

## GRATITUDE MEDIATES THE EFFECTS OF EMOTIONAL INTELLIGENCE ON HAPPINESS AMONG MEDICAL STUDENTS: A STRUCTURAL EQUATION MODELING ANALYSIS

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### ABSTRACT

*Nowadays many professionals consider mental health a necessary condition for optimal functioning and medical students play a critical role in sustaining a community's health. That's why the present study aimed to identify, the relationship between emotional intelligence, happiness, and, gratitude. This study is an analytical cross-sectional study. The targeted population was 219 medical students (males=110, females=109) aged between 19-25 years studying at Nishter Medical College Multan. The participants were selected through a purposive sampling technique and three questionnaires (Schering emotional intelligence scale, subjective happiness scale, and, gratitude questionnaire) were used to collect responses from them. In the light of broaden and build theory, the results revealed that there exists a significant positive association between emotional intelligence, gratitude, and happiness ( $p < 0.05$ ). The results also revealed that gratitude significantly acts as a mediator between emotional intelligence and happiness ( $p < 0.05$ ). In conclusion, the findings have made it abundantly evident that gratitude, happiness, and emotional intelligence play a vital role in a person's well-being. Consequently, positive emotions such as happiness and contentment increase one's thought-action repertoires, allowing one to develop practical psychological resources.*

**Keywords:** emotional intelligence, happiness, gratitude, broaden and build, thought-action repertoires, psychological resources

### INTRODUCTION

A new area of psychology called positive psychology focuses on psychological strengths and abilities rather than psychopathology. The essential positive, quantifiable outcomes are central to positive psychology to protect an individual from detrimental incidents (depression, anxiety, post-traumatic stress). Psychologists that are interested in this area have concentrated on contentment and happiness. It has been hypothesized that happiness might come with outcomes like marriage and relationship success, additional income, improved health, and a successful career. Of course, there are some viewpoints that suggest that people who are more prosperous feel better in their lives. On the contrary, a review study performed in 2005, demonstrated that success was a result of happiness, not the other way around (Lyubomirsky & King, 2005). Several other things have been linked to happiness, including family, friends, health, career, and personality. Many pieces of research indicated that the propensity for happiness in a person is determined by the fundamental structure of their personality. It appears that extroverts experience more satisfaction through social interaction and self-expression as compared to introverts (Pishva et al., 2011).

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In a study conducted by Diener et al (2009) participants were asked to express their happiness and the findings indicated that true happiness can be evaluated on three levels. One is positive affection, the second is negative affection, and the last is life satisfaction. Consequently, a person's happiness has two basic components cognitive and emotional. Numerous factors can influence the emotional component of happiness. Emotional intelligence can be one of these elements. The ability to comprehend, experience, and use these sentiments as a foundation for influencing human communications is known as emotional intelligence. In actuality, one's capacity for emotion management in interpersonal interactions and self-motivation depends on their awareness of their own feelings. A psychologically mature individual must use this knowledge to distinguish between people and direct one's thoughts and actions, one must be able to keep track of their own and other people's emotions.

Emotional intelligence, psychological and physical health are significantly correlated. To fully understand the direct and indirect connections between emotional intelligence, more research is needed. An individual who possesses higher emotional intelligence may be better equipped to handle challenging daily situations. It's critical to remember that emotional maturity and cognitive quotient do not compete with one another, but are different. People with high IQs may also have low emotional intelligence (Singh & Sharma, 2012).

Individuals are social creatures who seek intimate social contact with their surroundings. It determines a stable and better quality of life if people believe they are tied to environmental circumstances; otherwise, the results may be unpredictable. It has been said that the adolescent stage is a time of transition and is marked by a significant change in one's physical, emotional, social, or psychological makeup. People who adjust to their environment and adapt well have fewer problems, whereas those who do not adjust to their environment and do not adapt well are more likely to be stressed, which is marked by intense and uplifted periods of disturbance where various kinds of problems and issues are inevitable. (Abdollahi et al., 2019).

According to Ng and Wong (2013), gratitude is an emotion in which people express their appreciation for the assistance that they have received and made an effort to repay it. Other describes gratitude as a way of living that emphasizes and values life's positive aspects. There are two types of gratitude, State gratitude, and trait gratitude. It was identified that high levels of trait gratitude are associated with more frequent and intense expressions of gratitude and people with high levels of thankfulness exhibit less negative affect and pessimism and more positive affect and optimism. It was also reported better levels of life satisfaction than people with low levels of appreciation. Similar findings were reached by other researchers who found that those who are appreciative tend to experience less jealousy, despair, and other negative emotions. They also tend to have active impacts like satisfaction, happiness, and hope. Furthermore, these researchers made note of the positive feedback loop that might form between subjective well-being and gratitude (Watkins et al., 2015). Ouyang (2015) defined emotional intelligence as the capacity to understand, analyze, and express emotion as well as the perception, judging, and expression of emotion as well as the use of emotion to advance one's point of view. It was proposed that emotional intelligence, which combines the skills of self-awareness, emotional regulation, and self-motivation, is an essential element of success.

Investigations into the connection between emotional intelligence and happiness are ongoing. People with high emotional intelligence, for instance, are able to detect and express their feelings, they also have a positive sense of who they are, can achieve their goals, and lead happy lives (Ouyang et al., 2015). Happiness depends on whether a person can rapidly identify their emotional response, how they react to emotional qualities, and their capacity to control the involved mood. Gallagher and Brodrick (2008) claimed that individuals with high emotional intelligence can develop healthy coping mechanisms when faced with stress, which improves their level of happiness in general.

Similarly, gratitude is a feeling of empathy that shows a favorable link with both affective and cognitive happiness, making it a significant predictor of happiness (Shi & Du, 2020). It has been described as a psychological trait that makes people appreciate when others aid them. Additionally, it has had a distinctive influence on how people interact with one another and behave at work. For instance, clinical professionals with higher levels of thankfulness communicate with patients who are having trouble more gently and patiently. A communication style with such a cheerful outlook might diffuse uncomfortable emotions in therapeutic discussions. The psychological propensity of being sensitive, caring for others, and appreciating other people's positive acts during interpersonal encounters

are typical manifestations of the trait of appreciation (Lanham, Rye, Rimsky & Weill, 2012). Positive emotions, according to the broaden-and-build approach, both expand people's fleeting cognitive and behavioral repertoires and help them construct long-lasting personal resources. As a result, gratitude is a feeling that can help with happiness.

A different study discovered that self-esteem has an impact on gratitude. More specifically, people who have higher levels of self-esteem are more appreciative (Wang, Yu, Zeng & Ye, 2011). Gratitude is an emotional state that results from observing others' actions, therefore it also concerns how one perceives one's own position in regard to others. It was suggested that higher emotional intelligence makes people more socially flexible and produces more positive emotional experiences. In turn, this encourages gratitude for others and society, which in turn fosters favorable perspectives of society. Consequently, gratitude may be favorably predicted by emotional intelligence (Emmons & Stern, 2013).

### **Significance of the study**

Several studies have looked at emotional intelligence in a variety of target populations, including students. The growing usage of therapy facilities, the change to patient-centered care, and the growing relevance of clinical skills necessitate a wider range of interpersonal and intrapersonal skills in the medical professions. In a study evaluating the emotional intelligence of medical students, it was shown that their emotional quotient declined with time. The therapeutic effects of such modifications, however, were not investigated. The reason is that the majority of medical students start their professional education with optimism, vigor, and a focus on humanity, they soon recognize that they are being drawn away from their intended route. Many people find it very difficult to balance their happiness, social obligation, and profession. Due to their vital role in maintaining and advancing society's health, their own mental health should be considered first.

### **Hypotheses of the study**

1. Emotional intelligence would be positively linked to happiness
2. Gratitude would be positively linked to happiness
3. Emotional intelligence would be positively linked to gratitude
4. The positive association between emotional intelligence and happiness is mediated by gratitude

## **METHODS**

### **Participant's Characteristics**

The present study aimed to collect data from 219 participants 110 males and 109 females studying at Nishter Medical College through a purposive sampling technique. The age of the participants ranges from 19-25 years (Mean=20.17 and standard deviation =1.47). The research described in this article took place after gaining approval from the institutional review board. The ethical guidelines of the American Psychological Association (APA) were followed to make sure that the participants were not harmed and must be protected from physical and mental distress.

### **Procedure**

Based on the inclusion criteria, the researcher chose potential participants (Medical students). At first, they were asked to express their consent to participate in the study after being chosen. The participants completed the questionnaire in around twenty minutes. The sufficient disclosure of the study's objectives was made in the informed consent. Finally, they were informed of the confidentiality of their answers and given comments to uphold it.

### **Instruments**

#### **Gratitude Scale**

This tool was created by McCullough (2004). This tool's objective is to assess individual differences in the propensity to experience appreciation in day-to-day living. It consists of six items for self-report. Gratitude or appreciation can be characterized as a different outcome, possibly existing as a trait, mindset, or emotion that is intensely felt. The Likert scale has seven points, ranging from strongly disagree (1) to strongly agree (7). Both positive and negative (reversed score) comments are included on the scale. The scoring for items 3 and 6 is inverted. The range between the least and greatest score is 6 to 42. A high score is equivalent to high gratitude, whereas a low score is equivalent to low gratitude. Cronbach's alpha coefficient for this scale was 0.79 (McCullough, Tsang & Emmons, 2004).

**Emotional Intelligence Scale**

There are 33 items in Schering's Emotional Intelligence Questionnaire. A 5-point Likert scale, ranging from 1 to 5, is used for grading. Each person's overall grade is equal to the sum of the grades they receive. Self-awareness, self-control, self-arousal, sympathy, and social skills are the five domains of emotional intelligence that this scale measures. This questionnaire's validity and reliability were evaluated, and Cronbach's alpha was determined to be 0.85 (Zarei, Akbarzadeh, & Khosravi, 2019).

**Happiness Scale**

A 4-item self-report instrument called the Subjective Happiness Scale (SHS) was used to assess a person's total happiness. It uses a 7-point Likert scale as the response format. Following the reverse coding of the fourth item, a composite score is created by averaging the replies to the four items. Scores vary from 1.0 to 7.0. A high score corresponds to a higher level of happiness. Cronbach's alpha coefficient for this scale was 0.80. (Lyubomirsky & Lepper, 1999)

**RESULTS**

Smart PLS (3.0) was utilized to analyze the data because it is particularly efficient for complex designs with small sample sizes and is less sensitive to data normality, partial least square analysis was chosen for hypothesis testing because it increased the deviation in independent components. Scale consistency was examined through reliability analysis. Hetrotrait-monotrait (HTMT) criterion was used to access the discriminant validity of the data.

**Table No 1: Cronbach's Alpha Reliability Analysis**

Instruments	Alpha Coefficient	No. of Items
Emotional Intelligence	0.8	33
Happiness	0.7	04
Gratitude	0.6	06

Note: Acceptable range of coefficient of alpha is 0.6-0.8 (Klein, 1999)

**Table No2: Discriminant Validity: Hetrotrait-monotrait (HTMT) criterion**

Scales	Gratitude	Emotional Intelligence	Happiness
Gratitude			
Emotional Intelligence	0.42		
Happiness	0.46	0.67	

Note: The threshold value <0.9 (Henseler, Ringle & Sarstedt, 2015).

**Table No 3: Cronbach Alpha and Pearson's r correlation between variables**

Measure	Gratitude	Happiness	Emotional Intelligence
1. Gratitude	–	0.296**	0.297**
2. Happiness	–	–	0.542**
3. Emotional Intelligence	–	–	–
Mean	30.56	20.69	131.5
Std. Deviation	5.89	3.74	13.87

Note: n=219, intercorrelations are presented in the diagonal. The means and standard deviation of the participants are presented in the vertical rows. p<0.05\*, p<0.01\*\*

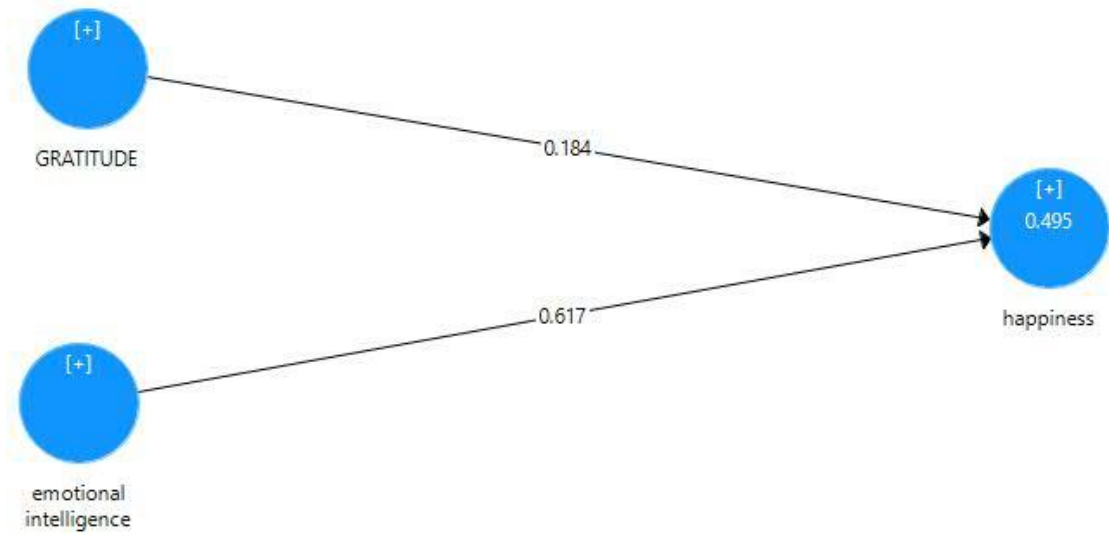
The table indicates that gratitude and happiness are positively associated (r= 0.29\*\*). Similarly, emotional intelligence and gratitude are positively associated (r= 0.29\*\*). Lastly happiness and emotional intelligence are positively associated (r= 0.54\*\*).

**Table No 4: Summary of Direct Hypothesis Testing**

Paths	Beta	Std. Error	t-statistics	p-value	R Square	F-Square
Gratitude→ Happiness	0.18	0.08	2.11	0.03*		0.05
Emotional intelligence→ Happiness	0.61	0.12	5.09	0.000***	0.495	0.66

Note: p<0.05\*, p<0.01\*\*, p<0.001\*\*\*

The table indicates that gratitude and emotional intelligence significantly predicts happiness (β = 0.18, t = 2.11, p = 0.03), (β = 0.61, t = 5.09, p = 0.000).



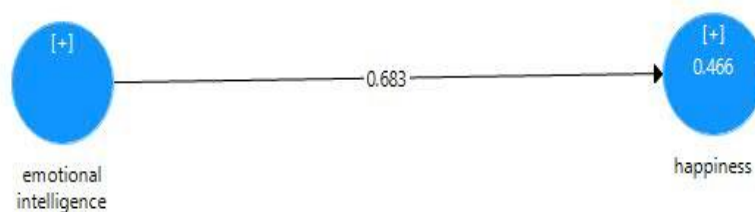
**Figure1: Structure model along with R squared value**

**Table No 5: Summary of Mediation Results**

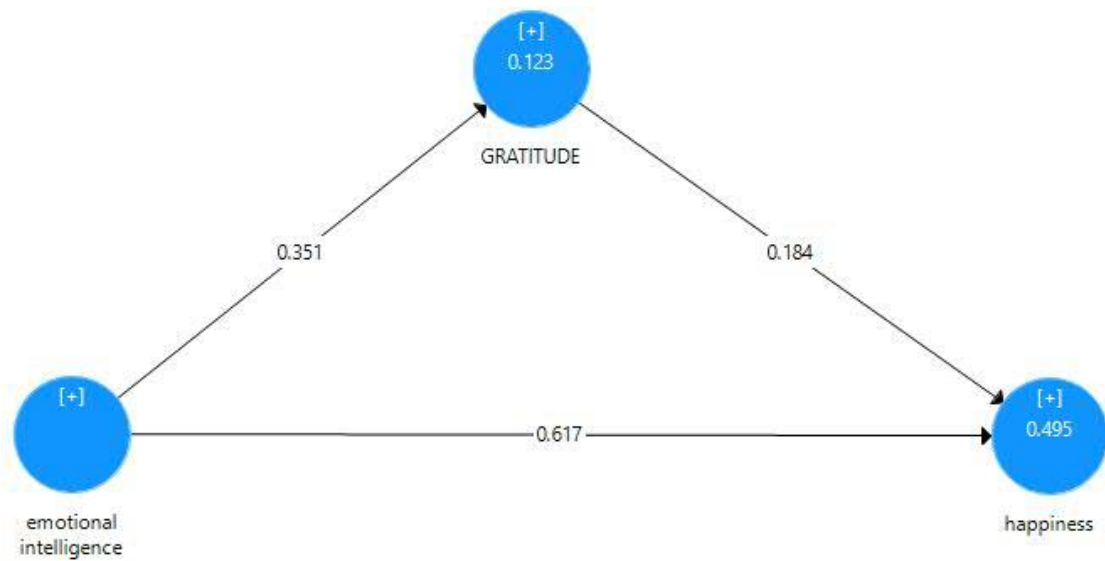
Effects	Paths	Beta	Std. Error	t-Statistics	p-value	R-Square	F-Square
Direct Effect (Without mediator)	EI→H	0.68	0.10	6.37	0.000***	0.46	0.87
Indirect Effects (With mediator)	EI→G	0.35	0.08	4.21	0.000***	0.123	0.35
	G→H	0.18	0.07	2.47	0.01**	0.49	0.05
	EI→H	0.61	0.12	5.09	0.000***	0.49	0.66
Specific Indirect Effects	EI→G →H	0.06	0.03	1.93	0.05*		

Note: EI=emotional intelligence, H= happiness, G= gratitude,  $p < 0.05^*$ ,  $p < 0.01^{**}$ ,  $p < 0.001^{***}$ .

The table indicates that the direct effect between emotional intelligence and gratitude is significant ( $\beta = 0.35$ ,  $t = 4.21$ ,  $p = 0.000$ ). Similarly the indirect effect between gratitude and happiness is also significant ( $\beta = 0.18$ ,  $t = 2.47$ ,  $p = 0.01$ ). The results of bootstrapping indicates that the specific indirect effect is also significant ( $\beta = 0.06$ ,  $t = 1.93$ ,  $p = 0.05$ ).



**Figure2: Structural model without the mediator**



**Figure3: Structural model of mediation path**

**DISCUSSION**

The mental health of medical students is very crucial to maintain the productivity of society. That’s why the current study aimed to explore the association between emotional intelligence, gratitude, and happiness in order to highlight the importance of these psychological factors, enabling a person to acquire useful skills to initiate positive emotions. It was reported that emotional intelligence is a significant contributor to happiness and the present findings concur with previous literature (Ruiz-Aranda et al., 2014). People with high emotional intelligence think they can regulate and control their emotions, which will help them to enhance their sense of happiness and mental well-being. These people can reasonably withstand and fully utilize emotive content to perceive more pleasant feelings such as contentment and satisfaction. Similarly, an individual level of happiness can be improved if they have the ability to control their emotions, for example in negative situations if they can take stock of who they are and what are they capable of they can take logical control over their actions and if they can control their emotions and take into account others’ feelings when they are upset about their interpersonal relationship which will consequently make them happy and satisfied with life. These psychological processes have a big impact on people’s lives. It was identified that people with low emotional intelligence struggle to process their emotions well and take a reverse deductive reasoning approach to evaluate situations. This issue can make happy experiences less intense, less frequent, and shorter in duration. Additionally, people may rate their general quality of life lower, which may affect their ability to interact with others and their mental health (Koydemir et al., 2013; Martos et al., 2016).

It was hypothesized that emotional intelligence is a strong predictor of happiness and the findings of the present study are consistent with previous literature (Rey & Extremera, 2014). The reason is that gratitude is sort of an empathic feeling based on the fundamental element of emotional intelligence. Emotional intelligence is a skill that can be learned and honed via experience and learning. It is the capacity to precisely and effectively processes emotional information. Consequently, it is simple to understand how gratitude and emotional intelligence are related. The ability to feel appreciative is easier in people having greater emotional intelligence. Thus it can be said that being grateful is a feeling of positivity and is an essential part of emotional intelligence (Emmons & Stern, 2013; Froh et al., 2011)

It was also hypothesized that gratitude can significantly mediate the association between emotional intelligence and happiness. The findings concur with previous literature (Lanham et al., 2012). Previous research has demonstrated that feeling grateful might encourage one’s own prosocial conduct. The reason is that high levels of gratitude are associated with the prosocial activity that fosters healthy interpersonal ties and positive coping strategies in people, which advances the internal goal of struggle and reduces the materialistic goal. Gratitude can also mitigate the detrimental impacts of environmental danger and offer a person resilient protection. It can widen people’s perspectives and act

as a resource for life, in accordance with the broaden-and-build theory of emotions. People who express thankfulness are frequently likely to get more supportive cognitive and emotional input, focus more on prosocial actions, and take social responsibility in interpersonal relationships seriously (Giacalone, Paul & Jurkiewicz, 2005; Isgett & Suzannah 2015).

Thus, it is simple to comprehend how gratitude significantly mediates the association between emotional intelligence and happiness. Additionally, gratitude has a direct impact on happiness due to its capacity to control, encourage, and facilitate pleasant emotional experiences it permits an individual to actively engage in life.

## **CONCLUSION**

It can be concluded that emotional intelligence, gratitude, and happiness are the fundamental elements of a person's mental health. Emotional intelligence significantly predict happiness and gratitude significantly mediates the association between emotional intelligence and happiness.

### **Limitations and suggestions**

This research has certain shortcomings despite its contributions. For instance the use of cross-sectional limits the causal association between the latent variables. In order to better understand how emotional intelligence, gratitude, and happiness work together a follow-up longitudinal study is advised. In this study the effect of only one possible mediator (gratitude) is studied for an in-depth analysis, additional significant mediators (personality, empathy, and subjective well-being) should be considered who may also have interaction effects. Only medical students were included in this study that's why the results should not be extrapolated to other populations.

### **Implications of the Study**

Gratitude promotes pro-social behavior, and those who experience gratitude frequently are more inclined to help, encourage, forgive, and empathize with others. The prevention and control of COVID-19 have led to new demands and pressures for clinical medical students in the workplace. In such a scenario, useful, empirically supported communication resources must be made available. With actual clinical cases or standardized patients, clinical instructors can conduct humanistic teaching. During their training, medical students should be taught by educators to show gratitude to people and society which might help to develop a sense of worth and accomplishment and promote their positive emotional experience.

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