

# Managing Emotional Intelligence of Construction Players During COVID-19 in Malaysia

\*Mohd Ashraf Mohd Fateh<sup>1</sup>, Ainun Najwa Supian<sup>1</sup>  
and Cheng Siew Goh<sup>2</sup>

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**Abstract:** Construction players are expected to be high in emotional intelligence to provide the best quality services. However, there are still gaps that exist between emotional intelligence and construction players, especially with the current issue that they have experienced during the pandemic phase. The objectives of this study are: (1) to investigate the issues that affect the project's success during the pandemic coronavirus disease 2019 (COVID-19), (2) to evaluate the current emotional intelligence of construction players during the pandemic and (3) to analyse the emotional intelligence factors of construction players during the pandemic. This study utilised a quantitative approach with Trait Emotional Intelligence Questionnaire (TEIQue) statements in gathering the data from the relevant construction players. A total of 108 respondents participated in this study. The collected data was analysed using mean, standard deviation and percentage analysis. The findings reveal that construction delays were the main project performance problem in Malaysia during the pandemic. Anxiety was the main emotion that affected the construction players during the pandemic, hitting heavily on the male respondents. Self-control was highlighted as the main emotional intelligence factor and the most important trait of construction players. The benefit of this study is that it can be used as a way of handling projects in the context of emotional intelligence for the construction players, which is in line with Sustainable Development Goal 8 (SDG 8) which is about decent work and economic growth.

**Keywords:** Emotional intelligence, Construction industry in Malaysia, Trait Emotional Intelligence Questionnaire, Project performance, Pandemic outbreak

## INTRODUCTION

### Construction Industry in Malaysia

The construction industry in Malaysia is one of the most productive sectors of the country's economy. It has also been highlighted that involvement in the construction sector plays a role in optimising people's living conditions. For the past two decades, it has contributed between 3% and 5% of the gross domestic product (GDP) of the entire economy, as reported by Gamil and Abdul Rahman (2020). According to Khan, Liew and Ghazali (2014), a well-constructed construction project

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<sup>1</sup>School of Construction and Quantity Surveying, College of Built Environment, Universiti Teknologi MARA, 40450 Shah Alam, Selangor, MALAYSIA

<sup>2</sup>Faculty of Architecture and Built Environment, Northumbria University, Newcastle upon Tyne, NE1 8ST, UNITED KINGDOM

\*Corresponding author: mohdashraf@uitm.edu.my

should be a labour-intensive endeavour that would offer several job opportunities to unskilled, semi-skilled and skilled workers. The involvement of employees is prominent throughout the same time as well. As a result, employment accounted for 8.5% of the workforce in Malaysia, ranging from 7.2% to 9.5%. However, the industry is also heavily reliant on foreign labour, with foreign workers making up an estimated 80% of the workforce (Hamid et al., 2012). Therefore, it has several negative consequences, including a disproportionate impact on unemployment than other industries. A reduced level of unemployment, as well as decreased levels of poverty, are both impacts that result from being employed.

Malaysian construction is critical in producing income, constructing socio-economic infrastructures and building structures. As a result, this industry employs over a million people, contributing to an average of 9.2% of the accessible workforce in 2010 as highlighted by Alaloul et al. (2021). Even though the construction industry has been known as one of the sectors that contribute to the country's economy, as stated by Gamil and Abdul Rahman (2020) it is also one of the sectors that was most affected during the pandemic. This was the case, as it was excluded from the primary sectors that have been announced by the government for prevention measures to curb the spread of the virus. Esa, Kamal and Ibrahim (2020) outline many consequences of the pandemic phase that have impacts on project delivery. Zhang, Yao and You (2020) stated that an effective project outcome is primarily dependent on schedule, cost and quality. Apart from project delivery being affected as a consequence of the pandemic, the emotional implications for construction players also influenced the project outcomes. Kukah et al. (2021) highlighted that emotional intelligence has pointed to some of the weaknesses of the construction players. Therefore, this study aims to discover the consequences of successful project outcomes during pandemics related to emotional intelligence among the construction players in Malaysia.

Emotional intelligence is described as the capacity to identify and recognise one's own emotions as well as the capability to control and channel those emotions toward tasks such as problem solving and cognition. It further encompasses the ability to control emotions, which includes the authority to monitor one's own emotions and the potential to help others do the same. In 1990, Peter Salovey and John Mayer introduced the first formal theory of emotional intelligence, which was further developed by Kannaiah (2015). It is critical for managers and other company leaders to behave in emotionally intelligent ways, just as it is for new employees with emotional intelligence (Fiorilli et al., 2020). Emotional intelligence development could increase morale, motivation and teamwork, which has an influence on the achievement of greater success. This could be seen by some information that stated 71% of managers hire workers who have a high emotional intelligence/emotional quotient (EQ) rather than an intelligence quotient (IQ) because EQ is more adapted to handle stress, which eventually enhances performance (Career Builder, 2011). Maintaining a healthy, focused and balanced life requires the ability to regulate and minimise stress. Emotional intelligence is the capability to detect, understand and utilise emotions constructively to alleviate stress and anxiety, connect successfully, empathise with others, overcome challenges and defuse conflict, as highlighted by Cui (2021). Emotional intelligence has a major impact on mental well-being and becomes an important factor in physical health. Losing a job might evoke emotions of instability and uncertainty, which ultimately has a negative impact on one's mental health, expressing anxiety and sadness. Even

though the World Health Organization (WHO) has lifted COVID-19 as a pandemic, this research is still relevant and can be applied to other times of national disruption such as wars and natural disasters.

### **Issues on Emotional Intelligence in the Construction Industry**

Many factors influence project performance, such as delays in hand over the projects. The construction sector opened to recover the country's economy during the four phases of the Movement Control Order (MCO). Due to the time gap during MCO periods, material supplies, work breakdown and project timeline rescheduling are all delayed (Esa, Kamal and Ibrahim, 2020). The contractors had to rearrange the project schedules and alter the work breakdown, which increased contractor stress as they attempted to meet client requirements within a restricted budget and working time. Hence, efficiency and quality losses are the impacts of being stressed, as reported by Zhang, Yao and You (2020). Besides, it also stated that people who are more prone to less productive or work-related stress have low EQ (Arora, 2017). Pinto, Patanakul and Pinto (2016) added that work burnout is primarily the result of stressful job demands. This was agreed by (Mohd Fateh and Aziz, 2021) reported that further complexity inevitably impacts execution time and expenditures as the project's timeline and pricing have to be rescheduled and revised. Esa, Kamal and Ibrahim (2020) stated that the construction players were facing cost increments between MYR100,000 and MYR300,000 because of the cost of providing all the workers' hygiene sets, such as masks and hand sanitiser. This requirement for workers to undergo a COVID-19 test on the construction site before going back to work is the second origin of the cost propensity. Hence, the site workers are the key forces in the execution of any construction project. The project will be done as scheduled if the competent employees on-site reach job satisfaction.

According to Ali and Anwar (2021), organisational management and salary are highly effective factors that lead to worker job satisfaction. Employees with a high EQ are more capable of working in groups, more adaptable to uncertainty and more satisfied with their jobs. Specialised workers are allowed to work at one time and one place to practise social distancing among workers. Due to that, the project's productivity would be negatively impacted. Previously, workers were able to finish 30% to 50% of work in one area or space with a few workers on one day. However, because of this current circumstance, productivity decreased by 10% to 30%. Aside from that, the MCO also generates some inexperienced employees' layoffs, leading to a shortage of budget to recruit them with no related expertise. This observation represents a limitation for employees due to the pandemic as competent and semiskilled people are considered crucial in this projected timeframe (Esa, Kamal and Ibrahim, 2020). This was echoed by Shanmugam et al. (2020), who reported that laying off workers brings in feelings of uncertainty and insecurity – which eventually disrupts mental health, leading to feelings of anxiety and depression. Li et al. (2022) showed that mental distress has a negative influence on the worker's attitudes regarding safety and engaging in unsafe behaviour. Taibi et al. (2021) have demonstrated that mental distress is strongly associated with both musculoskeletal pain and work-related injuries. Yet, this is known as the prevalence of mental health problems in construction players. From the issues highlighted, it is important to conduct this research to know the impacts that have happened because of the pandemic on the construction industry as well as the main contractors who are affected in managing the ongoing projects in Malaysia.

Therefore, the objectives of this research are: (1) to investigate the issues that affect the project's success during the pandemic COVID-19, (2) to evaluate the current emotional intelligence of construction players during the pandemic and (3) to analyse the emotional intelligence factors of construction players during the pandemic. The output of these studies will lead to an improvement in emotional intelligence among construction players.

## LITERATURE REVIEW

### Construction industry and COVID-19 pandemic

The term "Movement Control Order", which is the "lockdown" in Malaysia, refers to the limitation of people's movement between locations, either locally or worldwide. This movement restriction has been deployed to halt the spread of undesirable illnesses or viruses. Under the Control and Prevention of Infection Diseases Act 1988 and Police Act 1967, MCO was implemented due to the number of affected people (Esa, Kamal and Ibrahim, 2020). Malaysia's government has adopted four distinct types of MCOs throughout a two-year period, each with its own set of standard operating procedures (SOPs), which are as follows: MCO, Enhanced MCO (EMCO), Conditional MCO (CMCO), Recovery MCO (RMCO) (Esa, Kamal and Ibrahim, 2020). During MCO, most of the major sectors are prohibited from operating during this period and the majority of workers are advised to work from home or stay at home to limit virus transmission; this began in March 2020 until April 2020. All sectors that contribute to the Malaysian economy need to close down, except supermarkets, public markets, sundry shops and convenience stores selling essential goods. The EMCO phase started when the government announced the control to curb the spread of COVID-19 as well as to make it easier for the authorities to trace the cases unit by unit. The CMCO Phase occurred when new COVID-19 cases fell below 100 cases per day. There are MCO regulations that allow specific sectors to reopen. The primary goal of this CMCO is to assist the government in recovering the momentum of Malaysia's economy.

There are a few conditions and standards that employers and employees must meet to prevent the virus from spreading in their workplaces, especially those in the construction industry. Further evidence is given by Esa, Kamal and Ibrahim (2020), who stated that more generally asserts that the government has lost around MYR2.4 billion each day throughout the MCO phases 1 to 3 periods, totalling around MYR63 billion till May 2020; if the MCO is extended another month, total losses would reach MYR98 billion. Additionally, the construction sector estimates daily losses of around MYR11.6 billion. As indicated by Minister of Work, Dato' Sri Hj Fadillah, in a BERNAMA TV interview, as an exit plan for the MCO and CMCO, the RMCO phase will take over and assume responsibility for future operations with strict SOPs. The RMCO helped the construction sector enhance productivity so that enough construction supplies could be provided, as more skilled employees were hired and working hours returned to normal. From this background of research, it can be concluded that pandemics have big effects on the construction sector as well as the emotional intelligence of construction players.

## **Overview of Emotional Intelligence**

Emotional intelligence is a term defined by Ibrahim (2017) that refers to the ability to perceive one's own and other people's feelings as a reference for thinking and behaviour. This fact is supported by the findings that emotional intelligence is the ability and learned skill of the cognizance and management of one's own and others' emotions, which can be developed and improved (Khosravi, Rezvani and Ashkanasy, 2020; Rezvani et al., 2016). Kannaiah (2015) stated that more generally asserts that emotional intelligence, rather than IQ, is a better predictor of job performance and a leader gives further support. Though the term was popularly utilised in the 1990s, it has been used extensively earlier to seek advice from other social wisdom. Based on previous studies (Goleman et al., 2021; Bar-On, 2006; Mayer et al., 2004), emotional intelligence behaviours have had a greater impact on success than IQ. Goleman et al. (2021) work extends and generalises this concept of emotional intelligence by relating it to the workplace context. A study of emotional intelligence subjects by Schutte et al. (2001) found that the achievement of trust, loyalty, commitment, innovation and performance improvement of individuals, groups and organisations are proven to be associated with managing emotions efficiently by emulating Goleman's idea.

In the context of Malaysia, a study (Kumar and Muniandy, 2012) has shown that the emotional intelligence has a positive correlation with a process's cognitive abilities and the competency of a person in completing tasks, while in another study (Sunindijo and Hadikusumo, 2014), further research was carried out to understand the profile of emotional intelligence for managing conflicts in the construction industry. However, the previous study does not provide direct evidence of emotional intelligence in the current Malaysian construction industry. In addition to insufficient evidence, there are issues with this approach due to the pandemic phase, which could have an impact on emotional intelligence among construction players. However, many studies have looked at the profile of emotional intelligence among individuals who work as construction players. Hence, no reports related to emotional intelligence among main contractors during the pandemic were found.

## **Trait Emotional Intelligence Questionnaire (TEIQue)**

Furnham and Petrides (2001) developed the TEIQue. It was a 30-statement questionnaire designed to measure emotional intelligence on a worldwide scale. A wide variety of studies have adapted the TEIQue to focus on the emotional intelligence mainly in the academic setting, such as Fiorilli et al. (2020) and Petrides, Frederickson and Furnham (2004). The most recent evolution has resulted in a new version of TEIQue which is more global. More specifically, the TEIQue assesses various characteristics, which are divided into four categories: well-being, self-control, emotions and sociability. According to Chirumbolo et al. (2019), the TEIQue is the best predictor of multiple psychological criteria, at the same time showing incremental validity beyond age and gender. Gardner and Qualter (2010) and Mavroveli et al. (2007) agreed that TEIQue is the best predictor of health outcomes among all instruments. There are no right or wrong answers. There are seven possible responses to each statement, ranging from "Completely Disagree" = 1 to "Completely Agree" = 7, using the seven-point Likert scale. The full questionnaire can be found at <https://psychometriclab.com/>. For this justification, the TEIQue was used in this study.

## **Relationship between emotional intelligence and construction industry**

The construction industry is considered the industry that has the most challenging conditions for managing the workforce in a better way to achieve project success. As the construction activities are project-based, the participations comprise people from different professions like architects, engineers, contractors and suppliers. Different disciplines worked together for a short period to bring the project to a successful conclusion. Due to the multidisciplinary nature of the project team, the project manager has a difficult time hiring the right person at every stage of the project (Saini and Soni, 2016). For project managers, various skills and traits are essential to managing the whole activities of the construction project. There are mainly five general skills which are the basis for enhancing the skills of project management: communication, leadership, negotiation, problem-solving and marketing (Edum-Fotwe and McCaffer, 2000). People in project management have been paying more attention to the ways to make the work environment more collaborative and team-based for the past two decades. To achieve this, better interaction between the participants is required. When the focus is on improving the interactions between others, it becomes evident that emotional intelligence plays a vital role. A person who is good at emotional intelligence has skills that help them to be aware of emotions and be able to express them in a way that makes sense. The person also has the skills that help control emotions (Ibrahim, 2017). Numerous studies have established that emotional intelligence is critical for increasing workplace productivity, managerial performance and an individual's success (Mayer et al., 2004).

The construction industry has a project-based nature since people from different groups with differences in opinion and goals are brought together for a short period. They are adamant about the establishment of cooperative relationships with everyone (Love, Edwards and Wood, 2011). The project managers need to have strong interpersonal skills, leadership traits and personal attributes – all the skills to handle all these variables and meet the project's goals. These skills are part of emotional intelligence. An organisation's performance increases when managers with high levels of emotional intelligence have pleasant interactions with their employees (Barsade, 2002), better coordination (Sy, Côté and Saavedra, 2005) and stronger interpersonal bonds (Wong and Law, 2002). Employees with high emotional intelligence put in better work and are happier at work (Wong and Law, 2002). The previous findings show that emotional intelligence is extremely relevant in the construction industry. They demonstrated that emotional intelligence has a good impact on construction participants and concluded that construction project managers should make managers aware of the value of emotional intelligence and other construction executives' performance.

Pearson et al. (2001) conducted a survey in which they discovered that employees aspire to have professionals with a greater range of soft skills (Mo, Dainty and Price, 2006). One more survey was performed (Davis and Humphrey, 2012) and the results showed that employers sought individuals with stronger interpersonal skills, such as problem-solving abilities and language proficiency, as well as team players with the ability to serve as team captains (Davis and Humphrey, 2012). All these polls clearly demonstrate the importance of emotional intelligence in the management of construction projects. Soft skills, such as collaboration and trustworthiness, are in high demand across all industries and levels of business. Shuman, Besterfield-Sacre and McGourty (2005) set the criteria for the engineering

graduates of 2020 as they should have more analytical skills, leadership, creativity, professionalism and ingenuity; while Love, Edwards and Wood (2011) added that emotional intelligence is critical in the construction industry. Teams and individuals with high emotional intelligence give a stronger platform for the project manager to manage the human resources of the project (Oke and Aigbavboa, 2017).

### **Emotional intelligence required by construction player**

According to Setiawan and Bhakti (2014), a project manager is expected to be a leader capable of organising and managing the construction workers. Therefore, it becomes necessary to have a project manager with strong leadership skills and relationship management abilities. Based on the study by Kobra and Esmatullah (2021), the project manager of a construction building has a 40% tendency toward the surgency personality type, which is someone who possesses strong leadership abilities and is adept at dealing with others; and that the project manager has a 60% tendency toward emotional intelligence, which indicates that the project manager is dominantly capable of managing relationships. On the other hand, a site manager must be competent to manage and supervise all existing activities in the construction area as reported by (Robbins and Judge, 2015). The site manager oversees the proper monitoring of the construction project. As a result, site managers with strong leadership and relationship management skills are required as they have to coordinate with all of the projects' co-workers as well as the social environment.

According to the findings by Robbins and Judge (2015), building construction professionals at the position level of site manager have the lowest percentage of personality types known as "conscientiousness" and "openness to experience", which are traits experienced by people who are goal-oriented and disciplined. A total of 42.85% of site managers of construction projects tend to have high motivation in emotional intelligence. This negative consequence is contradictory to a site manager's required leadership abilities. According to Robbins and Judge (2015), only 14% of site managers have an urgency personality type and none of the site managers had an emotional intelligence dimension that demonstrates good relationship management skills. Robbins and Judge (2015) added that the term "site engineer" is often described as a young construction professional who has just begun working in the construction industry. Professionals in this position are required to grasp the full understanding of the building process from start to finish to be recruited to an expert position such as site manager or project manager. Due to this, the site engineer has to be highly motivated and enthusiastic about learning new skills. The site engineer of a construction project has a 33% tendency of the conscientiousness personality type, which is described as someone disciplined and ambitious and a 25% tendency of the openness to experience personality type, which is described as someone who enjoys trying new things and has 66% of his motivation within the emotional intelligence (Robbins and Judge, 2015).

Goleman et al. (2021) highlighted that emotional intelligence is a prerequisite for successful contractors. The similarities between the findings state that it is conceivable for an individual with high emotional intelligence to adapt to different situations. The contractor can be a role model for other workers, increasing their trust when the contractor can manage emotions through self-discipline (Moshood et al., 2020). This is consistent with the idealised effect's spirit. Such contractors are keen to appreciate people's emotions; thus, they are given jobs where workers may

easily convey what is expected of them, thereby providing motivation. Moreover, contractors' selflessness and empathy enable them to comprehend workers' requirements, communicate with them appropriately and manage relationships constructively (Di Fabio and Saklofske, 2014). Communication and interaction between project members are critical to the success of any project. Because of this, project members must have many interpersonal skills to boost the likelihood of the project's success. Based on Makkar and Basu (2017), there are a few construction players that observed their emotional intelligence at the workplace, such as project managers, site engineers, site managers and contractors. In regard to office experience, employees who had spent more time in the workplace scored higher on the empathy and social responsibility subscales. This indicates that individuals with more office experience typically have a better grasp of what others are thinking and feeling. Additionally, they are more likely to contribute to the "community as a whole". The subscales of empathy and social responsibility are part of the interpersonal skills described previously that are required for successful projects. The relationship between office experience and high scores on these two subscales of empathy and social responsibility highlights the importance of investigating potential practises and approaches towards improving construction personnel's interpersonal skills.

This research endeavours to fill the existing gap in understanding how pandemics and construction-industry-specific factors influence emotional intelligence in the Malaysian construction sector. The outcomes of this study will provide valuable insights for industry practitioners, policymakers and researchers, enabling the development of targeted interventions to enhance emotional well-being and foster a resilient construction workforce. Ultimately, this research contributes to the advancement of knowledge in the field of emotional intelligence in construction and supports the well-being and productivity of construction professionals in challenging times.

## **METHODOLOGY**

The scope of this research is mainly focused on the projects that were affected during the pandemic, which involved respondents from construction players who work in construction, such as project directors, project managers, architects, site agents, site engineers, quantity surveyors and G7 contractors' safety officers in the Klang Valley area. The observation point is in Klang Valley because it is one of the most developed areas that is most affected during the pandemic phase. Moreover, construction players are chosen as respondents because they are in the positions to handle projects at the site. To ensure the data is precisely collected, data on construction projects must be collected during the pandemic; the projects must be either still occurring or finished within the period. The research methodology is comprised of three distinct actions. First, a thorough and detailed literature evaluation of books, articles from both international and national journals, sessions, reports, bulletins and theses relating to the topic. Second, a questionnaire survey was distributed to all related construction players highlighted in the Klang Valley area. The respondents were selected based on their qualifications and extensive expertise in the areas of their positions. The data was gathered through a questionnaire survey. Finally, the survey was analysed using the SPSS software.



Quantitative data collection relies on probability sampling, with randomisation as part of the process. The respondents composed of construction players who worked in the construction industry during the pandemic phase in the Klang Valley area. This group involved consultants and contractors who hold a Construction Industry Development Board (CIDB)-certified Grade 7 qualification, Pertubuhan Arkitek Malaysia (PAM), Board of Quantity Surveyors (BQSM) and Board of Engineers Malaysia (BEM). The study covered Malaysian construction players in the Klang Valley with relevant experience. Permission to conduct this research was acquired from the respective organisations. The researcher requested corporate listings with telephone numbers and the person in charge after authorisation. The selected firms were advised about the study and distribution of surveys. The data collection has been gathered via an online platform. As part of the online data collection method, the researcher contacted the respondents to explain the study and questionnaires to them.

A pilot test was conducted to identify any data that might be missing from the questionnaire. The survey was designed to ensure that the questions were arranged in the best order, were understandable by all classes of respondents and eliminated any confusion or use of inappropriate or difficult terms. Through the small scale of a pilot test, several questions in the preliminary questionnaire set have been eliminated, revised and reworded for a better understanding of the prospective respondents. All feedback was incorporated into the final set of questions before distributing the questionnaire. The pilot study helped collect reliable feedback, validate the instrument's content, assess the survey's design and assess participants' comprehension and ability to answer questions.

The questionnaire survey was accomplished based on Goleman's models identified in the literature review (Kannaiah, 2015; Arditi, Nayak and Damci, 2017; Fiorilli et al., 2020). The design of the questionnaire is per the purpose of close-ended questions which address the research questions of "what" and "how". Simple and specific language were used to construct the questionnaire, which contained sensible questions. Instead of writing each variable as a full sentence, each keyword was used instead. In this study, all the variables related to the construction industry during the pandemic were taken.

The survey questionnaire was divided into three sections:

1. Section 1: This section recorded the respondent's demographic and organisational information, construction during the pandemic, emotional intelligence survey and factors that affect project success outcomes. The first section seeks to pique the respondents' curiosity and gain their cooperation to sway their attitudes toward participating in the survey. The selection of answers is varied. There are questions whereas only one answer is allowable.
2. Section 2: To reflect on the construction players' whether they were affected or not during the pandemic phase. This section also investigates the issues that they experienced in construction during the pandemic. Besides, it also evaluates the emotions of construction players during the pandemic phase to ensure that the target respondents are achieved. This section applied a 5-point Likert scale of occurrence from "Strongly Agree" to "Agree", "Neutral", "Disagree" and "Strongly Disagree".

3. Section 3: This section determines the traits of the emotional intelligence of construction players by doing a survey using the instrument TEIQue. The last section of the questionnaire intends to know the project's success factors during the pandemic phase. This section utilised the effectiveness scale of action from "Very Agree" to "Agree", "Neutral", "Disagree" and "Very Disagree". The respondents were free to rate the variables according to the scale provided. It demands one answer for each question.

To provide a true image of the project's success throughout the pandemic, only construction players who have served in construction work for at least one year of experience are selected. These criteria are used because the vast experience and emotional management may provide accurate and confident information. A total of 150 construction players were invited to answer the questionnaire. The invitations were made at the fingertips by sharing the link to the web survey on Google Form with a short introduction to several organisations and companies that registered with CIDB, PAM, BQSM and BEM in the Klang Valley area. The questionnaire has also been distributed in a softcopy format through electronic email to the organisations. The data was collected by inviting potential participants in the questionnaires to participate in many possible ways to reach the sample size of respondents as established by Krejcie and Morgan (1970).

All the collected data was analysed based on frequency and percentage on each Likert scale to identify variables selected for the highest scale and the lowest scale. A mean was then produced to spot the ranking among the variables of the same category and also the ranking among the categories of the variables. The summary of the statistics was tabulated and graphed for a better understanding and to have a clearer picture of the analysis. This study involved the utilisation and analysis of nominal and ordinal data using the Statistical Package for the Social Sciences (SPSS) software. The questionnaires were documented in the Google Form format and exported to Microsoft Excel. All the collected data from the quantitative method is then imported from Microsoft Excel into the SPSS. Before the measurement was generated by using the software, coding was applied. This added value of software created a table for each variable or between variables to variables to test the strength and significance of the relationship.

## **RESULTS AND DISCUSSION**

### **Response Rate and Reliability Analysis**

Out of the 150 questionnaires distributed to all construction players, a total of 108 (72%) were returned. According to the previous researcher, if the response rate is 70% or higher, the sample group will be sufficiently representative of the target population form (Mohd Fateh and Mohammad, 2021). Many factors affected the high response rate: ease of understanding the contents of the questionnaire after going through an expert panel process and the four-week time frame provided was more than adequate for respondents to respond.

Reliability analyses were performed to examine the internal consistency and item-total correlations within each scale. Previous research stated that a reliability coefficient of over 0.70 indicates good reliability. For this study, the reliability

coefficients for all variables were above this value. Table 1 shows that Cronbach's alpha is 0.79, which is high and within this figure, the suggestion to measure using this instrument in this study is highly reliable.

Table 1. Reliability analysis of instrument

	<b>Cronbach's Alpha</b>	<b>N of Items</b>
All main variables	0.791	30

## Demographic Background

As shown in Table 2, the highest respondent rate was from the Petaling Jaya zone with 26.9%, Kuala Lumpur 20.4% and Putrajaya 14.8%. Meanwhile, rate of respondents from Gombak was 13.9%, Sepang 11.1%, Hulu Langat 4.6%, Kuala Langat 4.6% and Klang 3.7%. This indicates that the study successfully met the requirement to have respondents from Klang Valley.

Table 2. Respondents in Klang Valley area

<b>Area</b>	<b>Frequency</b>	<b>%</b>
Petaling Jaya	29	26.9
Kuala Lumpur	22	20.4
Putrajaya	16	14.8
Gombak	15	13.9
Sepang	12	11.1
Hulu Langat	5	4.6
Kuala Langat	5	4.6
Klang	4	3.7
Total	108	100.0

The result illustrated in Table 3 is the overall age of respondents and their gender, according to their experience in the construction industry in Klang Valley. Most respondents answering the questionnaire were aged 20 years old to 35 years old, at 38.02%, with 41 respondents who had experience of between 1 and 5 years in the construction industry. The least number of respondents are also male, with 3 people aged 46 years old to 60 years old, or 2.78%, who have experienced more than 10 years in the construction industry. In terms of experience in the construction industry, most of the respondents have been involved in the construction industry for between 6 years and 10 years, at 64.8% with 70 respondents. Meanwhile, the lowest is 8.3% of respondents who have experienced more than 10 years in the construction industry. Indefinitely, it is a remarkable sample ensemble to answer the questionnaire from different demographic backgrounds on their age, gender and experience of working in the construction industry, with the majority held by the experienced respondents. It also indicated that this study about the emotional intelligence of construction players is limited to those who have at least one year working experience in the construction industry.

Table 3. Gender, experience in construction and age of respondents

Gender	Age (Numbers of Respondents)	Years of Experience (Numbers of Respondents)
Male	20 to 35 years old (n = 41, 38.02%)	1 year to 5 years (26); 6 years to 10 years (15)
	36 to 45 years old (n = 35, 32.4%)	6 years to 10 years (33); More than 10 years (2)
	46 to 60 years old (n = 3, 2.78%)	6 years to 10 years (2); More than 10 years (1)
Female	20 to 35 years old (n = 4, 3.17%)	1 year to 5 years (3); 6 years to 10 years (1)
	46 to 60 years old (n = 25, 23.1%)	6 years to 10 years (20); More than 10 years (5)

### Issues That Construction Players Experienced During Pandemic

Being affected during the pandemic phase is the overall conclusion of most respondents. From the literature review, emotional intelligence is also one of the things that impacted the construction players. Therefore, the researcher looked into the issues that could impact the emotional intelligence of construction players. Table 4 shows that delays in construction projects were the highest mean experienced by construction players, while design errors were the lowest mean that they experienced. Delays in construction projects are a global phenomenon as the construction process is subjected to many variables and unpredictable factors, such as the current situation that is affecting the world right now; the pandemic, which causes time delays and could cause cost overruns in the most ongoing projects. Delays in construction projects have associated negative impacts and effects as they can lengthen the schedule and jeopardise quality and safety. Previous studies also stated that delaying construction projects during a pandemic would cause more construction players to work harder to mitigate the delay (Esa, Kamal and Ibrahim, 2020). Design errors were the least considered as the issue most respondents experienced during the pandemic phase. In a normal construction process, there are four stages of design construction, which are planning, preconstruction, construction and close-out. During the pandemic phase, designing was the scope of work that did not contribute to the site. Hence, this work did not affect the pandemic as it could be done by online platforms.

Table 4. Issues that construction players experienced during pandemic

<b>Issues</b>	<b>Mean</b>	<b>Standard Deviation</b>
Delay in construction	4.66	0.83
Reduced income salary	3.90	1.11
Insufficient skill labours and limited number of workers	3.74	1.36
Design error	2.61	1.38
Limited resource availability on-site	3.28	1.56
Poor communication among construction players	3.72	1.35
Losing job	3.27	1.53

Table 5 illustrates the fact that anxiety was the most prevalent emotion among respondents during the pandemic, followed by stress. This indicates that it cannot be solely attributed to themselves to sort out. Anxiety happens when a person fears that something bad is going to happen because of a particular issue or concern. Anxiety symptoms include worry, restlessness, difficulty sleeping and a sense of being under pressure, all of which can have a negative impact on one's health. From these findings, the research looks into the gender differences in the emotions affected to give better meaning to the findings.

Table 5. Emotions affected during pandemic

<b>Emotion Affected</b>	<b>Mean</b>	<b>Standard Deviation</b>
Anxiety	3.73	1.26
Stress	3.58	1.39
Post-traumatic stress disorder	3.53	1.40
Changes in daily habits	3.52	1.54
Fear and uncertainty	3.52	1.38
Panic	3.47	1.34
Depression	3.47	1.39
Paranoia	3.42	1.63

Table 6 presents the largest projection of respondents who had anxiety during the pandemic; this came from male respondents. There were 40 male respondents (50.6%) who strongly agreed to have anxiety during the pandemic. Many factors contributed to the anxiety during the pandemic phase as a construction player, such as the salary having been cut due to layoffs because of pandemic restrictions. The probability of male respondents having anxiety is high since they have responsibilities to their own families. Stress was selected as the second-highest emotion affected during the pandemic, presumably because of delays in construction sites, work overload and poor communication with other players (Pirzadeh and Lingard, 2021). Stress also affects health and can be worsened in the long term. Paranoia was selected as the least affected emotion by construction players. The reasons were having experienced memory loss and excessive drug use, which were uncommonly happening at the construction site.

Table 6. Emotions affected by genders

Gender		What Motions That Affected By the COVID-19 Pandemic? [Anxiety]					Total
		(1) Strongly Disagree	(2) Disagree	(3) Neutral	(4) Agree	(5) Strongly Agree	
Male	Frequency	–	2	14	23	40	79
	%		2.5	17.7	29.1	50.6	100.0
Female	Frequency	3	11	7	4	4	29
	%	10.3	37.9	24.1	13.8	13.8	100.0

**Emotional intelligence: Self-control factors**

The self-control factors were measured using three variables: emotion regulation, impulse control and stress management as shown in Table 7. The highest mean score is “I tend to get involved in things I later wish I could get out of”, which stood at 4.82 and the lowest mean score, at 2.51, which means “I am usually able to find ways to control my emotions when I want to”. Of the average means of self-control generated in Table 7, the overall mean of emotion regulation variable stood at a mean of 2.68 from the two-item statements. When considering the kinds of competency experienced by construction players, the greatest mean is 3.93. Based on these self-control factors, construction players are perhaps subject to having emotional seizures and periods of prolonged anxiety or even depression as they find it difficult to deal with their feelings and are often moody and irritable. Besides, they weigh all the information before they make up their mind and they are overly cautious. They can handle pressure calmly and effectively, in part because they have developed successful coping mechanisms. More often than not, they are good at regulating their emotions, which helps them tackle stress.

Table 7. Self-control factor descriptive profile

Variables	Statements	Standard Deviations	Mean Score	Overall Mean
Impulse control	I tend to get involved in things I later wish I could get out off.	1.766	4.82	3.93
	I tend to change my mind frequently.	1.777	3.04	
Stress management	Others admire me for being relaxed.	1.660	4.14	3.83
	On the whole, I am able to deal with stress.	1.603	3.51	
Concisely emotion regulation	I usually find it difficult to regulate my emotions.	1.599	2.85	2.68
	I am usually able to find ways to control my emotions when I want to.	1.655	2.51	

## Emotional intelligence: Emotionality factors

The emotionality factor describes how much capacity we have to perceive and express emotions and how we develop and build relationships with others. There are four variables in this factor, which are empathy, emotion perception, emotion expression and relationships. Each variable has provided statements that relate to the traits of the respective variables. The relationship is measuring one's relationships, including close friends, partners and family and how to maintain relationships with others. The results of the emotionality analysis are summarised in Table 8. The results are interesting to justify whether construction players have emotional-related skills or not. Firstly, relationships could be valued by attitudes in many ways, such as having priority in relationships with people and some of their thoughts that jobs were their main priority. "Those close to me often complain that I do not treat them right" has a high mean of about 4.52, while most respondents agreed that their relationships were not too good. The second statement, "I find it difficult to bond well even with those close to me", brings the overall mean to 4.35. This happens when you are not interested in relationships or might not be particularly skilled at relationship building.

Table 8. Descriptive profile of emotionality factor

Variables	Statements	Standard Deviations	Mean Score	Overall Mean
Relationship	Those close to me often complain that I do not treat them right.	1.49	4.52	4.35
	I find it difficult to bond well even with those close to me.	1.50	4.17	
Emotional perception	I often find it difficult to see things from another person's viewpoint.	1.68	2.81	3.13
	I am normally able to "get into someone's shoes" and experience their emotions.	1.73	3.45	
Empathy	Expressing my emotions with words is not a problem for me.	1.63	2.94	3.11
	I often find it difficult to show my affection to those close to me.	1.25	3.27	
Emotional expression	Many times, I cannot figure out what emotion I am feeling.	1.50	2.84	3.09
	I often pause and think about my feelings.	1.30	3.33	

Lastly is emotional expression, which is the way people communicate their emotions to others and know the best words to express their feelings. These variables concern the control of our internal states. There are many ways to express emotions, such as through facial expressions, posture, bodily actions and through written and spoken words. From the findings, "Many times, I cannot figure out

what emotion I am feeling" has a low mean of 2.84. This shows the contrast that most construction players were not too fluent in expressing their emotions and had difficulty letting others know their feelings. This could also be explained based on the statement "I often pause and think about my feelings". However, people with low mean tend to have difficulty letting others know their feelings, which could lead to generalised problems such as lack of confidence and social assertiveness. This may be explained by the fact that construction players have difficulty bonding well with others and tend to undervalue their relationships. Meanwhile, the lowest mean was from the emotion expression variable. This is probably not a mere coincidence and, in fact, may affect low self-confidence and social assertiveness.

## **CONCLUSIONS**

The findings reveal that the emotional intelligence of all respondents is vital. Emotional intelligence needs to be taken care of to ensure work life is sustained and balanced. Neglecting emotional intelligence has negative consequences, such as impulsive behaviour and being a demanding and poor listener. The high emotional intelligence of construction players could be one of the factors in achieving successful project outcomes. Moreover, there were issues in the construction industry during the pandemic that happened, such as reduced income, insufficient skilled labour, limited resource availability, poor communication and job loss. It has been shown that the respondents had experienced all of these issues during the pandemic. It has been identified that these issues could affect project outcomes hence mitigation measures are needed to ensure the work is still progressing. Thus, since the pandemic has a significant impact on the emotional intelligence of the construction players, the development of a structure to manage emotional intelligence among them to achieve successful project outcomes during the pandemic is essential. Therefore, it is hoped that there will be an improvement in managing emotional intelligence to ensure a better version in the construction industry in the future.

Building upon the findings of this study, future researchers are encouraged to consider combining both self-report measures and performance-based tests. Self-report measures, such as questionnaires, offer valuable insights into individuals' subjective perceptions of their emotional abilities. However, performance-based tests, such as behavioural observations or simulations, can provide objective assessments of individuals' actual emotional skills and competencies. By incorporating both approaches, researchers can obtain a more robust and multifaceted understanding of the emotional intelligence of construction professionals in pandemic contexts.

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## REFERENCES

- Alaloul, W.S., Musarat, M.A., Rabbani, M.B.A., Iqbal, Q., Maqsoom, A. and Farooq, W. (2021). Construction sector contribution to economic stability: Malaysian GDP distribution. *Sustainability*, 13(9): 1–26. <https://doi.org/10.3390/su13095012>
- Ali, B.J. and Anwar, G. (2021). An empirical study of employees' motivation and its influence job satisfaction. *International Journal of Engineering, Business and Management*, 5(2): 21–30. <https://doi.org/10.22161/ijebm.5.2.3>
- Arditi, D., Nayak, S. and Damci, A. (2017). Effect of organizational culture on delay in construction. *International Journal of Project Management*, 35(2): 136–147. <https://doi.org/10.1016/j.ijproman.2016.10.018>
- Arora, B. (2017). Importance of emotional intelligence in the workplace. *International Journal of Engineering and Applied Sciences*, 4(4).
- Bar-On, R. (2006). *BarOn Emotional Quotient-Inventory (BarOn EQ-i)*. Watkinsville, GA: High Performing Systems, Inc.
- Barsade, S.G. (2002). The ripple effect: Emotional contagion and its influence on group behavior. *Administrative Science Quarterly*, 47(4): 644–675. <https://doi.org/10.2307/3094912>
- Career Builder (2011). Value emotional intelligence over IQ. *PR Newswire*, 18 August. Available at: <https://press.careerbuilder.com/2011-08-18-Seventy-One-Percent-of-Employers-Say-They-Value-Emotional-Intelligence-Over-IQ-According-to-CareerBuilder-Survey#:~:text=Thirty-four percent of hiring,an employee more than IQ>
- Chirumbolo, A., Picconi, L., Morelli, M. and Petrides, K.V. (2019). The assessment of trait emotional intelligence: Psychometric characteristics of the TEIQue-full form in a large Italian adult sample. *Frontiers in Psychology*, 9: 2786. <https://doi.org/10.3389/fpsyg.2018.02786>
- Cui, Y. (2021). The role of emotional intelligence in workplace transparency and open communication. *Aggression and Violent Behavior*, 101602. <https://doi.org/10.1016/j.avb.2021.101602>
- Davis, S.K. and Humphrey, N. (2012). The influence of emotional intelligence (EI) on coping and mental health in adolescence: Divergent roles for trait and ability EI. *Journal of Adolescence*, 35(5): 1369–1379. <https://doi.org/10.1016/j.adolescence.2012.05.007>
- Di Fabio, A. and Saklofske, D.H. (2014). Comparing ability and self-report trait emotional intelligence, fluid intelligence and personality traits in career decision. *Personality and Individual Differences*, 64: 174–178. <https://doi.org/10.1016/j.paid.2014.02.024>
- Edum-Fotwe, F.T. and McCaffer, R. (2000). Developing project management competency: Perspectives from the construction industry. *International Journal of Project Management*, 18(2): 111–124.
- Esa, M., Kamal, E.M. and Ibrahim, F.S. (2020). Covid-19 pandemic lockdown: The consequences towards project success in Malaysian construction industry. *Advances in Science, Technology and Engineering Systems Journal*, 5(5): 973–983. <https://doi.org/10.25046/aj0505119>
- Fiorilli, C., Farina, E., Buonomo, I., Costa, S., Romano, L., Larcan, R. and Petrides, K.V. (2020). Trait emotional intelligence and school burnout: The mediating role of resilience and academic anxiety in high school. *International Journal of Environmental Research and Public Health*, 17(9). <https://doi.org/10.3390/ijerph17093058>

- Furnham, A. and Petrides, K.V. (2001). Trait emotional intelligence: Psychometric investigation with reference to established trait taxonomies. *European Journal of Personality*, 15(6): 425–448.
- Gamil, Y. and Abdul Rahman, I. (2020). Assessment of critical factors contributing to construction failure in Yemen. *International Journal of Construction Management*, 20(5): 429–436. <https://doi.org/10.1080/15623599.2018.1484866>
- Gardner, K. J. and Qualter, P. (2010). Concurrent and incremental validity of three trait emotional intelligence measures. *Australian Journal of Psychology*, 62(1): 5–13. <https://doi.org/10.1080/00049530903312857>
- Goleman, D., Boyatzis, R. and Hay Group (2021). *Emotional Competence Inventory (ECI): A Multi-rater Tool That Assesses Emotional Intelligence*. Los Angeles: Hay Group. Available at: <http://dev.veritasalliance.com.au/wp-content/uploads/2021/08/eci-brochure.pdf>
- Hamid, A.R.A., Singh, B., Yusof, A.M. and Ong, S.W. (2012). The impact of foreign labours reduction in construction industry. In *Proceedings of the Brunei International Conference on Engineering and Technology 2012*. Brunei Darussalam: Universiti Teknologi Brunei, 84–91. <https://doi.org/10.13140/2.1.3673.3762>
- Ibrahim, S. (2017). Self-perceived emotional intelligence in leadership of administrative academic staff. *International Journal of Service Management and Sustainability*, 2(1): 67–84. <https://doi.org/10.24191/ijsms.v2i1.6057>
- Kannaiah, D. (2015). A study on emotional intelligence at work place. *European Journal of Business and Management*, 7(24): 147–155.
- Khan, R.A., Liew, M.S. and Ghazali, Z. (2014). Malaysian construction sector and Malaysia vision 2020: Developed nation status. *Procedia – Social and Behavioral Sciences*, 109: 507–513. <https://doi.org/10.1016/j.sbspro.2013.12.498>
- Khosravi, P., Rezvani, A. and Ashkanasy, N.M. (2020). Emotional intelligence: A preventive strategy to manage destructive influence of conflict in large scale projects. *International Journal of Project Management*, 38(1): 36–46. <https://doi.org/10.1016/j.ijproman.2019.11.001>
- Kobra, G.J. and Esmatullah, N. (2021). Selecting the most appropriate project manager to improve the performance of the occupational groups in road construction projects in warm regions. *Journal of Construction Engineering and Management*, 147(10): 4021131. [https://doi.org/10.1061/\(ASCE\)CO.1943-7862.0002151](https://doi.org/10.1061/(ASCE)CO.1943-7862.0002151)
- Krejcie, R.V. and Morgan, D. (1970). Small-sample techniques. *The NEA Research Bulletin*, 30: 607–610.
- Kukah, A.S., Akomea-Frimpong, I., Jin, X. and Osei-Kyei, R. (2021). Emotional intelligence (EI) research in the construction industry: A review and future directions. *Engineering, Construction and Architectural Management*, 29(10): 4267–4286. <https://doi.org/10.1108/ECAM-05-2021-0414>
- Kumar, J.A. and Muniandy, B. (2012). The influence of demographic profiles on emotional intelligence: A study on polytechnic lecturers in Malaysia. *International Online Journal of Educational Sciences*, 4(1): 62–70.
- Li, X., Li, H., Skitmore, M. and Wang, F. (2022). Understanding the influence of safety climate and productivity pressure on non-helmet use behavior at construction sites: A case study. *Engineering, Construction and Architectural Management*, 29(1): 72–90. <https://doi.org/10.1108/ECAM-08-2020-0626>

- Love, P., Edwards, D. and Wood, E. (2011). Loosening the Gordian knot: The role of emotional intelligence in construction. *Engineering, Construction and Architectural Management*, 18(1): 50–65. <https://doi.org/10.1108/09699981111098685>
- Makkar, S. and Basu, S. (2017). The impact of emotional intelligence on workplace behaviour: A study of bank employees. *Global Business Review*, 20(2): 458–478. <https://doi.org/10.1177/0972150917713903>
- Mavroveli, S., Petrides, K.V., Rieffe, C. and Bakker, F. (2007). Trait emotional intelligence, psychological well-being and peer-rated social competence in adolescence. *British Journal of Developmental Psychology*, 25(2): 263–275. <https://doi.org/10.1348/026151006X118577>
- Mayer, J.D., Salovey, P. and Caruso, D.R. (2004). Emotional intelligence: Theory, findings and implications. *Psychological Inquiry*, 15(3): 197–215. [https://doi.org/10.1207/s15327965pli1503\\_02](https://doi.org/10.1207/s15327965pli1503_02)
- Mo, Y.Y., Dainty, A. and Price, A. (2006). The relevance of EQ to construction project management education and practice: An investigative framework. In D. Boyd (ed.), *Procs 22nd Annual ARCOM Conference*. Birmingham, UK: Association of Researchers in Construction Management, 823–831.
- Mohd Fateh, M.A. and Aziz, A.A.A. (2021). The cost profile of building information modelling implementation in Malaysia. *Malaysian Construction Research Journal*, 14(3): 109–124.
- Mohd Fateh, M.A. and Mohammad, M.F. (2021). The framework of factors for the improvement of the significant clauses in the standard form of contract for the IBS construction approach in Malaysia. *International Journal of Sustainable Construction Engineering and Technology*, 12(1): 164–169. <https://doi.org/10.30880/ijscet.2021.12.01.016>
- Moshood, T.D., Adeleke, A.Q., Nawanir, G. and Mahmud, F. (2020). Ranking of human factors affecting contractors' risk attitudes in the Malaysian construction industry. *Social Sciences and Humanities Open*, 2(1): 100064. <https://doi.org/10.1016/j.ssaho.2020.100064>
- Oke, A.E. and Aigbavboa, C.O. (2017). *Sustainable Value Management For Construction Projects*. Cham: Springer International Publishing. <https://doi.org/10.1007/978-3-319-54151-8>
- Pearson, R., Jagger, N., Connor, H. and Perryman, S. (2001). *Assessing the Supply and Demand For Scientists and Technologists in Europe*. IES report 377. Grantham, UK: Grantham Book Services.
- Petrides, K.V, Frederickson, N. and Furnham, A. (2004). The role of trait emotional intelligence in academic performance and deviant behavior at school. *Personality and Individual Differences*, 36(2): 277–293. [https://doi.org/10.1016/S0191-8869\(03\)00084-9](https://doi.org/10.1016/S0191-8869(03)00084-9)
- Pinto, J.K., Patanakul, P. and Pinto, M.B. (2016). Project personnel, job demands and workplace burnout: The differential effects of job title and project type. *IEEE Transactions on Engineering Management*, 63(1): 91–100. <https://doi.org/10.1109/TEM.2015.2509163>
- Pirzadeh, P. and Lingard, H. (2021). Working from home during the COVID-19 pandemic: Health and well-being of project-based construction workers. *Journal of Construction Engineering and Management*, 147(6). [https://doi.org/10.1061/\(asce\)co.1943-7862.0002102](https://doi.org/10.1061/(asce)co.1943-7862.0002102)

- Rezvani, A., Chang, A., Wiewiora, A., Ashkanasy, N.M., Jordan, P.J. and Zolin, R. (2016). Manager emotional intelligence and project success: The mediating role of job satisfaction and trust. *International Journal of Project Management*, 34(7): 1112–1122. <https://doi.org/10.1016/j.ijproman.2016.05.012>
- Robbins, S.P. and Judge, T.A. (2015). *Organizational Behavior*. 16th Ed. London: Pearson Education.
- Saini, A. and Soni, N. (2016). Role of emotional intelligence in construction industry: A review. *International Journal of Civil Engineering and Technology*, 7(4): 339–344.
- Schutte, N.S., Malouff, J.M., Bobik, C., Coston, T.D., Jedlicka, C., Rhodes, E. and Wendorf, G. (2001). Emotional intelligence and interpersonal competencies. *The Journal of Social Psychology*, 141(4): 523–536. <https://doi.org/10.4337/9781849805551.00013>
- Setiawan, T.H. and Bhakti, R.S. (2014). Classification of personality and emotional intelligence on professionals within the field of construction in Bandung. *Malaysian Journal of Civil Engineering*, 26(2): 172–185.
- Shanmugam, H., Juhari, J.A., Nair, P., Chow, S.K. and Ng, C.G. (2020). Impacts of COVID-19 pandemic on mental health in Malaysia: A single thread of hope. *Malaysian Journal of Psychiatry Ejournal*, 29(1): 78–84.
- Shuman, L.J., Besterfield-Sacre, M. and McGourty, J. (2005). The ABET “professional skills”: Can they be taught? Can they be assessed? *Journal of Engineering Education*, 94(1): 41–55. <https://doi.org/10.1002/j.2168-9830.2005.tb00828.x>
- Sunindijo, R.Y. and Hadikusumo, B.H.W. (2014). Emotional intelligence for managing conflicts in the sociocultural norms of the Thai construction industry. *Journal of Management in Engineering*, 30(6): 04014025. [https://doi.org/10.1061/\(asce\)me.1943-5479.0000211](https://doi.org/10.1061/(asce)me.1943-5479.0000211)
- Sy, T., Côté, S. and Saavedra, R. (2005). The contagious leader: impact of the leader’s mood on the mood of group members, group affective tone and group processes. *Journal of Applied Psychology*, 90(2): 295. <https://doi.org/10.1037/0021-9010.90.2.295>
- Taibi, Y., Metzler, Y.A., Bellingrath, S. and Müller, A. (2021). A systematic overview on the risk effects of psychosocial work characteristics on musculoskeletal disorders, absenteeism and workplace accidents. *Applied Ergonomics*, 95: 103434. <https://doi.org/10.1016/j.apergo.2021.103434>
- Wong, C.-S. and Law, K.S. (2002). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly*, 13(3): 243–274. [https://doi.org/10.1016/S1048-9843\(02\)00099-1](https://doi.org/10.1016/S1048-9843(02)00099-1)
- Zhang, L., Yao, Y. and Yiu, T.W. (2020). Job burnout of construction project managers: Exploring the consequences of regulating emotions in workplace. *Journal of Construction Engineering and Management*, 146(10): 04020117. [https://doi.org/10.1061/\(asce\)co.1943-7862.0001913](https://doi.org/10.1061/(asce)co.1943-7862.0001913)