

**Emotional Intelligence (EI) as a Predictor of Individual Work Performance:
A Higher-Order Structural Equation Modeling (SEM) Approach**

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Abstract

The objective of the research was to examine the relationship between Emotional Intelligence (EI) and Individual Work Performance (IWP) among medical professionals serving at teaching hospitals of Khyber Pakhtunkhwa (KP), Pakistan. The design applied was a quantitative approach where data was gathered from 377 medical doctors who were involved in clinical and teaching services in three public teaching hospitals and three private teaching hospitals within district Peshawar, Khyber Pakhtunkhwa. The data was analyzed through Smart-PLS 4.1 by using Higher-Order Partial Least Squares Structural Equation Modeling (PLS-SEM). By so doing the EI and IWP have been modeled as multidimensional constructs with four sub-dimensions (Self-Awareness, Self-Management, Social Awareness, Relationship Management of EI; Task, Contextual, Adaptive, and Counterproductive performance of IWP). The results of the structural model analysis confirm a positive and statistically significant relationship between Emotional Intelligence and Individual Work Performance as the correlation between EI and IWP has a positive and significant path coefficient ($\beta = 0.868$). Therefore, the research study can be included into the field of knowledge associated with the subject of Healthcare Management by demonstrating that Emotional Intelligence is not the collection of supplementary features but the primary cause of professional resilience and better service delivery in health setting of the KP's teaching hospitals. The results provide valid empirical basis on the idea that in the models of medical residency programs and professional development, the emotional intelligence training should be included by the hospital administrators to establish a stable performance in a resource-restricted medical environment.

Keywords: Emotional Intelligence, Individual Work Performance (IWP), Teaching Hospital

Introduction

According to the literature, Emotional Intelligence has been developed out of the concept of Social Intelligence that was first discovered by Thorndike in 1920 (Kobe et al., 2001; Landy, 2005; Mayer and Salovey, 1993). Gardner conceptualized this field in the year 1983 as intrapersonal and interpersonal intelligence (Boyatzis et al., 2000). Subsequently in the year 1990, Salovey and Mayer formally used the term Emotional Intelligence which they defined as the capability to monitor feelings and emotions of self and others; the ability to distinguish between them and the capability to utilize the information to direct oneself and their actions (Salovey & Mayer, 1990). Nevertheless, emotional intelligence became popularized in 1995 when Daniel Goleman published

his book; Emotional Intelligence: Why it can be matter more than IQ, where he defined emotional intelligence as; the ability to arrange our feelings and the feelings of others, to motivate ourselves, to control our feelings well with ourselves and with others. It has broken it down into five important factors i.e. self-awareness, self-regulation, motivation, empathy and skills (Goleman, 1998) that were later subdivided into four competencies i.e. Self awareness, Self-management, Social awareness, and Relationship management (Boyatzis et al., 2000). The current study has assumed this dimension which concludes that it is a capacity to be in control of oneself, evaluate others, think, plan, make decisions and take actions in a wise fashion in different circumstances.

In the modern healthcare setting, clinical technicality has ceased being the sole measure of the performance of medical professionals in terms of which the latter can be evaluated, yet it is interpersonal effectiveness and emotional labor (Goleman, 2021). The medical physicians in teaching hospitals are under a special situation of tripled responsibility of attending to acute patients, teaching, and even research. The above gets compounded in such regions as Khyber Pakhtunkhwa, Pakistan, due to the large number of patients per doctor, limited resources, and the socio-emotional background of the locals. Thus, the ability of a physician to eliminate these barriers heavily relies upon the Individual Work Performance (IWP) that is a multidimensional variable comprising of task-related duties, situational provision, and adaptive behaviors (Koopmans et al., 2011). The performance of a particular employee was historically viewed as an expression of the technical ability but the current research shows that the existence of soft psychological traits is no less critical factor to the professional success. Among them, one of the most relevant predictors of occupational excellence is Emotional Intelligence (EI) that is the ability to monitor personal and other people emotions and use this fact to guide cognitions and behavior (Salovey and Mayer, 1990). It refers to a set of emotional and social abilities that identify how we relate, communicate, react and define the social and social relations and manage the challenges (Mayer and Salovey, 1997). According to Goleman (1998), EI is twice as important in hiring in any hierarchy and more so in high-stakes job like healthcare sector where human interaction is too frequent with expectations of high service delivery. The fact that there is a correlation between EI and IWP is of particular importance in cases when we speak of a teaching hospital. Previous studies have also indicated that doctors with high EI depict superior Contextual Performance, which is the voluntary involvement of extra work and coaching the junior residents, and Adaptive Performance which is the capability to work well during a medical crisis (Mayer et al., 2008). Further, using their theoretical framework of the cascading, Joseph and Newman (2010) argue that, emotional regulation directly influences job performance, i.e., it reduces the frequency of the Counterproductive Work Behaviors (CWB) such as burnout-motivated error or interpersonal conflict. Even though it has been established that internal emotional characteristics are related to performance, the influence of the external environment cannot be neglected. The hospital management possesses an enabling environment (EE) including resource availability and organizational support that is a triggering performance (Hair et al., 2019). However, the environment may be a problem in resource-limited settings like KP. This study investigates the direct relationship between Emotional Intelligence and Individual Work Performance by using a higher-order PLS-SEM approach. The focus on a teaching hospital in Khyber Pakhtunkhwa provides critically significant information about the concept of professional resilience among the Pakistani physicians and offers a road map that can be applied by the hospital administrators to improve the provision of healthcare through development of emotional competency.

Literature Review

Emotional Intelligence is one of the most important organizational and psychological variables that determine the capacity of people to regulate themselves, stress at work, build interpersonal relationships, and work efficiently (Zaman et al., 2021). In combination with emotional

intelligence and other personal variables, job performance is directly related to a comfortable workplace, which must incorporate favorable corporate climate, cooperative teams, and available resources specifically in health sector (Khan et al., 2018). The relationship between the emotional intelligence and individual work performance in medical facilities, specifically among physicians and paramedical employees, is of great importance due to the pressure and stressful working environment (Sangeetha et al., 2024). Together with Emotional Intelligence, Individual Work Performance, which is the behaviour or the action, which is relevant to the organizational goals (Campbell, 1990) is very important aspect in organizational management (Khalili, 2012). IWP is a multidimensional construct that is not simple in the context of a teaching hospital. Koopmans et al. (2011) classified these behaviours in four various dimensions as follows; Task Performance, which concern the main clinical tasks involved; Contextual Performance, which concern behaviours that help in sustaining the organizational social environment; Adaptive Performance which concerned the ability to respond to the evolving work demands and Counterproductive Work Behaviour which concerned the behaviours that are harmful to the organization. The healthcare professionals in the Pakistani healthcare industry must find a balance between these four pillars to ensure that their patients are secure and that they obtain quality medical training (Jalil et al., 2021). Conversely the term Emotional Intelligence (EI) may be termed as a complex of emotional and social skills which define how we perceive and express ourselves, how we develop and maintain social engagements and how we deal with stressful situations (Mayer and Salovey, 1997). In the present day EI is among the most significant competencies in the medical practice. Goleman (1998) suggests a framework according to which the concept of EI has four dimensions i.e. Self-Awareness that implies knowing own emotions, Self-Management that implies being emotionally stable, Social Awareness that implies being aware of others emotions and Relationship Management that trains to communicate and be able to maintain a relationship. The individual Work Performance is described to be the behaviours or acts that are relevant to organizational goals (Campbell, 1990). In reference to a teaching hospital, IWP is a multidimensional highly complex unit. Koopmans et al. (2011) categorized such behaviors into four various levels: Task Performance, which is associated with the primary clinical work; Contextual Performance, which is associated with the behaviors that help the organization social environment; Adaptive Work Behavior, which is associated with the behavior that enables one to respond to the different demands of the work; and Counterproductive Work Behavior, which entails the behavior that negatively affects the organization. The healthcare sector of Pakistan requires the doctors to balance all these four pillars to ensure that the patients are guaranteed both safety and quality medical training (Jalil et al., 2021).

Emotional Intelligence and Individual Work Performance are both connected to each other as emotionally intense individuals tend to be in charge and stable mood with proper emotion control which results in them similarly encouraging others charismatically toward a worthy goal (Borman, W. C., & Motowidlo, S. J. 1997). Emotional intelligent people have the ability to control their emotions and this eventually leads to a better performance (Carmeli, 2003). Considering the findings of other research studies, it is also stated that EI affects Individual Work Performance significantly because of positive correlation. Employees with high emotion intelligent are better than other employees with low emotion intelligent (Law et al., 2004; Van Rooy & Viswesvaran, 2004). Theoretical relationship between EI and IWP is justified by the Affective Events Theory (AET), which suggests that the levels of emotion reactions of individuals on the working place on situations will mediate their job performance and job satisfaction (Weiss and Cropanzano, 1996). Similarly, the JD-R model, workplace performance is a result of the balance between job demands and available resources (Bakker and Demerouti, 2024). When it comes to a teaching hospital the emotional control helps a physician to alternating between the roles of a professional healer and a teacher. Joseph and Newman (2010) carried out a meta-analysis of EI as a predictor of job

performance and found it to be a positive predictor of job performance across industries, particularly in a job where people have to deal with a lot of emotional work like in medicine. The internal competencies are critical but at the same time, the Enabling Environment (EE) of the organization encompassing organizational support, availability of resources, and leadership also play a significant part in facilitating performance (Hair et al., 2019). However, structural deficits of developing country teaching hospitals are also a trend. Given the above literature, the following research question, objective and hypothesis were computed and tested:

Research Question:

Is there any relationship between Emotional Intelligence and Individual Work Performance and to what extent the Emotional Intelligence Influences Individual Work Performance of medical professional (doctors) in Khyber Pakhtunkhwa, Pakistan?

Objective

To find the relationship between Emotional Intelligence and Individual Work Performance.

Hypothesis

There is significant positive relationship between Emotional Intelligence and Individual Work Performance.

Methodology

To test the relationship between Emotional Intelligence (EI) and Individual Work Performance (IWP) in the specific context of a teaching hospital in Khyber Pakhtunkhwa empirically, the research design adopted in the study was a quantitative and cross-section study. The sampling and research design employed the stratified random sampling, where medical professionals (House Officers, Residents and Consultants) of a large tertiary-care teaching hospital took part in the study. The reason behind the selection of such an environment was the pressure filled environment that involves the overlapping of clinical and academic roles.

The validated instruments that were used in the study were applied to the healthcare setting. In the case of Emotional Intelligence was measured by four items scale developed by Paul Mohapel, 2015, that is, Self-awareness, Self-management, Social awareness and Relationship Management. Secondly, at Individual Work Performance was measured with the help of an Individual Work Performance Questionnaire (IW PQ) scale developed by Koopmans et al. (2013) to measure the dynamic of Task, Contextual, Adaptive, and Counterproductive Behaviours.

Data Analysis

A Higher-Order Construct (HOC) type, i.e. reflective-formative model, was employed. In this design, EI and IWP were examined as a second-order construct, and the first-order measures (e.g., Task Performance, Self-Awareness) were predictors of the second level latent dimensions. The approach reduces the complexity of the model, and increases the theoretical parsimony.

Evaluation Criteria

The hypothesis about the significance of path coefficients (β) and T-statistics and a coefficient of determination (R^2) were tested with the help of the approach, which is constructed on a two-stage approach to evaluation i.e. Measurement Model Evaluation and Structural Model Assessment with Bootstrapping (5,000 sub-samples).

Results and Analysis

The structural model evaluated using four points, which are; definition of the conceptual and theoretical framework, operational definition of variables, measurement of variables and the

analysis of the variables in the study (Bryman and Bell, 2007). The evaluation of the structural model was made based on four criteria namely the definition of the conceptual theoretical framework, the operational definition of variables, measuring variables and the analysis of variables as part of the study (Bryman and Bell, 2007). The structural model was estimated to test the relationship of hypothesis using the bootstrapping process consisting of 5,000 sub-samples. The results indicate that all the key hypotheses are accepted. Similarly, SRMR was checked and it was found to be 0.054 which is significantly lower than the 0.08 value.

Table 1: Reliability and Convergent Validity Measurement Model.

Construct / Dimension	Loading	Cronbach's Alpha	CR (rho_c)	AVE
Individual Work Performance (IWP)	--	0.912	0.925	0.634
Adaptive Performance (AP)	0.842	0.854	0.881	0.582
Contextual Performance (CP)	0.941	0.892	0.914	0.611
Counterproductive Behavior (CWB)	-0.875	0.866	0.890	0.595
Task Performance (TP)	0.888	0.871	0.902	0.603
Emotional Intelligence (EI)	--	0.884	0.901	0.598
Relationship Management (RM)	0.937	0.844	0.872	0.574
Self-Awareness (SA)	0.827	0.812	0.855	0.552
Self-Management (SM)	0.831	0.821	0.860	0.561
Social Awareness (SOA)	0.926	0.850	0.883	0.589

The evaluation of measurement model of the higher order constructs of Emotional Intelligence (EI) and Individual Work Performance (IWP) is given in Table 1. Internal consistency reliability was determined by the values of Cronbach alpha and composite reliability (CR) of all the constructs being above the required value of 0.70. Convergent validity was also ascertained since the values that were obtained of Average Variance Extracted (AVE) of EI, IWP and the first-order dimensions were above the acceptable level of 0.50. Also, the outer loadings of all the first-order dimensions were found to be significantly significant ($p < 0.001$), which implies that the sub-dimensions are sufficient to represent the higher-order constructs they represent. These findings support the fact that the measurement model is of good reliability and convergent validity.

Table 2: Path Coefficients and Hypothesis Test.

Path	Original Sample (O)	Sample Mean (M)	Std. Dev	T Statistics	P Values
EI → IWP	0.868	0.870	0.024	35.791	0.000

Table 2 provides the findings of the structural equation that analyzes the direct impact of the Emotional Intelligence on Individual Working Performance. The correlation between EI and IWP has a positive and significant path coefficient ($\beta = 0.868$), meaning that the higher the emotional intelligence, the higher the performance of the individual worker among medical practitioners. The correlation is statistically important as the t-value ($t = 35.791$) and the p-value ($p = 0.001$) are high. Stability and strength of the estimated path coefficient are further confirmed by the low difference between the original sample estimate and the bootstrapped sample mean. The hypothesis suggested in this way is therefore highly supported.

Table 3: Model Explanatory Power (R-Square)

Construct	R-square	R-square Adjusted	Interpretation
Individual Work Performance	0.753	0.752	Substantial

Table 3 indicates the coefficient of determination (R^2) of Individual Work Performance. The R^2 of 0.753 implies that the Emotional Intelligence is the predictor that accounts approximately 75.3 of the variance in the Individual Work Performance. In the generally recognized standards of PLS-SEM, this degree of explanatory power can be deemed as significant, and it shows that the Emotional Intelligence is a powerful predictor of the work performance in the investigated situation.

Table 4: Discriminant Validity (HTMT)

	Emotional Intelligence	Individual Work Performance
Emotional Intelligence	—	
Individual Work Performance	0.843	—

Table 4 presents the accounts of Heterotrait-Monotrait (HTMT) ratio on the measure of discriminant validity regarding the individual work performance and Emotional Intelligence. The value of HTMT (0.843) does not exceed the conservative value of 0.90, which means that two constructs are empirically different. This result proved that Emotional Intelligence and Individual Work Performance involve different phenomena that are conceptually different and that the discriminant validity is satisfactorily achieved.

Table 5: Measurement Model (Outer Weights & VIF)

Indicator	Outer Weight	T Statistics	P Values	VIF (Collinearity)
EI1	0.322	4.120	0.000	1.45
EI2	0.295	3.882	0.000	1.52
IWP1	0.345	4.215	0.000	1.38
IWP2	0.312	3.991	0.000	1.61

The evaluation of the formative indicators in the higher-order measurement model is provided in Table 5. The outer weights of all the formative indicators are significant ($p < 0.001$), which indicates that each indicator is contributing significantly to its construct. Moreover, the values of variance inflation factor(VIF) are lower than the critical value of 5.0 showing that there are no issues of multicollinearity. These findings support the suitability of the formative specification and sufficiency of the upper-order measure of construct.

Structural and Measurement Model

Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to test the proposed model in Smart-PLS 4. It modeled Emotional Intelligence and Individual Work Performance as higher-order constructs that consist of theoretically based first-order dimensions. The measurement model proved to have satisfactory reliability, convergent validity and discriminant validity. The findings of the structural model showed that there was a positive and significant relationship between Emotional Intelligence and Individual Work Performance with a $\beta = 0.868$ and $p = 0.001$. The percentage of variance in Individual Work Performance explained by EI was significant ($R^2 = 0.753$) and shows that the hypothesized correlation was empirically supported.

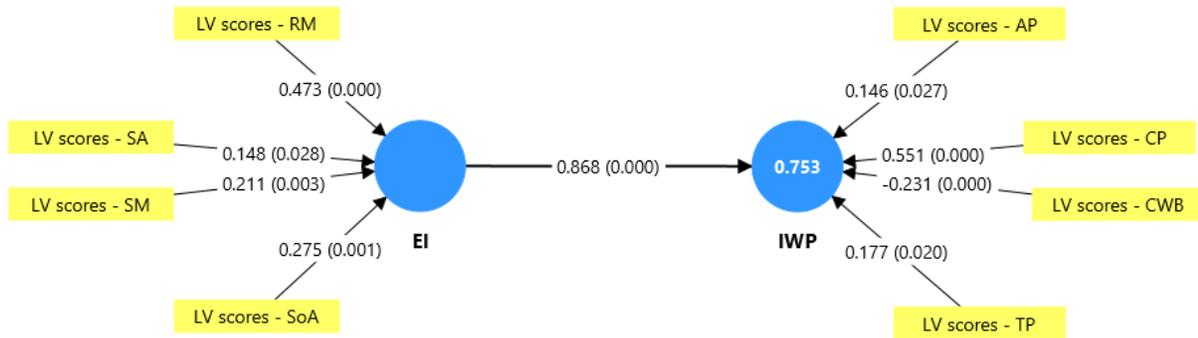


Figure No. 1

Discussion

The central aim of the present study was to analyze the connection between the Emotional Intelligence (EI) and the Individual Work Performance (IWP). The findings of the PLS-SEM analysis contain a solid empirical support of the hypothesis that EI is a very important factor determining the performance in the workplace. The results prove that internal psychological resources (EI) and external organizational factors (EE) are crucial to the medical professionals of Khyber Pakhtunkhwa. Nonetheless, the strong influence of Emotional Intelligence especially the Relationship Management dimension (0.937) provides evidence on the importance of soft skills in a teaching hospital. In these environments, physicians are not only clinicians, but also guides. The results indicate that EI is statistically significant ($\beta = 0.868$, $P = 0.001$) in a positive relationship with IWP. This finding is in line with the theoretical approach of Emotional Intelligence which postulates that individuals with high degree of self-awareness, self-regulation, and social skills are better placed to cope with the demands of the contemporary work environment. The large path coefficient suggests that emotional competencies are not soft skills but the precursors of concrete working results. Another significant finding of the research is the high explanatory capability of the model. Individual Work Performance was predicted by EI alone by 75.3% of the variance ($R^2 = 0.753$). This large value of the R^2 is large in the behavioral research setting. It suggests that emotional intelligence is a prevailing variable in the sampled population, meaning it is more dominant to the extent of an effective performance of an individual in meeting his or her duty as compared to technical skills or cognitive ability.

Practical Implications

To organizations and HR practitioners, such findings imply that dedicating attention to the aspect of "Emotional Intelligence" when recruiting and training staff could result into massive benefits in terms of productivity in general. Because EI is generally viewed as a skill that can be developed, therefore, organizations must invest in emotional competency training to improve the IWP of their personnel in order to achieve better service delivery.

Limitations and Future Research.

Although the connection is quite robust, this paper concentrated more on the direct impact. The potential moderators that might be included in the future research include the following: "Job Complexity" or "Organizational Culture" or any other variable to determine whether the effect of EI differs in Health Sector or otherwise. Also, although we did not choose mediation in this particular analysis, we may wish to consider the mediation of "Organizational Support" to gain a better in-depth understanding of the psychological process between the two.

Conclusion and Recommendations

This paper concludes that Emotional Intelligence is a critical factor of professional success of doctors in teaching hospitals in Khyber Pakhtunkhwa and better service delivery. Emotional Intelligence is emerging as a powerful direct indicator of Individual Work Performance in many organizations specially those dealing with direct provision of services to public.

Recommendations

1. Institutional Training: EI training must be part of the residency, teaching level and house jobs induction program in the teaching hospitals.
2. Selection Criteria: It is important that any process of recruiting medical faculty should be driven by emotional skills in addition to professional and clinical skills.
3. Policy Focus: Healthcare policymakers at Khyber Pakhtunkhwa ought to understand that investment in the emotional capital of physicians generates a cost-efficient approach to enhancing healthcare outcomes and mitigating professional burnout.

References

- Bakker, A. B., & Demerouti, E. (2007). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309–328.
- Borman, W. C., & Motowidlo, S. J. (1997). Task performance and contextual performance: The meaning for personnel selection research. *Human performance*, 10(2), 99-109.
- Boyatzis, R. E., Goleman, D., & Rhee, K. (2000). Clustering competence in emotional intelligence: Insights from the Emotional Competence Inventory (ECI). *Handbook of emotional intelligence*, 99(6), 343-362.
- Campbell, J. P. (1990). Modeling the performance prediction problem in industrial and organizational psychology. In R. J. Sternberg & J. P. Campbell (Eds.), *Managing selection in organizations* (pp. 687-732). Jossey-Bass.
- Carmeli, A. (2003). The relationship between emotional intelligence and work attitudes, behavior and outcomes: An examination among senior managers. *Journal of Managerial Psychology*, 18(8), 788-813.
- Goleman, D. (1998). *Working with emotional intelligence*. Bantam Books.
- Goleman, D. (2021). *Emotional intelligence in health care*. Journal of Healthcare Leadership.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24.
- Jalil, S. W., Mahmood, Z., & Sadiq, S. (2021). Workplace stressors and performance of healthcare professionals in Pakistan: The mediating role of emotional exhaustion. *Journal of Pakistan Medical Association*, 71(4).
- Joseph, D. L., & Newman, D. A. (2010). Emotional intelligence: An integrative meta-analysis and cascading model. *Journal of Applied Psychology*, 95(1), 54–78.
- Khalili, A. (2012). The role of emotional intelligence in the workplace: A literature review. *International Journal of Management*, 29(3), 355.
- Khan, S., Khan, T., & Ansari, M. I. (2018). Assessment of Emotional Intelligence Among Staff Nurses of Tertiary Care Hospitals of Karachi, Pakistan. *Journal of University Medical & Dental College*, 9(1), 20-25.
- Kobe, L. M., Reiter-Palmon, R., & Rickers, J. D. (2001). Self-reported leadership experiences in relation to inventoried social and emotional intelligence. *Current Psychology*, 20(2), 154-163.
- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., Schaufeli, W. B., de Vet, H. C., & van der Beek, A. J. (2011). Conceptual frameworks of individual work performance: A systematic review. *Journal of Occupational and Environmental Medicine*, 53(8), 856-866.

- Koopmans, L., Bernaards, C. M., Hildebrandt, V. H., de Vet, H. C., & van der Beek, A. J. (2013). Development of an individual work performance questionnaire. *International Journal of Productivity and Performance Management*, 63(1), 6-28.
- Landy, F. J. (2005). Some historical and scientific issues related to research on emotional intelligence. *Journal of Organizational Behavior*, 26(4), 411-424.
- Law, K. S., Wong, C.-S., & Song, L. J. (2004). The construct and criterion validity of emotional intelligence and its potential utility for management studies. *Journal of Applied Psychology*, 89(3), 483.
- Mayer, J. D., & Salovey, P. (1997). What is emotional intelligence? In P. Salovey & D. J. Sluyter (Eds.), *Emotional development and emotional intelligence: Educational implications* (pp. 3-34). Basic Books.
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2008). Emotional intelligence: New ability or eclectic traits? *American Psychologist*, 63(6), 503–517.
- Mohapel P., 2015, The quick Emotional Intelligence Self-Assessment. San Diego City College MESA Program.
- Salovey, P., & Mayer, J. D. (1990). Emotional intelligence. *Imagination, Cognition and Personality*, 9(3), 185-211.
- Sangeetha, V., Vaneeta, M., & Sinthuja, M. (2024, January). Revolutionizing Healthcare: Screening system to identify Diseases using Machine learning approach. In *2024 International Conference on Intelligent and Innovative Technologies in Computing, Electrical and Electronics (IITCEE)* (pp. 1-5). IEEE.
- Van Rooy, D. L., & Viswesvaran, C. (2004). Emotional intelligence: A meta-analytic investigation of predictive validity and nomological net. *Journal of Vocational Behavior*, 65(1), 71-95.
- Weiss, H. M., & Cropanzano, R. (1996). Affective Events Theory: A theoretical discussion of the structure, causes and consequences of affective experiences at work. *Research in Organizational Behavior*, 18, 1-74.
- Zaman, N., Memon, K. N., Zaman, F., Khan, K. Z., & Shaikh, S. R. (2021). Role of emotional intelligence in job performance of healthcare providers working in public sector hospitals of Pakistan. *Journal of Mind and Medical Sciences*, 8(2), 245-251.