provided in Cooperation with:

Universiti Utara Malaysia

*Reference:* Ho, Bradley C. Y./Norizah Mohd Mustamil et. al. (2021). Quality of work life and lifelong learning among working adults in Malaysia : the mediating role of employee engagement. In: Malaysian management journal 25 S. 99 - 142.  
<http://mmj.uum.edu.my/images/vol25july2021/99-142.pdf>.  
doi:10.32890/mmj2021.25.5.

This Version is available at:  
<http://hdl.handle.net/11159/6063>

#### Kontakt/Contact

ZBW – Leibniz-Informationszentrum Wirtschaft/Leibniz Information Centre for Economics  
Düsternbrooker Weg 120  
24105 Kiel (Germany)  
E-Mail: [rights\[at\]zbw.eu](mailto:rights[at]zbw.eu)  
<https://www.zbw.eu/econis-archiv/>

#### Standard-Nutzungsbedingungen:

Dieses Dokument darf zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden. Sie dürfen dieses Dokument nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, aufführen, vertreiben oder anderweitig nutzen. Sofern für das Dokument eine Open-Content-Lizenz verwendet wurde, so gelten abweichend von diesen Nutzungsbedingungen die in der Lizenz gewährten Nutzungsrechte.

<https://zbw.eu/econis-archiv/termsfuse>

#### Terms of use:

*This document may be saved and copied for your personal and scholarly purposes. You are not to copy it for public or commercial purposes, to exhibit the document in public, to perform, distribute or otherwise use the document in public. If the document is made available under a Creative Commons Licence you may exercise further usage rights as specified in the licence.*



How to cite this article:

Ho, B. C. Y., Mustamil, N. M., & Jayasingam, S. (2021). Quality of work life and lifelong learning among working adults in Malaysia: The mediating role of employee engagement. *Malaysian Management Journal*, 25(July), 99-142. <https://doi.org/10.32890/mmj2021.25.5>

## **QUALITY OF WORK LIFE AND LIFELONG LEARNING AMONG WORKING ADULTS IN MALAYSIA: THE MEDIATING ROLE OF EMPLOYEE ENGAGEMENT**

**<sup>1</sup>Bradley C.Y. Ho, <sup>2</sup>Norizah Mohd Mustamil  
& <sup>3</sup>Sharmila Jayasingam**

*Faculty of Business and Accountancy  
University of Malaya, Malaysia*

*<sup>1</sup>Corresponding author: [bradley@live.com.my](mailto:bradley@live.com.my)*

Received: 18/11/2020 Revised: 7/3/2021 Accepted: 10/3/2021 Published: 9/7/2021

### **ABSTRACT**

There has been a significantly increasing emphasis on the quality of interactions between employers and employees in the context of managerial and organisational studies in Malaysia. To encourage a desirable workforce, organisations often list factors associated with quality of work life, employee engagement, and lifelong learning as contributors to achieving optimal organisational goals. However, do quality of work life and employee engagement truly lead to employee disposition for lifelong learning? This paper aims to explore quality of work life and employee engagement as precursors to establishing a workforce that embraces lifelong learning. Structural Equation Modeling analysis was employed on 472 samples obtained from

working adults holding different positions in various organisations in the country. The empirical results demonstrate that quality of work life leads to employee engagement, which in turn, positively contributes to lifelong learning. The results also suggest that employee engagement fully mediates the relationship between quality of work life and lifelong learning. This study provides a more in-depth understanding of what it takes to create a workforce that engages in continuous learning, and sets the tone for compelling narratives in rolling out organisational vision and mission for lifelong learning in Malaysia.

**Keywords:** Employee engagement, lifelong learning, quality of work life.

## INTRODUCTION

There are increasing uncertainties in politics, business, and social arenas globally (Hitt et al., 2011). This is particularly true now as the global pandemic caused by the coronavirus disease 2019 (COVID-19) has exerted a profound impact on economies and businesses (Jones et al., 2020; U.S. Chamber of Commerce, 2020). Due to the pandemic, stock markets across the regions are experiencing growing volatility (McLean et al., 2020), and traditional businesses such as airlines are facing challenging situations (Pogkas et al., 2020). However, there is a particular outcome emerging from all these uncertainties — the pandemic has fundamentally transformed the manner in which businesses operate and alternative working arrangements such as “work from home” have become a more acceptable norm for organisations (Sander, 2020).

In Malaysia, the employment trends have been greatly impacted by the COVID-19 pandemic. Even before the onslaught of the pandemic on Malaysian soil, job seekers and young graduates experienced difficulties in securing their desired jobs (Hanapi & Nordin, 2014; Ismail, 2011). There was also a mismatch between workforce demand and talent supply in Malaysia (Misni et al., 2020; Sulaiman, & Ismail, 2019, Zakariya, 2017). Therefore, amidst the challenging global environment, both employees and organisations must innovate, rebrand, and reposition themselves to stay relevant.

In order to provide a more holistic understanding of workplace and organisational management, the notion of quality of work life and employee engagement in influencing lifelong learning of employees must be placed in the forefront of organisational agendas.

The aforementioned constructs are important and relevant for an in-depth study because existing literature have emphasised that quality of work life was crucial for the sustainability and effectiveness of an organisation (Bailey et al., 2017; Pruijt, 2000), led to job motivation (Yasini et al., 2011), as well as contributed to employee job performance, loyalty, and productivity (Kim et al., 2017; Nguyen et al., 2014). Additionally, employee engagement had a positive effect on employee task and job performance (Kim et al., 2012; Rana et al., 2014), while lifelong learning benefited both employees and organisations (Kyndt & Baert, 2013; Shan, 2018), as well as the overall workforce (Zhou & Tu, 2019). However, from a review of the literature, it was found that work arrangements discouraged lifelong learning in organisations (Hager, 2004), while at the same time, employee engagement at the workplace seemed to be declining, and disengagement appeared to be deepening (Bates, 2004; Richman, 2006). Furthermore, the literature on employee engagement was still incomplete and under-theorised (Bailey et al., 2017).

As such, studies on quality of work life, employee engagement, and lifelong learning represent contemporary and relevant areas in the realms of business management and economics. Moreover, employee engagement is a mediating construct of relevance to many studies. For example, employee engagement was found to have a mediating effect between leadership and occupational success (Vincent-Hoper et al., 2012); quality of work life and employee voice/neglect, exit intentions (Wahlberg et al., 2017), as well as organisational climate for innovation and innovative work behaviour (Ali et al., 2020). Therefore, the present study also sought to examine the mediating role of employee engagement between quality of work life and lifelong learning.

The purpose of the present study was to investigate the quality of work life and employee engagement in Malaysia, more specifically to determine their relationships and impacts on lifelong learning.

The results will enable organisations to better develop the interest of employees in continuous learning while introducing organisational agendas, such as quality of work life and employee engagement in order to promote lifelong learning effectively.

## **LITERATURE REVIEW**

### **Lifelong Learning**

The early concept of lifelong learning came from the Faure report that for the first time put forth the simple idea of lifelong education. The report, called “Learning to Be” (Faure, 1972), was commissioned by the United Nations Educational, Scientific, and Cultural Organisation (UNESCO). Since then, lifelong learning has become a “global ethos” (Shan, 2018) and viewed as both a social prerogative and an economic necessity (Anderson, 1999). In a broad sense, lifelong learning was practising learning in various settings, including those which were formal, informal, planned, and opportunistic (Candy et al., 1994). One of the most encompassing definitions of lifelong learning came from Longworth and Davies (1996) who explained that:

Lifelong learning is the development of human potential through a continuously supportive process that stimulates and empowers individuals to acquire all the knowledge, values, skills, and understanding they will require throughout their lifetimes and to apply them with confidence, creativity and enjoyment in all roles, circumstances, and environments (p. 22).

In view of upheavals in the business environment following the COVID-19 pandemic, organisations must respond swiftly to the “new normal” of conducting business by promoting employee lifelong learning to fill the knowledge and action gaps within the organisations. Zhou and Tu (2019) opined that many countries had unanimously agreed that lifelong learning was a significant approach in “constantly improving competent workforce...” (p. 442). Furthermore, lifelong learning was about making use of personal competences (Ozcan,

2011), and the complex interaction between humans and their surroundings (Jarvis, 2007). It also represented the capacity to respond to the changing environment and to continuously learn and handle new challenges (Bligh, 1982).

Lifelong learning has been inadvertently linked to positive employee attributes. For example, lifelong learning allowed employees to gain knowledge, skills, and competence (Cowan et al., 2004; Sim et al., 2003); led to individual personal development (Hager, 2004); served as a “foundational element for personal success” (McLaughlin & Stankosky, 2010), as well as represented a means for an individual’s social and economic opportunities (Shan, 2018). Furthermore, Carter (2005) observed that “most forward looking companies try to create continuous learning environment” (p. 30). Kearney and Zuber-Skerritt (2012), on the other hand, opined that learning that occurred in a learning organisation was an ongoing, creative, and lifelong process that could respond effectively to the needs and aspirations of employees.

Candy et al. (1994), as well as Knapper and Cropley (2000) have identified the five dimensions of lifelong learning featuring the characteristics of lifelong learners, namely self-direction and self-evaluation, application of knowledge and skills, information location, learning strategy adaptation, and goal-setting. Kirby et al. (2010) developed a generic scale for measuring lifelong learning called “Lifelong Learning Questionnaire” (LLLQ) that “conceptually underpinned by constructs originally articulated by Faure and those who further extended his work” (p. 293). The dimensions referred to were goal setting, application of knowledge and skills, self-direction and self-evaluation, information location, and learning strategy adaptation.

### **Quality of Work Life**

Although it was documented that Irving Bluestone, an advocate of worker participation in management, used the term “quality of work life” for the first time during the late 1960s (Goode, 1989), it was not until 1972 that the term “quality of work life” was officially

introduced during an international labour relations conference held that year (Hian & Einstein, 1990).

The roots of quality of work life stemmed from its influence on employees' perception and impression about their work, as quality of work life was a philosophy (Carlson, 1980) and a way of thinking about people, work, and organisation (Nadler & Lawler, 1983; Kerce & Booth-Kewley, 1993). Quality of work life was also about making people feel comfortable at the workplace (Akram et al., 2017) and providing a certain degree of flexibility for employees to shape their job functions to meet their needs and interests (Chan & Wyatt, 2007; Sirgy et al., 2001). In essence, quality of work life was defined as "a process by which an organisation responds to employee needs by developing mechanisms to allow them to share fully in making the decisions that design their lives at work" (Robbins, 1989, p. 207). From a holistic viewpoint, Martel and Dupuis (2006) provided the following definition of quality of work life:

"...a condition experienced by the individual in his or her dynamic pursuit of his or her hierarchically organised goals within work domains where the reduction of the gap separating the individual from these goals is reflected by a positive impact on the individual's general quality of life, organisational performance, and consequently the overall functioning of society" (p. 355).

Quality of work life has also been associated with various benefits to individual employees and organisation as a whole. For example, it was among the factors that has led to employee loyalty (Kiernan & Knutson, 1990; Sirgy et al., 2001; Wahlberg et al., 2017), affected employee job performance and productivity (Korunka et al., 2008; Nguyen et al., 2014; Prujit, 2000; Rego & Cunha, 2008), enhanced employees' quality and performance (Kim et al., 2017; Martel & Dupuis, 2006), promoted the feeling of belongingness and commitment (Martel & Dupuis, 2006; Nayak et al., 2018), and shaped employee learning orientation and strategy (Yeo & Li, 2013). Lau (2000) also underscored the many benefits of quality of work life by stating that "the favorable conditions and environments of a workplace that

support and promote employee satisfaction by providing them with rewards, job security and growth opportunities” (p. 424).

Therefore, quality of work life has been the focus of a wide area of research and provided a huge range of avenues for organisations to mitigate, strategise, and align organisational goals with those of employees’ needs. These needs have been manifested profoundly when it could be seen that employee engagement was the direct beneficiary of effective quality of work life. For example, employee engagement was influenced by flexible working arrangements (Brummelhuis et al., 2012), learning opportunity (Shuck & Rocco, 2014), autonomy and personal resources (Xanthopoulou et al., 2009), relationship with members (Cheng et al., 2013; Karatepe, 2012; Rees et al., 2013), organisational identification (He & Brown, 2013), as well as safety at the workplace (Chen et al., 2011; Hall et al., 2010). Parker and Griffin (2011) posited that when individual employees experienced positive emotions at the workplace associated with quality of work life, it was more likely to lead to employee engagement. As such, for the present study, the following hypothesis was postulated:

H<sub>1</sub>: Quality of work life positively affects employee engagement.

Quality of work life has also been linked to positive learning orientation and the attitudes associated with lifelong learning among employees. According to Evans et al. (2006), the workplace was an important environment for learning. This view was further elaborated by Houle (1981), who explained that changes in working conditions could enhance motivation for further learning. Yeo and Li (2013) found that employees’ perception of quality of work life could influence their learning orientation because employees “rely on learning to help them see new opportunities” (p. 139) to improve themselves. Moreover, the workplace environment, such as working conditions, employee interactions, and managerial support that were collectively termed as quality of work life, could influence employee learning in a positive or negative way (Ellstrom et al., 2008; Evans et al., 2006).

To connect learning at the workplace to lifelong learning, Cedefop (2011) offered the notion that learning at the workplace provided



the building blocks of lifelong learning. As such, there was a connection between learning at the workplace and lifelong learning. In a study conducted by Gustavsson (2012), it was found that workplace environments influenced individuals' ability to learn, thus underscoring the important function of quality of work life to learning. In addition, Van der Sluis (2004, p. 10) offered the view that the work environment was "a highly important influence in terms of facilitators or inhibitors of learning and creative behaviour." Kirby et al. (2010) pointed out that one of the critical components of lifelong learning was learning strategies, it was found that lifelong learners formulated their strategies for learning based on the environment and needs presented to them. To further highlight the close relationship between quality of work life to lifelong learning, it could be seen that quality of work life could also influence learning and learning strategy development of employees (Yeo & Li, 2013), an observation consistent with the notion of lifelong learning. Therefore, the following hypothesis was developed:

H<sub>2</sub>: Quality of work life positively affects lifelong learning.

### **Employee Engagement**

The employee engagement concept was first described by Kahn (1990) as the "harnessing of organisational members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively and emotionally during role performances" (p. 694). Since then, its appeal as a management concept has been consistent as one of the most recognisable concepts in the field of management (Crawford et al., 2014). This is understandable because the challenging business environment of today requires organisational strength that builds on dedicated and creative workforce, hence the importance of engaged employees.

The definition of employee engagement is wide-ranging and has been described in a variety of ways and concepts. For instance, employee engagement has been described as the amount of discretionary effort displayed by employees in their job (Frank et al., 2004); the emotional and intellectual commitment to the organisation (Baumruk,

2004; Richman, 2006; Shaw, 2005); “passion for work” (Truss et al., 2006); and “a distinct and unique construct consisting of cognitive, emotional and behavioural components associated with individual role performance” (Saks, 2006, p. 602).

There are two schools of thought in the literature on employee engagement. The first school of thought came from Maslach et al. (1997). They believe there was a continuum between two extreme poles of burnout and engagement. Burnout was the opposite of engagement in that burnout was characterised by exhaustion, cynicism, and inefficacy, while engagement was characterised by energy, involvement, and efficacy. The second school of thought revolved around the concept by Schaufeli et al. (2002), who put forth the idea that work engagement is a stand-alone positive state of mind experienced by employees. In other words, work engagement was “a positive, fulfilling, work-related state of mind that is characterised by vigour, dedication, and absorption” (Schaufeli & Bakker, 2004; Schaufeli et al., 2002). Vigour is the state of mind characterised by high levels of energy and mental resilience, while dedication involves strategy at work and a sense of significance and pride, while absorption is being engrossed in work and time passes quickly.

The concept of employee engagement has stood the test of time as its benefits to organisations are abundant. Shuck and Wollard (2010) reaffirmed that the outcomes of employee engagement were far-ranging, from increasing workforce productivity to enhancing company profitability. Hoole and Bonnema (2015), as well as Ugwu et al. (2014), emphasised that employee engagement has been linked to organisational performance and competitive advantage. In terms of good human resource practices and outcomes, employee engagement has been identified as a factor that motivated talents and reduced employee turnover (Memon et al., 2015).

Although employee engagement was a catalyst for organisational performance, its literature was incomplete and under-theorised (Bailey et al., 2017). As such, the study on employee engagement is warranted and needs continuous attention. It is important for employees to be motivated and be engaged in what they are doing for

the proliferation of learning and knowledge sharing. The relationship between employee engagement and learning in the organisation, specifically lifelong learning, is one that management should pay attention to. Osteraker (1999, p. 73) argued that “it becomes the aim of every successful learning organisation to find factors that enable it to motivate its employees to continuous learning and to take advantage of this knowledge to ensure its living.” In other words, motivated employees are more inclined to indulge in lifelong learning and fully utilise their knowledge for the benefit of the organisation. As such, the following hypothesis was conceived:

H<sub>3</sub>: Employee engagement positively affects lifelong learning.

Many studies have been conducted on the mediating effect of employee engagement. For example, the mediating effect of employee engagement in Malaysia has been examined in the areas of talent management and employee retention (Alias et al., 2014); job characteristics and extra-role behaviour (Sulea et al., 2012); learning organisation and innovative behaviour (Park et al., 2014); and high-performance work practices and hotel employee performance (Karatepe, 2013). These studies showed that employee engagement was related to many meaningful organisational factors. This is in line with the notion by Truss et al. (2013), who claimed that employee engagement was related to management practice and has become an emerging area of interest. Denison Consulting (2010) opined that employee engagement and the culture of an organisation were complementary variables.

Studies have also shown the existence of the mediating effect of employee engagement on various areas important for organisational development. For example, Vincent-Hoper et al. (2012) examined the mediating effect of work engagement between transformational leadership and subjective occupational success. They found that there was a “significant positive relations between transformational leadership, work engagement, and subjective occupational success...” (p. 663), while employee engagement was found to partially mediate the relationship between transformational leadership and subjective occupational success.

Along this line of thought, Wahlberg et al. (2017) examined the relationships between quality of work life, lifelong learning, and organisational factors of employee loyalty, exit intentions, voice, as well as neglect, and found that quality of work life had a positive effect on loyalty and a negative effect on employee exit intentions. They also discovered that employee engagement fully mediated the relationship between quality of work life and both employee voice and neglect, and partially mediates exit intentions. Therefore, the interests from company executives and human resource practitioners in these areas were encouraging further research. Robertson et al. (2012) contended that employers could not focus only on job and work attitudes and ignore employee well-being as these would “limit the benefits that can be obtained through initiatives... designed to improve employee engagement” (p. 230). This shows that employees’ psychological and physical well-being at the workplace are factors to be considered if the objective is to promote a working environment where employees are to become committed and engaged.

In a study by Ali et al. (2020), it was found that employee engagement partially mediated the relationship of organisational climate for innovation and innovative work behaviour. This shows that the climate in the organisation plays a contributory role in the proliferation of employee engagement at the workplace. According to Hill (1996), for an organisation to survive in the challenging business world, “its rate of learning must be equal to, or greater than, the rate of change” (p. 19). The importance of organisational and individual learning is obvious, as Forati (2015, p. 1) indicated that the “key to success in this economy depends on the knowledge of the people...” Furthermore, as organisational structure plays an important role in determining the organisational learning process (Fiol & Lyles, 1985; Dodgson, 1993), management should give due emphasis to developing organisational structures, work processes, environment, and factors associated with positive quality of work life to realise the benefits of being a learning organisation. In view of the intertwined relationship of employee engagement with quality of work life and lifelong learning, the following hypothesis was proposed:

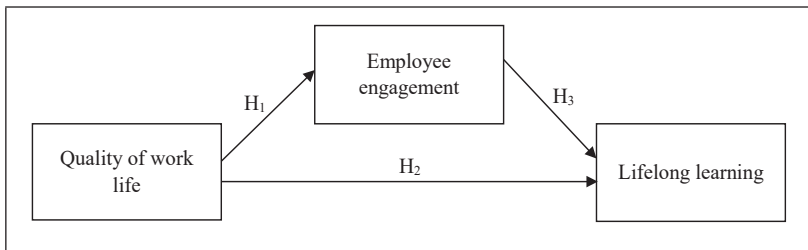
H<sub>4</sub>: Employee engagement mediates the relationship between quality of work life and lifelong learning.

## Theoretical Framework

Figure 1 depicts the theoretical framework that illustrates the relations of quality of work life, employee engagement, and lifelong learning. Quality of work life was hypothesised to impact employee engagement and lifelong learning respectively, while employee engagement was hypothesised to impact lifelong learning. Furthermore, employee engagement was hypothesised to mediate the relation of quality of work life and lifelong learning.

**Figure 1**

*Theoretical Framework of the Study*



The theoretical framework for this study was based on the Social Exchange Theory (Blau, 1960). The Social Exchange Theory (SET) stated that the outcome of interactions between two parties was obligations, and in the context of these obligations, reciprocity would occur. Furthermore, according to Cropanzano and Mitchell (2005), “relationships evolve over time into trusting, loyal, and mutual commitments,” provided that the parties involved abide by certain “rules” of exchange (p. 875).

In organisational settings, employees receive economic benefits and resources (salary, wages, medical benefits, member relationships, etc.) from employers, and in return, employees are obligated to reciprocate what they have received in terms of the amount of effort and the quality performances that they put into their work. Therefore, by bringing the idea of SET into the definitions (Baumruk, 2004; Frank et al., 2004; Richman, 2006; Shaw, 2005; Truss et al., 2006), the high

reciprocal obligation by employees will be translated into an enhanced amount of discretionary efforts displayed by them in their jobs. This corresponds to enhanced employee engagement and an increase in the emotional and intellectual commitment for self-improvement through continuous learning, consistent with the characteristics of lifelong learners.

## **METHODOLOGY**

### **Research Design**

This study was aimed at investigating the relationship between the constructs of lifelong learning, quality of work life, and employee engagement in Malaysia by employing the quantitative research method. More specifically, it was an attempt to understand the relationships of these constructs, including the direct effects and mediating effects of the constructs.

### **Population and Sampling Technique**

The population target for this study were the employees of various companies operating in Malaysia in a variety of industries and sectors of the economy. The unit of analysis was the individual employee. Data were collected using convenient sampling, a non-probability sampling technique. The convenient sampling technique was used as Rowley (2014, p. 318) has pointed out that “researchers often do not have a clear view of the population to which they are seeking to generalise.” Therefore, as the population involved in this study was huge, convenient sampling was used. According to Bryman and Bell (2011), there was value in using contact networks such as family members, friends, and work colleagues as it could yield a higher response rate. Additionally, studies with human subjects were less likely to involve probability sampling (Polit & Beck, 2010). Hence, non-probability sampling was preferred when the purpose of the research was theory generalisation as compared with sampling generalisation (Hulland et al., 2018).

## **Measurement and Instrument**

Lifelong learning was measured in this study using the Lifelong Learning Questionnaire (LLLQ) developed by Kirby et al. (2010). The LLLQ comprised 14 items measuring the dimensions of LLL such as self-direction and self-evaluation (SS), application of knowledge and skills (KK), information location (II), learning strategy adaptation (LL), and goal-setting (GG). Kirby et al. (2010) stated that the internal consistency (Cronbach's alpha) is 0.71, and this moderate level of reliability is reasonable as the construct lifelong learning encompassed multiple aspects.

Quality of work life was measured with the Quality of Work Life-Need Satisfaction Indicator (QWL-NSI) developed by Sirgy et al. (2001). QWL-NSI has 16 items measuring the dimensions of quality of work life on health and safety needs (HS), economic and family needs (EF), social needs (SN), esteem needs (ES), actualisation needs (AC), knowledge needs (KN), and aesthetics needs (AE). The QWL-NSI was developed based on the need satisfaction spillover theories to "capture the extent to which the work environment, job requirement, supervisory behaviours, and ancillary programs in an organisation are perceived to meet the needs of the employees" (Sirgy et al., 2001, p. 241). According to Sirgy et al. (2001), quality of work life has been conceptualised as a higher-order construct which served as an index of the satisfaction of seven needs and the resulting measure produced a reliability coefficient (Cronbach's alpha) of 0.78.

Employee engagement (EE) was measured with the Utrecht Work Engagement Scale (UWES) which was developed by Schaufeli et al. (2002). UWES has 17 items measuring the dimensions of employee engagement on vigour (V), dedication (D) and absorption (A). Schaufeli and Bakker (2004) reported that UWES had reliability coefficients ranging from 0.80 to 0.90.

The finalised questionnaire was made available in paper and electronic versions in order to reach out to as many respondents as possible. A 5-point Likert scale, where 1 denoted "Strongly disagree" and 5 denoted "Strongly agree" was employed throughout the questionnaire, which also had a section to collect demographic information about the respondents.

To ensure that the questionnaire contents were easily understood and the instructions for answering the questions were clear, a two-stage pre-test was conducted. The pre-test was conducted because it was an “indispensable phase of all studies” (Sykes & Morton-Williams, 1987, p. 192). For this study, the first stage of the pre-test was an expert review (n=8), and the second stage was a pilot test (n=30). From the expert review, the suggestions and recommendations regarding the proposed questionnaire contents were taken into consideration in the final construction of the study questionnaire. The questionnaire was tested using the internal consistency reliability test, and Cronbach’s alpha coefficient was used to determine its reliability. The results are as presented in Table 1.

**Table 1**

*Cronbach Reliability Coefficient Results of the Pilot Test on the Questionnaire Items*

Construct	Scale Used	Number of Items	Cronbach’s Alpha	Internal Consistency
LLL	Lifelong learning questionnaire (LLLQ)	14	0.749	Yes
QWL	Quality of work life-need satisfaction indicator (QWL-NSI)	16	0.787	Yes
EE	Utrecht work engagement scale (UWES)	17	0.784	Yes

*Note.* “LLL” refers to Lifelong learning; “QWL” refers to Quality of work life; “EE” refers to Employee engagement.

As reported by Hair et al. (2017), the values of Cronbach’s alpha should be  $> 0.7$ , although 0.6 was acceptable for exploratory studies. As shown in Table 1, the Cronbach’s alphas for all the scales used in this study were  $> 0.7$ , suggesting that the scales used for lifelong learning, quality of work life, and employee engagement have achieved the satisfactory level of reliability required as respective measures of the constructs under scrutiny in the present study.



## Data Collection

A total of 939 questionnaires, in both hardcopy and digital format, were distributed to colleagues, peers, networks of contacts, and employees from various organisations in Malaysia. This study drew samples from a list of companies listed at the Malaysian Stock Exchange (representing 3% of large corporations) and the SME Directory (representing 97% of the SMEs).

Samples were also collected from organizations around the Klang Valley in the state of Selangor, Malaysia. A total of 502 questionnaires were returned, representing a response rate of 53.46 percent. After data cleaning (discarding samples with 15 percent or more incomplete items, samples with straightlining responses, and samples with multivariate outliers), 472 usable samples were used for the final data analysis. Table 2 provides the details on the respondents' demographic profiles.

**Table 2**

### *Demographic Profiles of the Respondents*

Respondents' Profile	Frequency	Percentage	Total (%)
Gender			
Male	222	47.0	47.0
Female	250	53.0	100.0
Age			
20 years or less	76	16.1	16.1
21-30 years	247	52.3	68.4
31-40 years	98	20.8	89.2
41-50 years	35	7.4	96.6
50 years or more	16	3.4	100.0
Position			
Private organisation	295	62.5	62.5
Government sector	47	10.0	72.5
Semi-government organisation	79	16.7	89.2
Others	51	10.8	100.0

## DATA ANALYSIS AND RESULTS

For this study, issues of common methods bias (CMB) and common methods variance (CMV) were carefully scrutinised to minimise systematic errors in the correlations due to the methods used. Harman's single factor test, as outlined by Podsakoff et al. (2003), and the full collinearity test, as advocated by Kock and Lynn (2012), were also conducted.

From Harman's Single-Factor Test, the results showed that the largest variance observed for all constructs was 15.056 percent, which did not exceed 50 percent. This indicated that no single factor dominated the covariance between the constructs and that the common methods bias was not a problem in this study. For the full collinearity test, it was observed that all the variance inflation factor (VIF) values were lower than the threshold value of 3.3 as recommended by Diamantopoulos and Siguaw (2006).

**Table 3**

*Results of Harman's Single Factor Test*

Variance of the first component	Common method bias
15.056 %	No

This study subjected the constructs of lifelong learning, quality of work life, and employee engagement to analyses using SmartPLS (Ringle et al., 2015), a tool under the umbrella of the partial least square structural modelling equation (PLS-SEM). The PLS-SEM was relevant because this study was built upon the premise of exploring and developing theory, as outlined in the empirical model. This was echoed by Hair et al. (2017) who pointed out that the PLS-SEM was suitable for populating constructs for theory exploration and development. The present study which utilised the prescribed methods of analyses using SmartPLS, had done so by examining the measurement and structural models.

## **Measurement Model Assessment**

### ***Reflective Measurement Model Analysis***

To analyse the reflective measurement model of this study, analyses on internal consistency, convergent validity, and discriminant validity were carried out. For internal consistency, the overall value of Cronbach's alpha and composite reliability for each construct was obtained to assess whether the items of the scale indeed measured the same underlying construct. As with conventional internal consistency interpretation, the value of Cronbach's alpha should be  $> 0.7$ , although 0.6 was also acceptable (George & Mallery, 2003; Hair et al., 2014; Hair et al., 2017; Kline, 2000; Moss et al., 1998). The value of Composite Reliability should be above 0.7, although 0.60 to 0.70 was also considered acceptable (Hair et al., 2011; 2014) in having fulfilled the necessary requirement for sufficient internal consistency. The yielded results from SmartPLS showed that the values of Cronbach's alpha (LLL: 0.800; QWL: 0.868; EE: 0.833) and composite reliability (LLL: 0.843; QWL: 0.890; EE: 0.864) for all constructs met the threshold of  $> 0.7$ . Therefore, the assessment of internal consistency gave the researchers the confidence that the scales used to measure the constructs of this study were reliable and consistent.

This study also tested the convergent validity for the empirical model. Convergent validity assesses the extent to which a measure correlates positively with alternate measures of the same construct. In convergent validity analysis, the average variance extraction (AVE) should be higher than the threshold value of 0.5 to indicate adequate convergent validity (Bagozzi & Yi, 1988; Fornell, & Larcker, 1981; Hair et al., 2017; Ramayah et al., 2016). The analysis found that the AVEs for all dimensions of the construct were  $> 0.5$ . The complete test results of the internal consistency and convergent validity are as displayed in Table 4.

It is important to note that the AVE for the dimension of information location (II) of lifelong learning (LLL) was 1.000. This was because the original scale of the Lifelong Learning Questionnaire had only one item measuring this dimension. This was justified by the scale's original developers, Kirby et al. (2010), that this was due to the scale's

“deliberate focus on the higher aspects of lifelong learning, such as goal setting, rather than on more procedural skills such as information location and knowledge application...” (p. 299). In fact, single-item measurement was acceptable as it had as high a predictive validity as with multiple-item measurement (Bergkvist & Rossiter, 2007). Therefore, the analysis indicated that the convergent validity for the scales of the study had been established.

**Table 4**

*Internal Consistency and Convergent Validity Test Results*

Variable	Cronbach's alpha( $\alpha$ )	Composite reliability	Internal consistency	Dimension / component	AVE	Convergent validity
LLL	0.800	0.843	Yes	SS	0.565	Yes
			Yes	KK	0.681	Yes
			Yes	II	1.000	Yes
			Yes	LL	0.642	Yes
			Yes	GG	0.582	Yes
QWL	0.868	0.890	Yes	HS	0.530	Yes
			Yes	EF	0.599	Yes
			Yes	SC	0.633	Yes
			Yes	ES	0.697	Yes
			Yes	AC	0.772	Yes
			Yes	KN	0.751	Yes
EE	0.833	0.864	Yes	V	0.509	Yes
			Yes	D	0.514	Yes
			Yes	A	0.536	Yes

*Note:* “LLL” refers to lifelong learning; “QWL” refers to quality of work life, “EE” refers to employee engagement; “SS” refers to self-direction and self-evaluation; “KK” refers to application of knowledge and skills; “II” refers to information location; “LL” refers to learning strategy adaptation; “GG” refers to goal-setting; “HS” refers to health and safety needs; “EF” refers to economic and family needs; “SC” refers to social needs; “ES” refers to esteem needs; “AC” refers to actualisation needs; “KN” refers to knowledge needs; “AE” refers to aesthetics needs; “V” refers to vigour; “D” refers to dedication; “A” refers to absorption.

**Table 5**  
*Discriminant Validity of Constructs*

	HS	EF	SC	ES	AC	KN	AE	V	D	A	SS	KK	II	LL	GG
HS															
EF	0.740														
SC	0.713	0.845													
ES	0.815	0.710	0.853												
AC	0.533	0.650	0.688	0.832											
KN	0.649	0.529	0.662	0.736	0.822										
AE	0.351	0.534	0.519	0.547	0.607	0.625									
V	0.274	0.449	0.453	0.294	0.423	0.254	0.297								
D	0.272	0.236	0.250	0.257	0.482	0.534	0.307	0.576							
A	0.276	0.213	0.265	0.334	0.282	0.235	0.238	0.739	0.589						
SS	0.444	0.437	0.551	0.356	0.646	0.557	0.509	0.365	0.283	0.258					
KK	0.324	0.132	0.272	0.291	0.327	0.381	0.103	0.253	0.361	0.407	0.811				
II	0.306	0.293	0.380	0.327	0.291	0.273	0.239	0.228	0.087	0.147	0.483	0.275			
LL	0.342	0.486	0.400	0.444	0.413	0.326	0.440	0.478	0.204	0.344	0.713	0.500	0.420		
GG	0.339	0.290	0.241	0.367	0.256	0.268	0.225	0.369	0.260	0.403	0.833	0.765	0.335	0.715	

Note: "HS" refers to health and safety needs; "EF" refers to economic and family needs; "SC" refers to social needs; "ES" refers to esteem needs; "AC" refers to actualisation needs; "KN" refers to knowledge needs; "AE" refers to aesthetics needs; "V" refers to vigour; "D" refers to dedication; "A" refers to absorption; "SS" refers to self-direction and self-evaluation; "KK" refers to application of knowledge and skills; "II" refers to information location; "LL" refers to learning strategy adaptation; "GG" refers to goal-setting.

The discriminant validity is the extent to which a construct is truly distinct from other constructs. Henseler et al. (2015) proposed using the Heterotrait-Monotrait Ratio (HTMT) to assess discriminant validity. The HTMT value should be  $< 0.85$  (Kline, 2011) or  $0.9$  (Gold et al., 2001; Henseler et al., 2015; Teo et al., 2008). Table 5 shows the discriminant validity using Henseler's heterotrait-monotrait (HTMT) ratio of correlation (Henseler et al., 2015). The figures in Table 5 show that the HTMT values for all the constructs were  $< 0.9$ . Therefore, the constructs of this study were truly distinct from one another. Hence discriminant validity has been achieved.

### ***Formative Measurement Model Analysis***

For the present study a reflective-formative measurement model was considered appropriate because formative indicators were assumed to be error-free (Diamantopoulos & Siguaaw, 2006; Edwards & Bagozzi, 2000). This was not the case for reflective indicators. Therefore, for the assessment of the measurement model, it was necessary to assess both the reflective and formative measurement models (Hair et al., 2017). The assessment of formative measurement has become one of the important aspects of business research (Bollen & Diamantopoulos, 2017). This section outlines the collinearity test for the formative measurement model.

Both the collinearity test and analysis on loadings and weights of the constructs were carried out by the researchers. According to Diamantopolous and Siguaaw (2006), if the resulting VIF values in the collinearity test were  $< 3.3$  it would indicate that there were no collinearity issues among the constructs. The results of the study indicated that the VIF values were  $< 3.3$ , meaning the constructs were distinctively different from one and another and there were no collinearity issues among the constructs. The analyses on outer loadings and weights showed that all loadings were significant ( $p$ -value  $< 0.025$ ;  $t$ -value  $> 1.96$ ), indicating the existence of integrity in the formative measurement model of this study.

### ***Structural Model Assessment***

In the context of the structural model assessment, the collinearity test, path analysis, effect size, coefficient of determination, and predictive relevance analyses were performed on the empirical model.

### **Collinearity Test**

The results of the collinearity test for the structural model showed that all the VIF values were  $< 3.3$  (Diamantopoulos & Siguaw, 2006), suggesting that the constructs were distinctively different from one another. Table 6 summarizes the results for the collinearity tests.

**Table 6**

#### *Collinearity Test Results*

	LLL (VIF)	EE (VIF)
QWL	2.210	2.887
EE	1.340	-

*Note.* “LLL” refers to lifelong learning; “QWL” refers to quality of work life; “EE” refers to employee engagement; VIF refers to variance inflation factor.

### **Path Analysis**

From the path analysis of one-tailed test ( $p$ -value  $< 0.05$ ;  $t$ -value  $> 1.645$ ), it could be concluded that quality of work life had a significant positive effect on employee engagement ( $\beta = 0.491$ ;  $p = 0.000$ ;  $t = 8.525$ ), but it had no effect on lifelong learning ( $\beta = -0.006$ ;  $p = -0.462$ ;  $t = 0.095$ ). Employee engagement, on the other hand, was found to have a significant positive effect on lifelong learning ( $\beta = 0.400$ ;  $p = 0.000$ ;  $t = 7.545$ ) (Refer to Table 7).

### **Assessment of Effect Size ( $f^2$ )**

Effect size,  $f^2$ , measures the magnitude or strength of relationship between the latent variables. Sullivan and Feinn (2012) were of the view that with a large sample size, the  $p$  value would almost always result in a significant difference unless the effect was exactly zero. As such, in addition to reporting the  $p$  value (statistical significance), it is important to also report the substantive significance. In determining the substantive significance or effect size of the relationships of the constructs in the present study, Cohen’s  $f^2$  effect size value ( $f^2 > 0.02$  [small effect],  $f^2 > 0.15$  [medium effect], and  $f^2 > 0.35$  [large effect])

**Table 7**

*Assessment of Path Analysis and Effect Size for the Structural Model*

Relationship	Direct effect ( $\beta$ )	Standard deviation	t-statistics	p-values	5% (LLCI)	95% (ULCI)	Significance	Effect Size* $f^2$
QWL → EE	0.491	0.058	8.525	0.000	0.386	0.578	Yes	0.17 Medium
QWL → LLL	-0.006	0.067	0.095	0.462	-0.113	0.104	No	- -
EE → LLL	0.400	0.053	7.545	0.000	0.310	0.487	Yes	0.15 Medium

*Note:* \* Cohen (1988):  $f^2 > 0.02$  (small effect size);  $f^2 > 0.15$  (medium effect size);  $f^2 > 0.35$  (large effect size). “LLL” refers to Lifelong Learning; “QWL” refers to Quality of Work Life; “EE” refers to Employee Engagement; LLCI refers to Lower Level Confidence Interval; ULCI refers to Upper Level Confidence Interval.



was used as a benchmark for the analysis. The path analysis and assessment of effect size for the structural model are as shown in Table 7. In this study, the effect size analysis showed that quality of work life had a medium effect on employee engagement ( $f^2 = 0.17$ ), while employee engagement had a medium effect on lifelong learning ( $f^2 = 0.15$ ). As quality of work life had no significant effect on lifelong learning, it was redundant to perform the effect size analysis for the said relationship.

### ***Coefficient of Determination Analysis***

The coefficient of determination ( $R^2$ ) analysis was performed to determine the extent to which the dependent variables were explained by the independent variables. The results indicated that employee engagement explained 25.4 percent of the variance in quality of work life, and lifelong learning explained 19.3 percent of the variance in employee engagement.

### ***Assessment of Predictive Relevance***

The predictive relevance of exogenous variables on endogenous variables was assessed using blindfolding. The values of Stobe-Geisser's Predictive Relevance ( $Q^2$ ) (Geisser, 1974; Stone, 1974) was obtained by performing the blindfolding procedure to assess the model's out-of-sample predictive power (Hair et al. 2017). For this study, the results of predictive relevance analysis indicated that the exogenous variables possessed predictive relevance over the endogenous variables, where the  $Q^2$  values for all predictors (EE: 0.243; LLL: 0.172) were  $> 0$  (Hair et al., 2014; Geisser, 1974; Stone, 1974). Table 8 shows the value of  $Q^2$  for all latent variables.

**Table 8**

### ***Assessment of Predictive Relevance ( $Q^2$ ) for Latent Variables***

Construct	Coefficient of determination $R^2$	Predictive relevance $Q^2$
Employee engagement	0.254	0.243
Lifelong learning	0.193	0.172

*Note.* The predictive relevance for the specific variable was good at  $Q^2 > 0$ .

**Mediation Analysis**

Mediation is “a change in the exogenous construct results in a change of the mediator variable, which, in turn, changes the endogenous construct” (Hair et al., 2017, p. 228) and a mediator transmits the effect of antecedents on the outcome, either in part or whole (MacKinnon et al., 2012). In this case, employee engagement was assessed as the mediator between the exogenous construct of quality of work life with the endogenous construct of lifelong learning.

According to Preacher and Hayes (2008), the mediation analysis involved the bootstrapping procedure to normalise the indirect effect. For this study, the mediation analysis was conducted using the bootstrapping technique introduced by Preacher and Hayes (2008). Hair et al. (2017); Nitzl et al. (2016), as well as Zhao et al. (2010) recommended assessing the results of mediation analysis using the mediation analysis procedure. Table 9 indicates the results of the mediation analysis carried out in this study.

The results demonstrated that the indirect effect of QWL to LLL ( $\beta=0.197$ ;  $t=5.490$ ;  $p=0.000$ ) was significant. However, the direct effect of QWL to LLL ( $\beta=-0.006$ ;  $t=0.095$ ;  $p=0.462$ ) was not significant. Furthermore, the 95 percent Bootstrap Confidence Interval (CI) (Preacher & Hayes, 2008) did not straddle a 0 in between [LLCI = -0.136, ULCI = -0.259]. These indicated that employee engagement fully mediated the relationship between quality of work life and lifelong learning.

**Table 9**

*Mediation Analysis*

Construct	Indirect Effect				Direct effect				Mediation
	$\beta$	<i>t-statistics</i>	<i>p-values</i>	<i>Sig</i>	$\beta$	<i>t-statistics</i>	<i>p-values</i>	<i>Sig</i>	
QWL → LLL	0.197	5.490	0.000	Yes	-0.006	0.095	0.462	No	Full mediation

Note: “QWL” refers to quality of work life; “LLL” refers to lifelong learning.

The results of the study showed that EE had a significant effect on LLL [Beta,  $\beta=0.400$ ;  $t=7.545$  ( $> 1.645$ );  $p=0.000$  ( $< 0.05$ ); LLCI=0.310, ULCI=0.487 (did not straddle a 0 in between);  $f^2= 0.15$ ;  $R^2=0.193$ ;  $Q^2=0.172$ ]. In addition, QWL had no effect on LLL [Beta,  $\beta=-0.006$ ;  $t=0.095$  ( $< 1.645$ );  $p=0.462$  ( $> 0.05$ ); LLCI=-0.113, ULCI=0.104 (straddled a 0 in between);  $f^2= 0.00$ ;  $R^2=0.193$ ;  $Q^2=0.172$ ], but it had a positive effect on EE [Beta,  $\beta=0.491$ ;  $t=8.525$  ( $> 1.645$ );  $p=0.000$  ( $< 0.05$ ); LLCI=0.386, ULCI=0.578 (did not straddle a 0 in between);  $f^2= 0.17$ ;  $R^2=0.254$ ;  $Q^2=0.243$ ]. The mediation analysis results showed that EE fully mediated the impact of QWL on LLL [Beta,  $\beta=0.197$ ;  $t=6.490$  ( $> 1.645$ );  $p=0.000$  ( $< 0.05$ ); LLCI=0.136, ULCI=0.259 (did not straddle a 0 in between)]. To recapitulate, the hypotheses of  $H_1$ ,  $H_3$ , and  $H_4$  were supported, while the hypothesis  $H_2$  was not supported.

## DISCUSSION

This study was aimed at investigating whether employee disposition towards lifelong learning was influenced by quality of work life and employee engagement. It also sought to determine whether there was a mediation effect of employee engagement on the relationship between quality of work life and lifelong learning. Every organisation has its own visions and missions that project its values externally to the society and internally to members of its workforce. Literature point to the fact that organisations benefit a great deal from a working environment that provides quality of work life, preserves employee engagement, and promotes lifelong learning. Furthermore, a special emphasis on lifelong learning has been laid out in the Malaysia Education Blueprint 2015-2025 (Higher Education), outlining the importance of lifelong learning and how to achieve it (Ministry of Education Malaysia, 2015). The first question of whether quality of work life and employee engagement have any effect on lifelong learning has been answered. As stated earlier, this leads to the second question touching on the reasons for the observed tripartite relationships and the third question of how organisations can shape the working environment for the advancement of organisational agendas.

This study has shown that quality of work life has a direct impact on employee engagement. Quality of work life encompasses various

aspects that are meaningful to the employees. These aspects included the factors of health, safety, economy, family, esteem, actualisation, and knowledge, as well as the social and aesthetic dimensions in working in an organisation (Sirgy et al., 2001). The results showed that when organisations put efforts in emphasising on these meaningful aspects of quality of work life by making the working environment more “habitable,” employees would reciprocate by exhibiting behaviours and attitudes characteristic of employee engagement, such as vigour, dedication, and absorption when performing their tasks.

The Social Exchange Theory (Blau, 1960) has explained that where there was reciprocity between parties in the context of making exchanges and an atmosphere of obligations exists, the parties involved could understand that the exchange was an interdependent reciprocity and the receiving party would reciprocate in kind. In this sense, the organisation provides a conducive working environment and receives in return employees’ positive working behaviours and attitudes, similar to the concepts of quality of work life and employee engagement. This notion of the meanings in the work place that has contributed to the positive effect of employee engagement was also supported by Ghadi et al. (2013). A study by Forati (2015) also revealed the influence of information technology on employee quality of work life. This clearly underscored the importance of using information technology as one of the complementary tools to enhance quality of work life in the organisation. Employees cherish the existence of quality of work life. Hence, better working conditions consistent with aspects of quality of work life mean that it is easier and more fulfilling for the employees to actually perform their work. Having such positive mindsets and right tools will inherently contribute to more efforts spent in performing their work, hence employee engagement. Therefore, if the goal of the organisation is to achieve employee engagement, enhancing quality of work life of employees will help in that direction.

This study also showed that there was no significant relationship between quality of work life and lifelong learning. Quality of work life was “a process by which an organisation responds to employee needs by developing mechanisms to allow them to share fully in making the decisions that design their lives at work” (Robbins,

1989, p. 207). However, in this study the concoction of quality of work life and lifelong learning did not yield a positive outcome. In other words, quality of work life did not lead to lifelong learning in organisational settings in Malaysia. This was because while quality of work life was good for enhancing employee engagement, it did not induce the effect of lifelong learning. The reason was that when the working environment was very much geared towards fulfilling employees' needs in health and safety, economy and safety, social, esteem, knowledge, as well as the aesthetic, these employees were being spoon-fed into a sense of complacency that put them in a comfort zone where they did not feel threatened or challenged at the workplace.

This was generally the case as the Malaysian education system has been based on the "spoon feeding system" where knowledge was passed down to learners without requiring them to be involved in critically thinking about that knowledge (Yunus, & Arshad, 2015, p. 43). This "culture" was carried into the workplace where over-reliance on the organizations to give specific instructions on learning has become a norm. Therefore, these employees became indifferent to continuous learning or lifelong learning. This falsehood of security permeated the employees' daily working lives until they eventually disengaged from continuous acquisition of new knowledge and skills. Furthermore, a recent research showed that the long working hours of Malaysian workers had affected their general well-being and job satisfaction at work (Sulaiman et al., 2015). In order to ensure that these employees do not run the risk of being irrelevant or obsolete, organisations must be proactive in injecting the necessary dose of innovativeness and challenges into jobs, such as work rotation or job enrichment. This will ensure continuity in knowledge and idea generation for the future development of organisations.

On another front, this study has also shown that there was a positive and direct relationship of employee engagement on lifelong learning. Employee engagement was characterised by vigour, dedication and absorption (Schaufeli & Bakker, 2004; Schaufeli et al., 2002). These dimensions, if scrutinised from the perspectives of employee workplace attitudes, were pre-cursors to what it took to be lifelong

learners. This was because, as reiterated by Knapper and Cropley (2000), a lifelong learner was someone who was aware of the relationship between learning and real life, recognised the need for lifelong learning, was highly motivated to engage in the learning process, and had the necessary confidence and learning skills. As such, employees who were engaged in the work place had realised the importance to continuously connect to the reality of the environment surrounding them and by enriching themselves with real-time knowledge and skills to stay relevant, hence the close relationship between employee engagement and lifelong learning.

To further connect employee engagement to lifelong learning, it could be seen that employees who showed characteristics of absorption, such as being engrossed in their work, were most likely to also engage in fact-finding activities such as locating information and devising strategies for learning, both of which reflected dimensions of lifelong learning. Moreover, employees who exhibited working attitudes of dedication and vigour also possessed the lifelong learning behaviors of goal setting, knowledge and skills, self-direction, information location and learning strategy. This was consistent with the notion by Osteraker (1999), who emphasised that it was important for every learning organisation to motivate their employees towards continuous learning and lifelong learning. It was crucial for organisations to realise that lifelong learning inherently stemmed from employees who were dedicated and engaged.

Finally, this study has showed that employee engagement fully mediated the relationship between quality of work life and lifelong learning. There was widespread interest in employee engagement in recent years (Bakker et al., 2008; Macleod & Brady, 2008; Robertson et al., 2012). This was because the profound impact of employee engagement on the health of organisations was significant. For example, according to Bates (2004); Johnson (2004); and Kowalski (2003), the “engagement gap” cost the American economy to lose billions due to the loss of productivity. Furthermore, employee engagement positively affected an employee’s positive behaviour that would be beneficial for individual and organisational developments (Salanova & Schaufeli, 2008) and contributed to positive financial

performance and profitability (Armir & Buckley, 2009; Robertson-Smith & Markwick, 2009; Saks, 2006; Salanova et al., 2005). At the same time, it had led to positive effect on the performance of firms and the innovativeness of individual employees (Hurmelinna & Olander, 2017). Therefore, in sum employee engagement is necessary for the promotion of lifelong learning among the employees in organisations. While externally, the performance of the organisation depends on its overall policies towards the markets, internally, its sustainability and relevance depends on the level of engagement its employees have towards their work.

As a conclusion, lifelong learning is a flexible, yet important factor for organisational growth. To promote lifelong learning, organisations have the option of preserving a workforce that subscribes to employee engagement. In turn, to promote employee engagement, it is recommended that organisations build a working environment that is in line with the concept of quality of work life. To harness the energy of lifelong learning, quality of work life, and employee engagement, organisations should start working on quality of work life, continue the efforts on employee engagement, and gain the momentum for lifelong learning.

## **LIMITATIONS AND FUTURE RESEARCH**

As the constructs surrounding lifelong learning, quality of work life, and employee engagement gain increasing recognition, there have also been numerous scales of measurement made available to measure these constructs. The abundance of such scales to measure different dimensions of the same constructs means that researchers should experiment with using different scales to provide alternative views and suggestions on how to improve organisational functions, operations, and directions.

Since its inception, lifelong learning is a construct that can be measured over time. This is because lifelong learning is a continuous process where individuals are empowered to acquire knowledge and skills throughout their lifetime (Longworth & Davies, 1996). Therefore, instead of the cross-sectional study of lifelong learning in

this research, a longitudinal study of lifelong learning should also be conducted. This should be done to gauge the effectiveness of employee disposition towards lifelong learning over time. This will give rise to a better understanding of lifelong learning in the future.

As the COVID-19 pandemic has changed the way we look at organisations and employees, future research can be directed towards investigating how the new normal of conducting business changes the way lifelong learning, quality of work life, and employee engagement are perceived, especially the prevalence of flexible working hours and working from home arrangements. This will add value to the literature and provide useful insights for organisations.

## **CONCLUSION**

Business communities and entrepreneurial organisations are often presented with opportunities and threats to their survival. This is especially so now as the post COVID-19 era will permanently change the way businesses operate. Organisations that are forward looking will thrive by capitalising on the unprecedented opportunities of organisational learning, while organisations that are reluctant to change will perish due to their inability to adapt to the changing environment. Therefore, it is important to re-align the needs of manpower in Malaysia in order to achieve a developed nation status. Now, more than ever, it is particularly important that emphasis be placed on lifelong learning as a means to challenge the status-quo and to enable organisations to be better equipped in handling the ever-changing business environment.

With the COVID-19 pandemic scarring the business landscape, the prospects and challenges of adapting to the new normal of doing business has become very important. Therefore, quality of work life has become more important than ever in retaining quality employees, as it represents a clear statement to the employees that their well-being is of particular concern. This is good business sense because good and loyal employees are excellent assets. In terms of employee engagement, to recognise its importance is an understatement as it has a direct effect in ensuring workforce productivity and reducing



employee turnover. Finally, lifelong learning is important for ensuring continuity of business operations, exploring new niches, opening new markets and frontiers, while remaining relevant in the post COVID-19 era that is filled with unprecedented challenges and opportunities. In Malaysia, the national initiatives for the development of LLL has been consistent with the realization that “the development of a nation of lifelong learners is an important national imperative (Ministry of Education, 2015) and the ambition that “lifelong learning will become a way of life for all Malaysians” (Ministry of Education, 2015). In sum, the changing business environment demands new strategies towards nurturing a committed learning workforce.

### ACKNOWLEDGMENT

This research received no specific grant from any funding agency in the public, commercial, or for profit sectors.

### REFERENCES

- Akram, M., Ilgan, A., Ozu, O., & Shah, A. A. (2017). Quality of school work life of public school teachers: Case from Turkey and Pakistan. *Journal of Education and Educational Development*, 4(2), 244-269.
- Ali, A., Farooq, W., & Khalid, M. (2020). The relationship between organisational climate for innovation and innovative work behavior: Mediating role of employee engagement in Pakistan. *Malaysian Management Journal*, 24, 195-218.
- Alias, N. E., Noor, N. M., & Hassan, R. (2014). Examining the mediating effect of employee engagement on the relationship between talent management practices and employee retention in the information and technology (IT) organisations in Malaysia. *Journal of Human Resources Management and Labor Studies*, 2(2), 227-242.
- Anderson, D. (1999). Navigating the rapids: The role of educational and careers information and guidance in transitions between education and work. *Journal of Vocational Education and Training*, 21(3), 371-399.

- Armir, A. C., & Buckley, F. (2009). Linking trust in the principle to school outcomes: The mediating role of organisation identification and work engagement. *Journal of Education Management*, 23(7), 574-589.
- Bagozzi, R. P., & Yi, Y. (1988). On the evaluation of structural equation models. *Journal of the Academy of Marketing Science*, 16(1), 74-94.
- Bailey, C., Madden, A., Alfes, K., & Fletcher, L. (2017). The meaning, antecedents and outcomes of employee engagement: A narrative synthesis. *International Journal of Management Reviews*, 19(1), 31-53.
- Bakker, A. B., Schaufeli, W. B., Leiter, M. P., & Taris, T. W. (2008). Work engagement: An emerging concept in occupational health psychology. *Work & Stress*, 22, 187-200.
- Baumruk, R. (2004). The missing link: The role of employee engagement in business success. *Workspan*, 47, 48-52.
- Bates, S. (2004). Getting engaged. *HR Magazine*, 49(2), 44-51.
- Bergkvist, L., & Rossiter, J. R. (2007). The predictive validity of multiple-item versus single-item measures of the same constructs. *Journal of Marketing Research*, 44(2), 175-184.
- Blau, P. M. (1960). A theory of social integration. *American Journal of Sociology*, 65, 545-556.
- Bligh, D. (1982). *Professionalism and flexibility in learning*. SRHE Monograph 49. Society for Research into Higher Education.
- Bollen, K. A., & Diamantopoulos, A. (2017). In defense of causal-formative indicators: A minority report. *Psychological Methods*, 22(3), 581-596.
- Brummelhuis, L. L. T., Bakker, A. B., Hetland, J., & Keulemans, L. (2012). Do new ways of working foster work engagement? *Psicothema*, 24, 113-120.
- Bryman, A., & Bell, E. (2015). *Business Research Methods* (4th ed.). OUP Oxford.
- Candy, P. C., Crebert, G., & O'Leary, J. (1994). *Developing lifelong learners through undergraduate education*. Australian National Board of Employment, Education and Training.
- Carlson, H. C. (1980). A model of quality of work life as a developmental process. In W. Burke, & L. D. Goodstein (Eds.), *Trends and issues in OD.: Current theory and practice* (pp. 83-123). University Associates.

- Carter, T. (2005). Learning the business basics. *ABA Journal*, 91, 30.
- Cedefop (2011). *Learning while working: Success stories of workplace learning in Europe*. Publication of the European Union.
- Chan, K., & Wyatt, T. (2007). Quality of work life: A study of employees in Shanghai, China. *Asia Pacific Business Review*, 13(4), 501-517.
- Chen, Z. J., Zhang, X., & Vogel, D. (2011). Exploring the underlying processes between conflict and knowledge sharing: A work-engagement perspective. *Journal of Applied Social Psychology*, 41, 1005–1033.
- Cheng, J., Lu, K., Chang, Y., & Johnstone, S. (2013). Voice behaviour and work engagement: The moderating role of supervisor-attributed motives. *Asia Pacific Journal of Human Resources*, 51, 81–102.
- Cowan, D. T., Roberts, J. D., Fitzpatrick, J. M., While, A. E., & Baldwin, J. (2004). The approaches to learning of support workers employed in the care home sector: An evaluation study, *Nurse Education Today*, 24, 98-104.
- Crawford, E. A., Rich, B. L., Buckman, B., & Bergeron, J. (2014). The antecedents and drivers of employee engagement. In C. Truss, R. Delbridge, K. Alfes, A. Shantz, & E. Soane (Eds.), *Employee engagement in theory and practice* (pp. 57-81). Routledge.
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874-900.
- Denison Consulting (2010). *Organisational culture & employee engagement: What's the relationship?* <http://coralbridgepartners.com/documents/DenisonResearch17C4E5A.pdf>
- Diamantopoulos, A., & Siguaw, J. A. (2006). Formative versus reflective indicators in organisational measure development: A comparison and empirical illustration. *British Journal of Management*, 17(4), 263-282.
- Dodgson, M. (1993). Organisational learning: A review of some literatures. *Organisation Studies*, 14(3), 375-394.
- Edwards, J. R., & Bagozzi, R. P. (2000). On the nature and direction of relationships between constructs and measures. *Psychological Methods*, 5(2), 155-174.

- Ellstrom, E., Ekholm, B., & Ellstrom, P. E. (2008). Two types of learning environments. Enabling and constraining a study of care work. *Journal of Workplace Learning*, 20(2), 84–97.
- Evans, K., Hodkinson, P., Rainbird, H., & Unwin, L. (2006). *Improving workplace learning*. Routledge Taylor and Francis Group.
- Faure, E. (1972). *Learning to be: The world of education today and tomorrow*. UNESCO.
- Fiol, C. M., & Lyles, M. A. (1985). Organisational learning. *Academy of Management Review*, 10(4), 803-813.
- Forati, H. (2015). The effect of the success information technology on the quality of working life of the staff in industrial organisations in Iran. *Malaysian Management Journal*, 19, 1-24.
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1) 39-50.
- Frank, F. D., Finnegan, R. P., & Taylor, C. R. (2004). The race for talent: Retaining and engaging workers in the 21st century. *Human Resource Planning*, 27(3), 12-25.
- Geisser, S. (1974). A predictive approach to the random effect model. *Biometrika*, 61(1), 101-107.
- George, D., & Mallery, P. (2003). *SPSS for Windows step by step: A simple guide and reference 11.0 Update* (4th ed.). Allyn & Bacon.
- Ghadi, M. Y., Fernando. M., Caputi, P. (2013). Transformational leadership and work engagement: The mediating effect of meaning in work. *Leadership & Organisation Development Journal*, 34(6), 532-550.
- Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organisational capabilities perspective. *Journal of Management Information Systems*, 18(1), 185-214.
- Goode, D. A. (1989). Quality of life. In W. E. Kiernan and R. L. Schalock (Eds.), *Economics, industry and disability: A look ahead*. Paul H. Brookes.
- Gustavsson, M. (2012). Learning and propensity for changing the job situation during downsizing. *Journal of Workplace Learning*, 24(7/8), 497-508.
- Hager, P. (2004). Lifelong learning in the workplace? Challenges and issues. *Journal of Workplace Learning*, 16(1/2), 22-32.

- Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A Primer on partial least squares structural equation modeling (PLS-SEM)* (2nd ed.). Sage.
- Hair, J. F., Ringle, C. M., & Sarstedt, M. (2011). PLS-SEM: Indeed a silver bullet. *Journal of Marketing Theory and Practice*, 19(2), 139-152.
- Hair, J. F., Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106-121.
- Hall, G. B., Dollard, M. F., & Coward, J. (2010). Psychosocial safety climate: Development of the PSC-12. *International Journal of Stress Management*, 17, 353–383.
- Hanapi, Z., & Nordin, M. S. (2014). Unemployment among malaysia graduates: graduates' attributes, lecturers' competency and quality of education. *Procedia - Social and Behavioral Sciences*, 112, 1056 – 1063.
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115-135.
- He, H., & Brown, A. D. (2013). Organisational identity and organisational identification: A review of the literature and suggestions for future research. *Group & Organisation Management*, 38(1), 3-35.
- Hian, C. C., & Einstein, W. O. (1990). Quality of work life (QWL): What can unions do? *S.A.M. Advanced Management Journal*, 55(2), 17-22.
- Hill, R. (1996). A measure of learning organisation. *Industrial and Commercial Training*, 28(1), 19-25.
- Hitt, M. A., Ireland, R. D., & Hoskisson, R. E. (2011). *Strategic management. Competitiveness and globalisation: Concepts and cases*. Cengage Learning.
- Hoole, C., & Bonnema, J. (2015). Work engagement and meaningful work across generational cohorts. *South African Journal of Human Resource Management*, 13(1), 1-11.
- Houle, C. O. (1981). Continuing learning in the professions. *Mobius: A Journal for Continuing Education Professionals in Health Sciences*, 1(1), 76-80.

- Hulland, J., Baumgartner, H., & Smith, K. M. (2018). Marketing survey research best practices: Evidence and recommendations from a review of JAMS articles. *Journal of the Academy of Marketing Science*, 46(1), 92-108.
- Hurmelinna, P., & Olander, H. (2017, June). *Antecedents and effects of employee engagement in individual innovation performance* [Conference presentation]. The XXVIII ISPIM Innovation Conference-Composing the Innovation Symphony, Austria, Vienna.
- Ismail, N. A. (2011). Graduates' characteristics and unemployment: A study among Malaysian graduates. *International Journal of Business and Social Science*. 2(16), 94-102.
- Jarvis, P. (2007). *Globalisation, lifelong learning and the learning society: Sociological perspectives*. Routledge.
- Johnson, G. (2004). Otherwise engaged. *Training*, 41(10), 4.
- Jones, L., Brown, D., & Palumbo, D. (2020, March 20). Coronavirus: A visual guide to the economic impact. *BBC News*. <https://www.bbc.com/news/business-51706225>
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692-724.
- Karatepe, O. M. (2012). Perceived organisational support, career satisfaction, and performance outcomes: A study of hotel employees in Cameroon. *International Journal of Contemporary Hospitality Management*, 24(5), 735-752.
- Karatepe, O. M. (2013). High-performance work practices, work social support and their effects on job embeddedness and turnover intentions. *International Journal of Contemporary Hospitality Management*, 25(6), 903-921.
- Kearney, J., & Zuber-Skerritt, O. (2012). From learning organisation to learning community. *The Learning Organisation*, 19(5), 400-413.
- Kerce, E. W., & Booth-Kewley, S. (1993). Quality of work life surveys in organisations: Methods and benefits. In Sage Focus (Ed.), *Improving organisational surveys: New directions, methods, and applications* (pp. 188-209). Sage Publications.
- Kiernan, W. E., & Knutson, K. (1990). Quality of work life. In R. L. Schalock, & M. J. Begab (Eds.), *Quality of life: Perspectives and issues*. American Association of Mental Retardation.

- Kim, T., Karatepe, O. M., Lee, G., Lee, S., Hur, K., & Xijing, C. (2017). Does hotel employees' quality of work life mediate the effect of psychological capital on job outcomes? *International Journal of Contemporary Hospitality Management*, 29(6), 1638-1657.
- Kim, W., Kolb, J. A., & Kim, T. (2012). The relationship between work engagement and performance: A review of empirical literature and a proposed research agenda. *Human Resource Development Review*, 12(3), 1-29.
- Kirby, J. R., Knapper, C., Lamon, P., & Egnatoff, W. J. (2010). Development of a scale to measure lifelong learning. *International Journal of Lifelong Education*, 29(3), 291-302.
- Kline, P. (2000). *The handbook of psychological testing* (2nd ed.). Routledge.
- Kline, R. B. (2011). Principles and practice of structural equation modeling. In T. D. Little (Ed.), *Structural equation modeling* (3rd ed.). The Guilford Press.
- Knapper, C., & Cropley, A. J. (2000). *Lifelong learning in higher education* (3rd ed.). Kogan Page.
- Kock, N., & Lynn, G. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. *Journal of the Association for Information Systems*, 13(7), 546-580.
- Korunka, C., Hoonakker, P., & Carayon, P. (2008). Quality of working life and turnover intention in information technology work. *Human Factors and Ergonomics in Manufacturing*, 18(4), 409-423.
- Kowalski, B. (2003). The engagement gap. *Training*, 40(4), 62.
- Kyndt, E., & Baert, H. (2013). Antecedents of employees' involvement in work-related learning: A systematic review. *Review of Educational Research*, 83(2), 273-313.
- Lau, R. S. M. (2000). Quality of work life and performance: An ad hoc investigation of two key elements in the service profit chain model. *International Journal of Service Industry Management*, 11(5), 422-437.
- Longworth, N., & Davies, W. K. (1996). *Lifelong learning: New vision, new implications, new roles for people, organisations, nations and communities in the 21st century*. Kogan Page.

- MacKinnon, D. P., Coxé, S., & Baraldi, A. N. (2012). Guidelines for the investigation of mediating variables in business research. *Journal of Business and Psychology, 27*(1), 1-14.
- Macleod, D, & Brady, C. (2008). *The extra mile. How to engage your people to win.* Prentice Hall Financial Times.
- Martel, J., & Dupuis, G. (2006). Quality of work life: Theoretical and methodological problems, and presentation of a new model and measuring instrument. *Social Indicators Research, 77*, 333-368.
- Maslach, C., Jackson, S. E., & Leiter, M. P. (1997). Maslach Burnout Inventory. In C. P. Zalaquett, & R. J. Wood (Eds.), *Evaluating stress: A book of resources* (pp. 191-218). Scarecrow Press.
- McLean, R., He, L., & Tappe, A. (2020, February 27). Dow plunges 1,000 points as coronavirus cases surge in South Korea and Italy. *CNN*. <https://edition.cnn.com/2020/02/23/business/stock-futures-coronavirus/index.html>
- McGrew, A. (2016). Globalization and global politics. In J. Baylist, S. Smith, & P. Owens (Eds.), *The globalization of world politics* (7th ed.). University Press.
- McLaughlin, G., & Stankosky, M. (2010). Knowledge has legs: Personal knowledge strategies shape the future of knowledge work and knowledge management. *On the Horizon, 18*(3), 204-212.
- Memon, M. A., Saleh, R., Baharom, M. N. R., & Harun, H. (2015). A review of the relationship between person-job and person-organisation fit, employee engagement and turnover intention: A three step model. *Asian Social Science, 11*(2), 313-320.
- Ministry of Education Malaysia (2015). *Malaysia Education Blueprint 2015-2025 (Higher Education)*. Kementerian Pendidikan Malaysia. <https://www.mohe.gov.my/muat-turun/awam/penerbitan/pppm-2015-2025-pt/5-malaysia-education-blueprint-2015-2025-higher-education>
- Misni, F., Mahmood, N., & Jamil, R. (2020). The effect of curriculum design on the employability competency of Malaysian graduates. *Management Science Letters, 10*(4), 909-914.
- Moss, S., Prosser, H., & Costello, H. (1998). Reliability and validity of the PAS-ADD checklist for detecting psychiatric disorders in adults with disability. *Journal of Intellectual Disability Research, 42*, 173-183.



- Nadler, D. A., & Lawler, E. E. III (1983). Quality of work life: Perceptions and direction. *Organisational Dynamics*, 11(3), 20–30.
- Nguyen, D. T., Nguyen, D. P., & Tran, H. M. Q. (2014). Marketers' psychological capital and performance. *Asia-Pacific Journal of Business Administration*, 6(1), 36 – 48.
- Nitzl, C., Roldan, J. L., & Cepeda, G. (2016). Mediation analysis in partial least squares path modeling: Helping researchers discuss a more sophisticated models. *Industrial Management and Data Systems*, 116(9), 1849-1864.
- Nayak, T., Sahoo, C. K., & Mohanty, P. K. (2018). Workplace empowerment, quality of work life and employee commitment: A study on Indian healthcare sector. *Journal of Asia Business Studies*, 12(2), 117-136.
- Osteraker, M. C. (1999). Measuring motivation in a learning organisation. *Journal of Workplace Learning*. 11(2), 73-77.
- Ozcan, D. (2011). Evaluation of 4th and 5th classes teachers' competence perceptions towards lifelong learning. *International Journal of Learning and Teaching*, 3(1), 1-9.
- Park, Y. K., Song, J. H., Yoon, S. W., & Kim, J. (2014). Learning organisation and innovative behavior: The mediating effect of work engagement. *European Journal of Training and Development*, 38(1-2), 75-94.
- Parker, S., & Griffin, M. (2011). Understanding active psychological states: Embedding engagement in a wider nomological net and closer attention to performance. *European Journal of Work and Organizational Psychology*, 20, 60–67.
- Passaris, C. (2006). The business of globalization and the globalization of Business. *Journal of Comparative International Management*, 9(1), 3-18.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J-Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5), 879-903.
- Polit, D. F., & Beck, C. T. (2010). Generalization in quantitative and qualitative research: Myths and strategies. *International Journal of Nursing Studies*, 47(11), 1451-1458.
- Pogkas, D., Sam, C., & Whiteaker, C. (2020, March 13). The airlines halting flights as virus outbreak spreads. *Bloomberg News*.

<https://www.bloomberg.com/graphics/2020-china-coronavirus-airlines-business-effects>

- Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40(3), 879-891.
- Pruijit, H. (2000). Performance and quality of working life. *Journal of Organisational Change Management*, 13(4), 389-400.
- Ramayah, T., Cheah, J., Chuah, F., Ting, H., & Memon, M.A. (2016). *Partial least squares structural equation modelling (PLS-SEM) using SmartPLS 3.0: An updated practical guide to statistical analysis* (Basic level). Pearson.
- Rana, S., Ardichvili, A., & Tkachenko, O. (2014) A theoretical model of the antecedents and outcomes of employee engagement: Dubin's method. *Journal of Workplace Learning*, 26(3/4), 249-266.
- Rees, C., Alfes, K., & Gatenby, M. (2013). Employee voice and engagement: Connections and consequences. *The International Journal of Human Resource Management*, 24(14), 2780-2798.
- Rego, A., & Cunha, M. P. (2008). Authentizotic climates and employee happiness: Pathways to individual performance? *Journal of Business Research*, 61(7), 739-752.
- Richman, A. (2006). Everyone wants an engaged workforce how can you create it? *Workspan*, 49(1), 36-39.
- Ringle, C. M., Wende, S., & Becker, J. M. (2015). *SmartPLS 3*. SmartPLS GmbH.
- Robbins, S. P. (1989). *Organisational behavior: Concepts, controversies, and applications*. Prentice Hall.
- Robertson, I. T., Birch, A. J., & Cooper, C. L. (2012). Job and work attitudes, engagement and employee performance: Where does psychological well-being fit in? *Leadership & Organisaiton Development Journal*, 33(3), 224-232.
- Robertson-Smith, G., & Markwick, C. (2009). *Employee engagement: A review of current thinking*. Institute for Employment Studies.
- Rowley, J. (2014). Designing and using research questionnaires. *Management Research Review*, 37(3), 308-330.
- Saks, A. M. (2006). Antecedents and consequences of employee engagement. *Journal of Managerial Psychology*, 21(7), 600-619.

- Salanova, M., Agut, S., & Peiro, J. M. (2005). Linking organisational resources and work engagement to employee performance and customer loyalty: The mediation of service climate. *Journal of Applied Psychology*, 90(6), 1217-1227.
- Salanova, M., & Schaufeli, W. B. (2008). A cross-national study of work engagement as a mediator between job resources and proactive behavior. *The International Journal of Human Resource Management*, 19(1), 116-131.
- Sander, L. (2020, March 11). Coronavirus could spark a revolution in working from home. Are we ready? *The Conversation*. <https://theconversation.com/coronavirus-could-spark-a-revolution-in-working-from-home-are-we-ready-133070>
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organisational Behavior*, 25(3), 293-315.
- Schaufeli, W. B., Salanova, M., Gonzalez-Roma, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3(1), 71-92.
- Shan, H. (2018). Towards a postcolonial politics of appearance: Unsettling lifelong learning as a racial contract. *International Journal of Lifelong Education*, 38(1), 34-47.
- Shaw, K. (2005). An engagement strategy process for communicators. *Strategic Communication Management*, 9(3), 26-29.
- Shuck, B., & Rocco, T. S. (2014). Human resource development and employee engagement. In C. Truss, R. Delbridge, K. Alfes, A. Shantz, & E. Soane (Eds.), *Employee engagement in theory and practice* (pp. 116-130). Routledge.
- Shuck, B., & Wollard, K. (2010). Employee engagement and HRD: A seminal review of the foundations. *Human Resource Development Review*, 9(1), 89-110.
- Sim, J., Zadnik, M. G., & Radloff, A. (2003). University and workplace cultures: Their impact on the development of lifelong learners. *Radiography*, 9, 99-107.
- Sirgy, M. J., Efraty, D., Siegel, P., & Lee, D. J. (2001). A new measure of quality of work life (QWL) based on need satisfaction and spillover theories. *Social Indicators Research*, 55, 241-302.

- Stone, M. (1974). Cross-validators choice and assessment of statistical predictions. *Journal of the Royal Statistical Society*, 36, 111-117.
- Sulaiman, N., Choo, W., Yassim, A., Van Laar, D., Chinna, K., & Majid, H. (2015). Assessing quality of working life among Malaysian workers. *Asia Pacific Journal of Public Health*, 27(8), 94S-100S.
- Sulaiman, N., & Ismail, R. (2019). Re-aligning the needs of manpower for the Vision 2020: The case of the manufacturing sector in Malaysia. *International Journal of Business and Management Science*, 9(3), 407-423.
- Sulea, C., Virga, D., Maricutoiu, L. P., Schaufeli, W., Dumitru, C. Z., & 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.
- Sullivan, G. M., & Feinn, R. (2012). Using effect size - or why the P value is not enough. *Journal of Graduate Medical Education*, 4(3), 279-282.
- Sykes, W., & Morton-Williams, J. (1987). Evaluating survey questions. *Journal of Official Statistics*, 3(2), 191-207.
- Teo, T. S. H., Srivastava, S. C., & Jiang, L. (2008). Trust and electronic government success: An empirical study. *Journal of Management Information Systems*, 25(3), 99-132.
- Truss, K., Soane, E., Edwards, C. Y. L., Wisdom, K., Croll, A., & Burnett, J. (2006). *Working life: Employee attitudes and engagement*. Chartered Institute of Personnel and Development.
- Truss, C., Soane, E., Shantz, A., Alfes, K., & Delbridge, R. (2013). Employee engagement, organisational performance and individual wellbeing: Exploring the evidence, developing the theory. Editorial introduction to special issue. *International Journal of Human Resource Management*, 24, 2657-2669.
- Ugwu, F. O., Onyishi, I. E., & Rodriguez-Sa'nchez, A. M. (2014). Linking organisational trust with employee engagement: The role of psychological empowerment. *Career Development International*, 43(3), 377-400.
- U.S. Chamber of Commerce (2020, March 16). Quick take: Coronavirus' economic impact. *U.S. Chamber of Commerce*. <https://www.uschamber.com/series/above-the-fold/quick-take-coronavirus-economic-impact>

- Van der Sluis, L. E. C. (2004). Designing the workplace for learning and innovation. *Development and Learning in Organisations*, 18(5), 10-13.
- Vincent-Hoper, S., Muser, C., & Janneck, M. (2012). Transformational leadership, work engagement, and occupational success. *Career Development International*, 17(7), 663-682.
- Wahlberg, T. A., Ramalho, N., & Brochado, A. (2017). Quality of working life and engagement in hostels. *Tourism Review*, 72(2), 411-428.
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Reciprocal relationships between job resources, personal resources, and work engagement. *Journal of Vocational Behavior*, 74, 235-244.
- Yasini, A., Hayat, A., Yasini, T., & Saadattalab, A. (2011). The relationship between quality of work life and job motivation among Iranian high school teachers. *Malaysian Management Journal*, 15, 31-43.
- Yeo, R. K., & Li, J. (2013). In pursuit of learning: Sensemaking the quality of work life. *European Journal of Training and Development*, 37(2), 136-160.
- Yunus, M. M., & Arshad, N. D. M. (2015). ESL teachers' perceptions toward the practices and prospects of autonomous language learning. *Asian Social Science*, 11(2), 41-51.
- Zakariya, Z. (2017). Job mismatch and on-the-job search behavior among university graduates in Malaysia. *Asian Economic Journal*, 31(4), 355-379.
- Zhao, X., Lynch Jr., J. G., Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37(2), 197-206.
- Zhou, H., & Tu, C. C. (2019). Impacts of learning content focus and collaborative learning on university teachers' lifelong learning. *Journal of Workplace Learning*, 31(7), 442-464.