

Enhancing Healthcare Resilience: Unraveling The Mediating Influence Of Emotional Intelligence On The Relationship Between Personality Traits And Mental Health In Jizan, Saudi Arabia

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Abstract

Objective: This study delves into elucidating the intricate connections between personality traits (PT), emotional intelligence (EI), and mental health well-being (MHWB) within the healthcare workforce of Jizan, Saudi Arabia. Additionally, it seeks to unravel the mediating role of emotional intelligence in the intricate relationship between personality traits and mental health well-being among healthcare professionals in the region.

Study Design: Employing a cross-sectional design, this research was conducted within the healthcare organizations and hospitals in the Jizan region of the Kingdom of Saudi Arabia. Data

collection spanned from November 10, 2021, to February 20, 2022.

Methodology: The study utilized a purposive non-probability sampling technique and administered the English versions of the Big Five Inventory, The Schutte Self-Report Emotional Intelligence Test, and the Warwick-Edinburgh Mental Well-being Scale (WEMWBS). Data analysis was carried out using SPSS version 26.

Results: Correlational analysis revealed positive relationships among personality traits (PT), emotional intelligence (EI), and mental health well-being (MHWB). Mediation analysis unveiled the pivotal role of emotional intelligence in mediating the connection between personality traits and mental health well-being.

Conclusion: Effectively managing the mental health well-being of healthcare professionals amid uncertain clinical situations necessitates the strategic integration of emotional intelligence in alignment with specific personality traits. The findings underscore the importance of designing protective interventions that leverage the combined influence of emotional intelligence and personality traits to elevate the mental health well-being of healthcare workers.

Keywords: Personality Traits, Emotional Intelligence, Mental Health Well-being, Healthcare Professionals, Mediation.

Introduction

Well-being is just one aspect of health; other characteristics include consistency and stability in each person's unique bodily and mental condition (Evans et al., 2021). These days, personal, environmental, and situational variables pose the greatest hazard to mental health (Clark et al., 2020). Based on global data, mental health disorders account for 8 million fatalities globally (Troost et al., 2021), with suicide accounting for around 75% of these deaths (Pinna & Edwards, 2020). Thus, mental health is becoming a crucial and significant research variable (Harding et al., 2019). According to Papadatou-Pastou et al. (2019), eudemonic happiness is the primary form of mental health wellness, whereas der Kinderen et al. (2020) also supported this view. The research illustrates the two forms of well-being: hedonic and eudemonic.

That implied personalized treatment for self-actualization. According to Fusar-Poli et al. (2020), mental health is related to the

erratic characteristics that explain self-acceptance, the meaning of life, contentment with life's accomplishments, and environmental mastery. According to studies, these qualities—optimism, bravery, initiative, and hope for the future—all contribute to the development of unique features (Kamerāde et al., 2019). Likewise, the theory of self-determination considers the understanding of psychological requirements and hereditary development (Geirdal et al., 2021).

According to McMillan et al. (2019), theory emphasized the fundamental idea that relatedness, autonomy, and competence are the foundations of an individual's psychological well-being. Thus, according to Foster et al. (2020), the genuine happiness model recommended a commitment to and pursuit of good actions and charitable endeavors that are consistent with the enduring qualities. Researchers Viner et al. (2019) explored a similar viewpoint in their research, which suggests that personalities and mental health well-being are related.

According to Goodman et al. (2019), personalities are the dynamic union of an individual's qualities. Since personality develops during adolescence, it has a significant impact on an individual's life, particularly when it comes to maintaining mental health (Mariotti et al., 2021). According to Myer and Briggs (2020), certain personality archetypes are enhanced by individual traits. These traits show how they are united in terms of form kinds and personality preferences. Eventually, rather of classifying the person into kinds, these preferences and types were combined to create five sorts of attributes personality (Furnham, 2020).

These character attributes provide a close-up view of the person (Bharadwaj et al., 2018). Comparable viewpoints that the researchers discuss highlight the relationship between emotional intelligence and personality (Dhiman & Raheja, 2018; Khan et al., 2020). According to Kotsou et al. (2018), the ability to recognize, manage, categorize, and keep an eye on one's own and other people's emotions is known as emotional intelligence. Effective coping mechanisms to handle different circumstances in one's own life or those of others are another definition of emotional intelligence (MacCann et al., 2020). It is also claimed that personality qualities that have developed in line with an individual's level of living are related to emotional intelligence.

Deformities, deficiencies, defenses, and aberrant causes by the external surrounding environment to EI were identified by Moroń and Biolik-Moroń (2021). Cherry (2018) stated that motivation, social skills, self-regulation, self-awareness, and empathy are the foundations of emotional intelligence. According

to Perez-Fuentes et al. (2018) and Noshili et al. (2022), these adhere to the structural and functional responsibilities of the healthcare industry.

Similar findings are shown by other research that identifies the emotionally intelligent staff members in the clinical department (Soto-Rubio et al., 2020). Additionally, it provides ample evidence about how an emotionally stable person can solve a number of difficult and apathetic situations with a more expansive outlook, vision, and sense of self-actualization (MacCann et al., 2020).

The goal of the study is to examine how emotional intelligence influences personality characteristics and mental health and wellbeing in a moderating way. This provides details on the personality qualities that are compared to mental health and wellbeing in the research sample of the Jizan, Saudi Arab community. Research on personality characteristics, mental health, and emotional intelligence in comparative groups among healthcare professionals is trailing behind. The basis for the study's insignificance, worthlessness, and boredom is found in literature. They are the obstacle in our medical/healthcare sector and society; the reality is contradictory.

Methodology

Research design:

Purposive non-probability sampling approach operationalized in a quantitative cross-sectional study design.

Participants:

Participants from 400 cross-cultural samples (328 females and 72 males) with a mean age range of 21 to 25 years were selected from general healthcare personnel at public teaching hospitals in the Jizan area of Saudi Arabia.

Procedure:

Permission was received from their public health personnel at Teaching Hospital during the data gathering process. Prior to the payment, the participant provided informed consent through a distribution that included details about the study's objectives, the institution of concern that would be using their responses, the confidentiality of those responses, and the fact that the institute's name would remain confidential (Sahar et al., 2022). Additionally, the consent form proved that the subject was willing to participate

in the study. It took ten to fifteen minutes to complete the self-report questionnaire in English for this reason..

Measures:

The pilot study was used to establish validity and reliability prior to the major research data collecting.

Demographic Questionnaire: Background information about participants was gathered through a demographic questionnaire, encompassing age, gender, educational level, semester, grades, and nationality.

The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): This was employed to assess mental health well-being, comprising 14 items. It gauges life satisfaction, the ability to foster mutually beneficial relationships, and psychological functioning on a 5-point Likert scale ranging from 1 (None of the time) to 5 (All of the time). The scale has demonstrated remarkable internal consistency with Cronbach's alpha reliability of .89 (Marmara et al., 2022) and .87 (Koushede et al., 2019).

The Big Five Inventory (BFI): It was utilized to measure the five major personality traits, consisting of 44 items and 5 subscales. These include Openness (10 items), Extroversion (8 items), Agreeableness (9 items), Neuroticism (8 items), and Conscientiousness (9 items). Responses were recorded on a 5-point Likert-type scale, ranging from 1 (Disagree strongly) to 5 (Agree strongly). Reverse scoring was applied to specific items. The internal consistency of the BFI exhibited good reliability with Cronbach's alpha of .89 (Halama et al., 2020) and .87 (Steyn & Ndofirepi, 2022).

The Schutte Self-Report Emotional Intelligence Test: This assessed general intelligence based on Mayer and Salovey's ability model. Comprising 33 items with four subscales, it measures Perception of Emotion (10 items), Managing Own Emotions (9 items), Managing Others' Emotions (8 items), and Utilization of Emotions (6 items). Responses were rated on a 5-point Likert scale, ranging from 1 (Disagree strongly) to 5 (Agree strongly), with reverse scoring for specific items. The internal consistency of the test demonstrated reliability with Cronbach's alpha of .90 (Aniemeka et al., 2020) and .89 (Weerasinghe et al., 2022).

Statistical Analysis: The study employed path analysis using AMOS 23 (Wazana, 2020) to assess the adequacy of the proposed model. Standardized coefficients obtained through maximum likelihood estimates were utilized. Goodness of fit for

each path was determined by evaluating the chi-square and multiple indices, including Root Mean Square Residue (RMSEA) (Pavlov et al., 2021), Standardized Root Mean Square Test (SRMR) (Shi et al., 2018), and Comparative Fit Index (CFI) (Shi et al., 2019). A CFI value greater than .90, along with values of .05 for RMSEA and SRMR, indicates a good fit.

Results

Before initiating the analysis of the hypothesized model, the total sample size was determined to be 400 after a thorough screening process for missing data. The overall percentage of missing data in the study was found to be 0.8% across all values in the administered questionnaires. To address this issue, Participant number 27 was excluded from the dataset due to their missing more than 45% of the responses. To further address missing data, item mean substitution (IMS) was applied. According to existing literature, IMS is considered an effective, authentic, and reliable imputation solution when the missing data is less than 10%, surpassing other methods. Univariate outliers were identified within the range of +1 to -1 using skewness and kurtosis measures, with no indications of multi-outliers in the dataset.

Table 1 the demographic values regarding the participants of the research (N = 400)

Demographics	f (%)	Demographics	f (%)
Gender		Semester	
Male	72(18)	1 – 4	340(85)
Female	328(82)	5 – 8	60(15)
Age		Grade	
15 – 20	64(16)	A	299(75)
21 – 25	228(57)	B	101(25)
26 – 30	108(27)	Population	
Education level		Nurses	128(32)
postgraduate level	209(52.3)	Doctors	80(20)
Graduated level	191(47.7)	Informatics	104(26)
		Others (other supporting staff)	88(22)

Table 1 indicates the total sample size is 400 out of which the female percentage is higher with the age limit of 21 - 25, education level of graduate healthcare workers, belonging from four distinct populations of nurses, doctors, informatics, and others (other supporting staff) representation belonging from the of the region of Jizan, KSA population.

Table 2 Correlation between the PT, EI, and MHWB.

Scales	1	2	3	4	5	6	7	8	9	10	11	12
MHWB	-	.288**	.346**	.345**	.110	-.081	.165*	.489**	.377**	.264**	.537**	.514**
PT	-	-	.762**	.847**	.736**	-.707**	.715**	.548**	.483**	.329**	.505**	.541**
ES	-	-	-	.635**	.463**	-.361**	.351**	.410**	.313**	.237**	.426**	.434**
OS	-	-	-	-	.491**	-.482**	.442**	.523**	.414**	.320**	.484**	.571**
AS	-	-	-	-	-	-.407**	.591**	.313**	.323**	.175*	.291**	.264**
NS	-	-	-	-	-	-	.537**	.381**	.364**	.202*	.357**	.381**
CS	-	-	-	-	-	-	-	.365**	.350**	.229**	.299**	.308**
EI	-	-	-	-	-	-	-	-	.810**	.818**	.816**	.788**
POE	-	-	-	-	-	-	-	-	-	.474**	.538**	.675**
MOE	-	-	-	-	-	-	-	-	-	-	.539**	.413**
MOTE	-	-	-	-	-	-	-	-	-	-	-	.664**
UOE	-	-	-	-	-	-	-	-	-	-	-	-

MMHWB = mental health wellbeing, PT = personality inventory, ES = extroversion subscale, OS = openness subscale, AS = agreeableness subscale, NS = neuroticism subscale, CS = Conscientiousness subscale, EI = emotional intelligence scale, POE = perception of emotion, MOE = managing own emotion, MOTE = managing others emotion, UOE = utilization of emotion. *** = 0.1, ** = .05, * = 0.1

Table 2 indicates the significant positive relationship between personality traits, psychological well-being, and emotional intelligence. Similarly, subscales of PT and EI are also significantly related to mental health wellbeing.

Figure 1 Comparison graph of educational level healthcare workers population

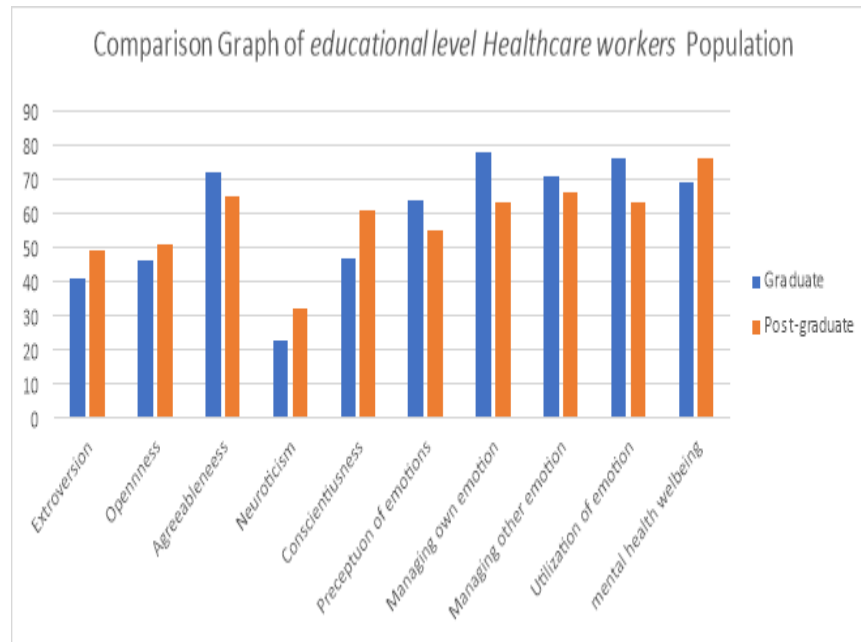


Figure 1 indicates the comparison of personality traits (Extroversion, openness, agreeableness, neuroticism, and conscientiousness), emotional intelligence (managing own emotion, managing other emotions, and utilization of emotion), and mental health well-being based on the educational level region of Jizan, Saudi Arabic healthcare workers population.

Comparison of the educational level in the region of Jizan, Saudi Arab healthcare workers populations on PT, EI, and MHWB.

Table 3 Comparison of the educational level in the region of Jizan, Saudi Arab healthcare workers populations on PT, EI, and MHWB.

Scales	Graduate N = 209		Post-graduate N = 191		t (156)	P	95% class		Cohen's d
	M	S. D	M	S. D			LL	UL	
MHWB	51.42	12.17	53.3	9.04	.488	.042	-4.8	-2	0.089
PT	148	29.5	158.3	18.5	.2.45	.003	-18.6	-1.5	0.419
EI	122.29	31.06	128.25	14.85	1.56	.000	-13.5	2.89	0.245

**p= .05, *p=0.1

Table 3 indicates the significant difference between the two populations of educational levels in the region of Jizan, Saudi Arabian healthcare workers on the personality trait, emotional intelligence, and mental health well-being.

Figure 2 Comparison graph of healthcare workers population

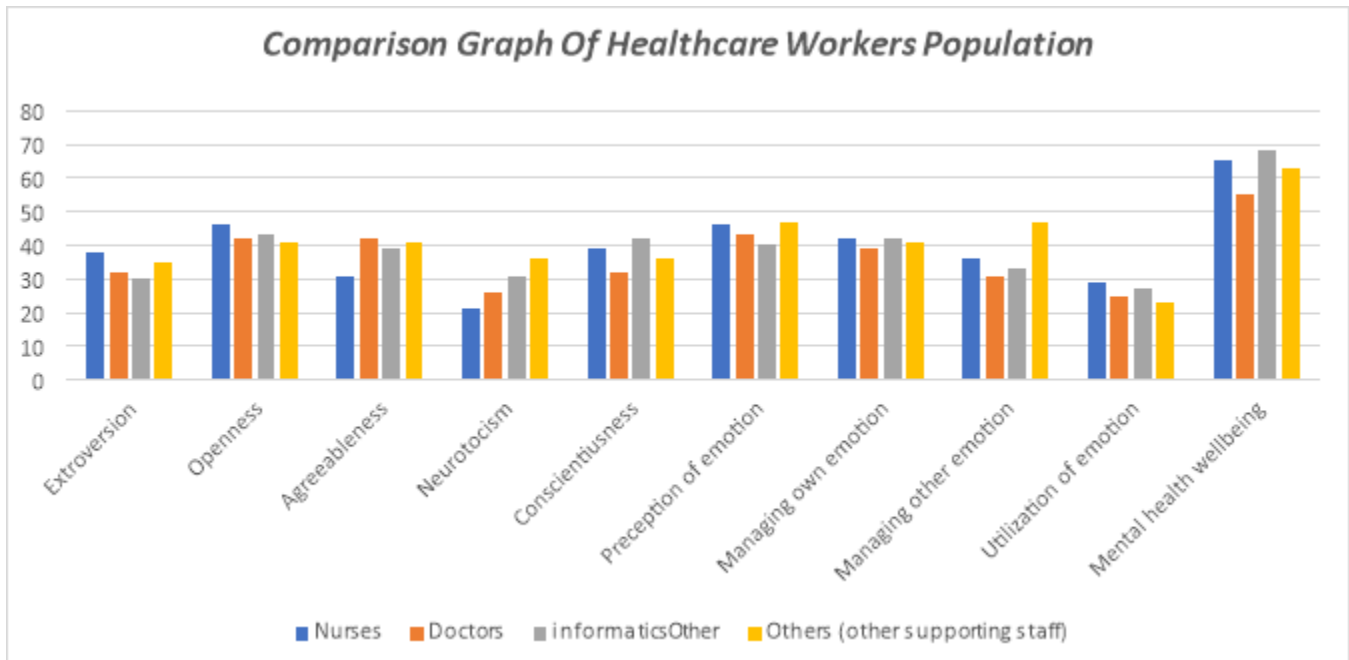


Figure 2 indicates the comparison of personality traits (Extroversion, openness, agreeableness, neuroticism, and conscientiousness), emotional intelligence (managing own emotion, managing other emotions, and utilization of emotion), and mental health well-being based on the region of Jizan, Saudi Arabic healthcare workers population.

Comparison of the healthcare workers populations in the region of Jizan, Saudi Arab on PT, EI, and MHWB.

Table 4 Comparison of the healthcare workers population in the region of Jizan, Saudi Arab on PT, EI, and MHWB.

Scales	Nurses (128)		Doctors (80)		Informatics (104)		Others (88)		F (1, 142)	η^2
	M	S. D	M	S. D	M	S. D	M	S. D		
MHWPB	49.87	10.88	54.87	7.53	53.91	10.25	50.79	8.05	2.72	.003
PT	147.96	27.98	161.6	17.46	162.65	11.61	156.37	15.4	5.06	.060
EI	121.73	26.22	129.15	13.00	132.2	13.29	127.79	13.4	2.51	.046

**p= .05, *p=0.1

Table 4 indicates the significant difference among the healthcare workers populations in the region of Jizan, Saudi Arabian in the personality trait, emotional intelligence, and mental health well-being.

Table 5 Goodness-of-Fit Indices

χ^2	df	TLI	CFI	RMSEA	SRMR
Measurement Model 1					
712.88	425	.93	.91	.05	.10
Measurement Model 2					
468.71	290	.92	.92	.04	.9

Table 5 indicates measurement model 1, model fit showing that there was a significant chi-square test ($\chi^2 = 712.88$, $DF = 425$), as well as CFI (.91) and TLI (.91) within the acceptable cutoff. RMSEA value in the adapted model was .05. The value of SRMR was slightly larger than the .08 cutoff.

As indicated by measurement model 2, model fit shows chi-square test significance ($\chi^2 = 468.71$, $DF = 290$), as well as CFI (.92) and TLI (.92) within the acceptable cutoff. The RMSEA value in the adapted measurement model was .04. The SRMR value was slightly larger than the preferred .08 cutoff.

Table 6 Bootstrapped Regression Weights for Measurement Model 1

	B	CP	p
POE <--- ES	.51	1.91	***
POE <--- OS	.73	2.33	***
POE <--- AS	.64	3.22	***
POE <--- NS	-.78	2.67	***
POE <--- CS	.61	2.83	***
MOE <--- ES	.51	1.81	***
MOE <--- OS	.51	1.97	***
MOE <--- AS	.74	2.34	***
MOE <--- NS	-.64	3.28	***
MOE <--- CS	.78	2.62	***
MOTE <--- ES	.71	2.33	***
MOTE <--- OS	.59	1.92	***
MOTE <--- AS	.73	2.33	***
MOTE <--- NS	-.64	3.29	***
MOTE <--- CS	.78	2.67	***
UOE <--- ES	.51	1.94	***
UOE <--- OS	.73	2.33	***
UOE <--- AS	.64	3.23	***
UOE <--- NS	-.78	2.67	***
UOE <--- CS	.55	1.99	***
MHWP <--- POE	.52	1.94	***
MHWP <--- MOE	.73	2.33	***

MHWB	<---	.62	3.21	***
MOTE				
MHWB	<---	.79	2.63	***
UOE				

Note. *** = p

Table 6 depict the standard coefficient of model 1, indicating positive impact of the personality traits (extraversion, agreeableness, conscientiousness, and openness) whereas, as the neuroticism has negative impact on the emotional intelligence subscales (perception of emotion, managing own emotion, managing others emotion, and utilization of emotion).

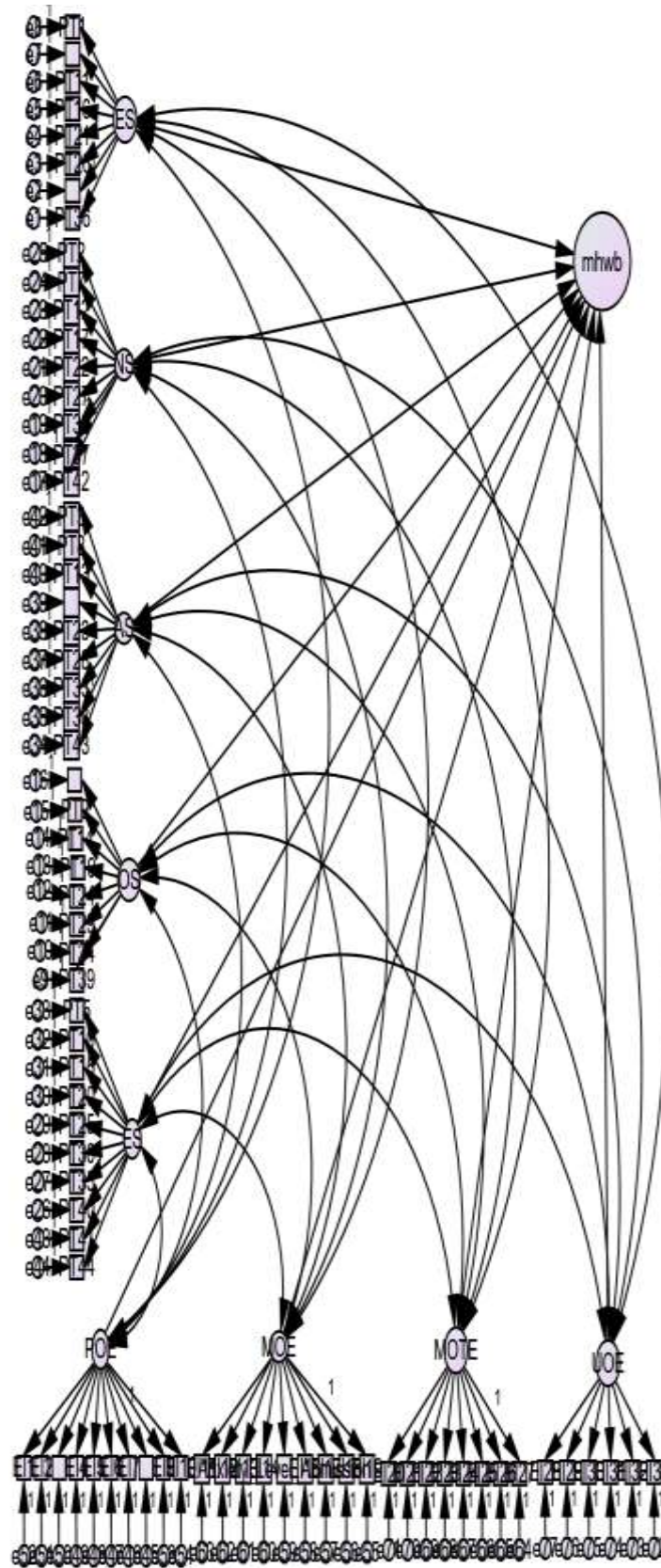


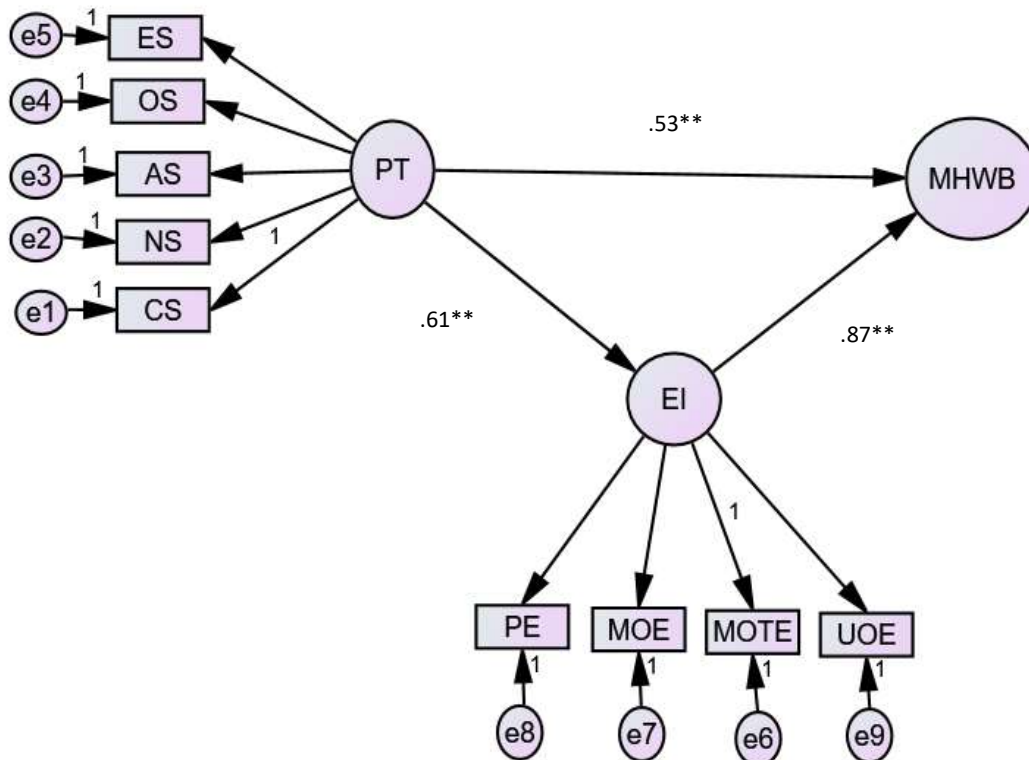
Figure 2 indicates the measurement model 1, showing the impact of personality traits ((extraversion, agreeableness, conscientiousness, openness, and neuroticism) on the emotional intelligence ((perception of emotion, managing own emotion, managing others emotion, and utilization of emotion) subscales and mental health wellbeing.

Table 7 Bootstrapped Regression Weights for Measurement Model 2

	B	C.R.	P
EI <--- PT	.61	1.99	***
MHEB <--- EI	.53	3.07	***
MHWP <--- PT	.87	2.40	***

Note. *** = p

Table 7 indicates that personality traits have strong positive impact on the emotional intelligence and emotional intelligence has positive impact on the mental health wellbeing. Whereas the personality traits have weak positive impact on the mental health wellbeing.



healthcare professionals. relational intelligence (emotional intelligence: perception of emotion, managing own emotion, managing other emotion, and utilization of emotion) and mental

health wellbeing are strongly correlated with personality traits (extraversion, openness, agreeableness, neuroticism, and conscientiousness). According to correlational matrix analysis, neuroticism shows a negative correlation coefficient with emotional intelligence and mental health wellbeing, but the four types of personality traits—extroversionism, openness, agreeableness, and conscientiousness—show a positive correlation value.

The findings of this study align with those of prior research, which suggests that the present study's conclusions are compatible with the relevant existing findings of different research studies. The constant behavior of a unique character is their personality. Individuals with higher emotional intelligence are more equipped to handle environmental risks, situational constraints, and repercussions (Papadatou-Pastou et al., 2019). The good and bad sides of people were also illustrated by their personality traits, which suggested particular attributes and qualities that were connected to them. According to certain theories, having negative personality traits causes social, psychological, and mental abnormalities as well as the regeneration of certain brain cells, autophagy, and depression (Soto-Rubio, et al., 2020; Shahbal et al., 2022).

Research has shown that emotional intelligence-related personality qualities matter in clinical settings, particularly when it comes to healthcare professionals (Athar et al., 2020). The healthcare industry is linked to compassion, reliability, and efficient patient care. As a result, the degree to which healthcare professionals differ in their emotional intelligence and related positive personality qualities typically reflects better mental health in their clinical settings (Goodman et al., 2019).

Implications of the Study:

The current investigation, which delved into the mediated influence of emotional intelligence on the correlation between personality traits and mental health well-being, yielded noteworthy findings. The study unveiled substantial direct effects, emphasizing the direct impact of personality traits on mental health well-being (Harding et al., 2019). This aligns with existing literature indicating that negative personality traits act as impediments to mental health well-being, fostering a pessimistic outlook towards oneself, the environment, and consequences.

Conversely, the indirect effects shed light on the interconnectedness of personality types (Batoool et al., 2022) and emotional intelligence (Soto-Rubio et al., 2020). This nuanced

relationship considers social perceptions, environmental factors, and other consequences in shaping mental health within society (Liu et al., 2021; Shubayra et al., 2022). The indirect effects are consistent with positive psychology literature (Hampshire et al., 2021), highlighting those positive personality traits influenced by emotional intelligence play a role in enhancing mental health. This aligns with existing research emphasizing that personality traits encapsulate both positive and negative facets of an individual's life, particularly psychological deficits, deformities, and abnormalities (Pinna & Edwards, 2020).

Suggestions for Future Research:

The present study also drew comparisons between two distinct populations based on educational levels in the Jizan region, Saudi Arabia, revealing significant differences. The findings, supported by one-way ANOVA analyses across healthcare worker populations, corroborate existing literature attributing such disparities to various factors. These factors include socio-economic status, cultural norms, values, religious orientation, personal demographics, and other structures congruent with individual characteristics (Suprpto et al., 2020, Shahbal et al., 2022; Alharbi et al., 2022). Future research should delve deeper into these factors to better understand the complexities influencing healthcare practices among different populations. Additionally, exploring how these attributes affects knowledge, competencies, and skill acquisition from diverse literacy sources could contribute valuable insights.

Limitations of the Study:

While the study provided valuable insights, it is essential to acknowledge certain limitations. The research focused on a specific region (Jizan, KSA), and generalizing the findings to other contexts requires caution. Additionally, the cross-sectional nature of the study may limit the ability to establish causation. Longitudinal studies could offer a more comprehensive understanding of the dynamic interplay between personality traits, emotional intelligence, and mental health well-being over time. Furthermore, the study did not explore potential cultural nuances that might influence the interpretation of personality traits and emotional intelligence, which could be a crucial area for future investigation.

Conclusion:

Emotional intelligence plays a crucial role in mediating the relationship between personality traits and mental health

wellbeing among healthcare workers in Jizan, Saudi Arabia. Interventions should focus on enhancing emotional intelligence, especially in personality development, to address challenges in clinical practices. By fostering positive coping strategies, healthcare workers can effectively manage stress and maintain optimal mental health.

Ethics approval and consent to participate:

After providing study plan, proposal, and ethical consideration from, the Ethical Approval was obtained from IRB of Health Directorate, Ministry of Health, Jizan, Saudi Arabia. While before collection of data, a written informed consent form was presented to the participants and each of the participants signed the informed consent form.

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Conflict of Interest:

Authors have no conflict of Interest.

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