



# EXAMINING THE RELATIONSHIP BETWEEN EMPATHY AND EMOTION REGULATION : THE MEDIATING ROLE OF MINDFULNESS AMONG COLLEGE STUDENTS.

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***Abstract :** Life of college going student usually gets hectic and they become preoccupied by various activities that take place on a regular basis. During these important years of their holistic development it is essential to equip oneself with various skills such as empathy, mindfulness and emotion regulation. Empathy can be described as the ability to put oneself in the shoes of someone else and understand their situation from their point of view. Mindfulness, howsoever is a practice of being aware of one's thoughts, feelings and surroundings. Emotion Regulation refers to an individual's ability to understand and manage their emotions. The present study aimed to understand the relationship between empathy and emotion regulation among college students and also the mediating role of mindfulness. A sample of 269 college going students was taken for the analysis. The Toronto Empathy Questionnaire, The Mindfulness Attention Awareness Scale and Emotion Regulation Questionnaire was administered for collection of data. The relationship between empathy, mindfulness and emotion regulation was examined using correlation analysis and hierarchical regression analysis. A positive correlation of empathy and mindfulness with emotion regulation was seen. Hierarchical regression analysis indicated that empathy and mindfulness contributes in increasing the emotion regulation*

among college students. Mindfulness was found partially mediating the association between empathy and emotion regulation.

**Key Words :** Empathy, Emotion Regulation, Mindfulness, College Students, Positive Psychology

## INTRODUCTION

Empathy, as defined by Carl Rogers, “is the ability to understand and share the feelings of another” (**Carl Roger, 1959**) Rogers highlighted the significance of empathy in developing therapeutic relationships and promoting human development. Empathy is a sophisticated and deep-seated human capacity that entails comprehending and experiencing the emotions of others. It surpasses mere sympathy or pity, involving a profound connection that enables humans to empathetically feel the feelings of another person. Psychologists have extensively studied and explained this important feature of human connection, with Carl Rogers playing a particularly essential role in establishing and advocating for the concept. Empathy is the ability to understand and share the feelings of another by putting oneself in their position and comprehending their emotions. This approach involves both academic comprehension and emotional connection with others' experiences. Cultivating empathy allows individuals to link their own perspectives with those of others, creating meaningful connections and enhancing relationships. A study that measured the mechanism between family support and cognitive empathy in college students revealed a positive relationship between family support and cognitive empathy (**Bi & XI, 2024**).

"Emotion regulation refers to the processes by which individuals influence which emotions they have, when they have them, and how they experience and express these emotions." - (**James Gross, 1998**). Gross has thoroughly researched the tactics and procedures used to regulate emotions, highlighting the significance of comprehending and controlling one's emotional experiences for psychological health.

Emotion regulation is the skill of controlling and adjusting one's emotional experiences, expressions, and reactions in a way that is suitable and socially appropriate. This complex process is essential for preserving mental health and social connections. Various essential elements play a role in successful emotion control.

A study revealed a substantial positive correlation between Enhancing Positive Affect and Emotional Intelligence. Additionally, a notable gender difference was observed, with female college students scoring

higher in Emotional Intelligence compared to male college students. There was no significant difference between male and female pupils in terms of Interpersonal Emotion Regulation. (Roy & Saxena, 2023)

Mindfulness, as defined by Jon Kabat-Zinn is "paying attention in a particular way: on purpose, in the present moment, and non judgmentally."

Emphasizing intentional and purposeful attention encourages individuals to concentrate on the present moment, leading to a heightened awareness of their thoughts, feelings, and environment. The nonjudgmental aspect promotes an open and receptive approach towards one's experiences, avoiding evaluations or complaints. Mindfulness is widely acknowledged for its effectiveness in lowering stress, boosting mental well-being, and improving overall quality of life. Kabat-Zinn's definition is fundamental for understanding the core of mindfulness practice and its ability to bring about positive change in persons looking to enhance their awareness and resilience in everyday life. A cross sectional online survey indicated that mindfulness was higher in practitioners of yoga and meditation (Clauser et al 2023)

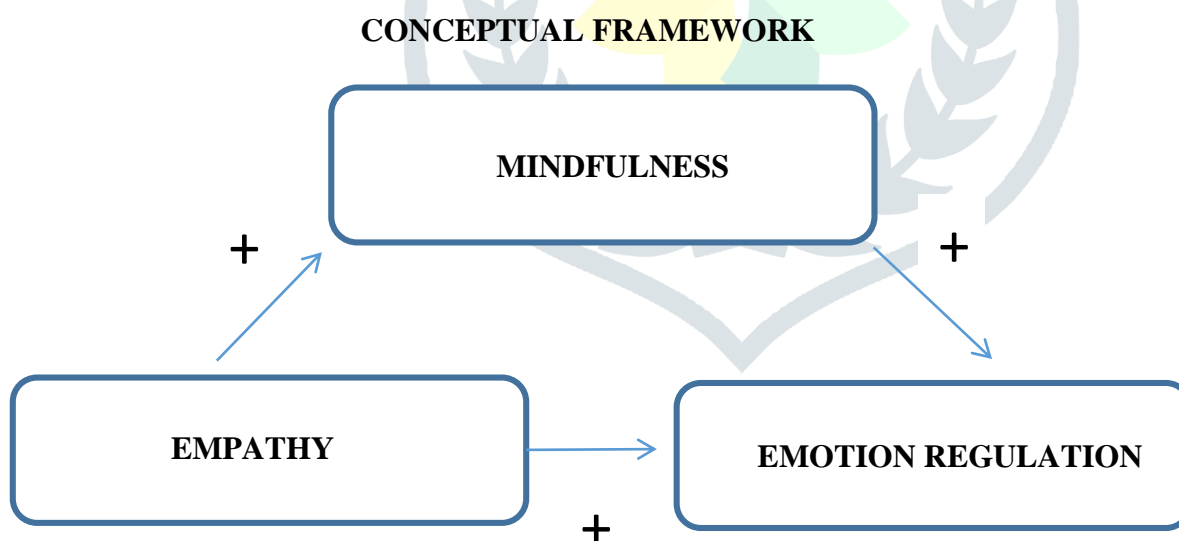


Figure 1 : Conceptual framework of the relationship between empathy, mindfulness and emotion regulation.

## METHOD

### Problem

To study the inter-relationship among empathy, mindfulness and emotion regulation.

### Objectives

- To study the association of empathy with emotion regulation among college students.

- To study the association of empathy with mindfulness among college students.
- To study the association of mindfulness with emotion regulation among college students.
- To study the mediating role of mindfulness between the association of empathy and emotion regulation among college students.

### Hypotheses

- Empathy will be positively correlated with emotion regulation among college students.
- Empathy will be positively correlated with mindfulness among college students.
- Mindfulness will be positively correlated with emotion regulation among college students.
- Mindfulness will fully mediate the relationship between empathy and emotion regulation among college students.

### Design

To examine the relationship between Empathy, Mindfulness and Emotion Regulation, correlational design was used.

### Sample

A sample size of 269 college going students was present in the study. The respondents consisted of 145 females and 124 males.

### Variables

#### ● INDEPENDENT VARIABLE

❖ Empathy

#### ● DEPENDENT VARIABLE

❖ Emotion Regulation

#### ● MEDIATING VARIABLE

❖ Mindfulness

### Tools

- **The Toronto Empathy Questionnaire** : The Toronto Empathy Questionnaire was constructed by Spreng along with his team members McKinnon, Mar and Levine. TEQ consists of 16 items and uses a five point likert scale. . The test- retest reliability of the scale being 0.81 and internal consistency falling in the range of 0.85 to 0.87
- **The Mindful Attention Awareness Scale** : The Mindful Attention Awareness Scale was developed by Richard M. Ryan and Kirk W. Brown in 2003. It is a 15 items questionnaire. . The MAAS is a 6 point likert scale ( 1 = Almost Always , 2 = Very Frequently , 3 = Somewhat Frequently , 4 = Somewhat Infrequently , 5 = Very Infrequently , 6 = Almost Never). The reliability being 0.79 (Cronbach's Alpha) and 4 week test- retest reliability is 0.69.

- **Emotion Regulation Questionnaire** : The Emotion Regulation Questionnaire was developed by John and Gross in 2003. The questionnaire consists of 10 items. ns. The items 1,3,5,7,8,10 are reappraisal items and items 2,4,6,9 are suppression items. The test is rated on 7 point likert scale where 1 = Strongly Disagree and 7 = Strongly Agree. The internal reliability was 0.79 and 0.73 for cognitive reappraisal and expressive suppression respectively.

### Statistical Techniques

The data was analyzed using Product Moment Correlation Coefficient method to understand the relationship among the variables and Stepwise Regression Analysis was used to estimate the relative contribution of each predictor variable (Empathy, Mindfulness) in the prediction of the criterion variable (Emotion Regulation).

### RESULTS

Table 1 shows the correlation among the independent and the dependent variables. It also shows the inter-correlation among empathy, mindfulness and emotion regulation.

**TABLE 1**

#### *Correlation Matrix*

	MEAN	SD	EMPATHY	MINDFULNESS	EMOTION REGULATION
EMPATHY	47.54	11.351	1		
MINDFULNESS	45.48	10.519	.353**	1	
EMOTION REGULATION	47.40	11.028	.308**	.384**	1

**\*\*p < 0.01**

The correlation matrix reveals a positive relationship between empathy and mindfulness ( $r = 0.353$ ) which is found to be significant at 0.01 level. This shows that an increase in empathy scores have tendency to increase the scores of mindfulness. A positive relationship was established between mindfulness and emotion regulation ( $r = 0.384$ ) and it was statistically significant at 0.01 level. The results also revealed a positive relationship between empathy and emotion regulation ( $r = 0.308$ ) which was significant at 0.01 level. This indicates that an increase in the empathy scores will lead to an increase in the emotion regulation scores displaying a positive relationship between the two.

**Mediation Analysis**

Mediation analysis is presented through mediation model that explains the how and why is there a relationship among the variables, where M is the mediating variable that acts as a mediator in the relationship between independent variable- X and dependent variable-Y.

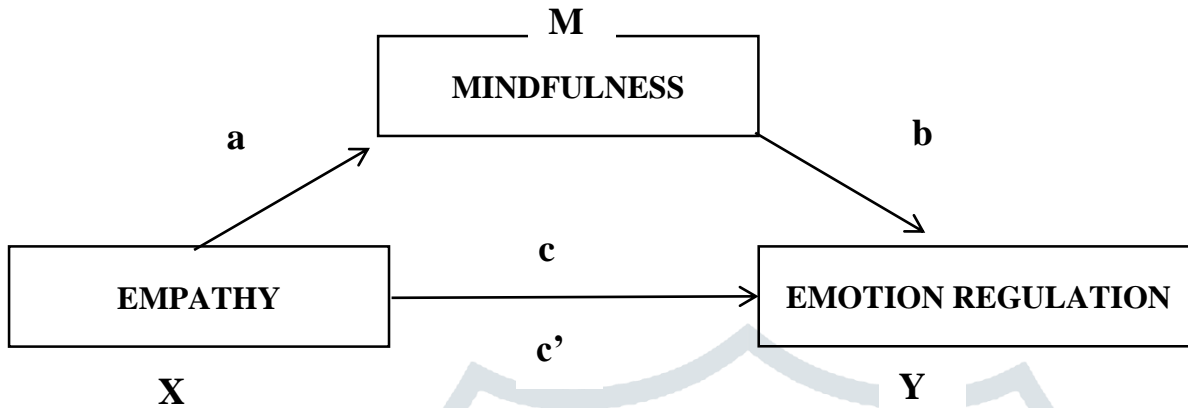


Figure 2 : Research design and procedure for the single-mediator model

The above figure explains the research design and the action plan for the Single Mediator Model that is used to analyse the inter relationship among the variables that the researcher wants to study through the steps of mediation formula. The first step (path C) focuses on understanding the relationship between the independent variable (X) - Empathy and the dependent variable (Y) - emotion regulation. Second step (path A) involves understanding the association between the independent variable (X) - empathy and the mediating variable (M) - mindfulness. In the third step (path B) relationship between the mediating variable (M) - mindfulness and dependent variable (Y) - emotion regulation is focused on. The final step in mediation formula includes applying regression analysis to measure which variable predicts Emotion Regulation the best.

**Testing the Mediating Role of Mindfulness in the relation between Empathy and Emotion Regulation**

**Table 2**

*Empathy (IV) and Emotion Regulation (DV)*

Variables	B	SE	Beta	t	R	R Squared	F
EMPATHY	0.299	0.057	0.308	5.291	0.308	0.95	27.995

By following the steps of mediation formula, it was seen that empathy and emotion regulation was positively correlated with each other significantly ( $\beta = 0.308, t = 5.291, p < 0.01$ ). Results are shown in Table 2.

Empathy is the independent variable here and Emotion Regulation is the criterion variable. The B value ( $b = 0.299$ ) explains the variation that occurs in the scores of emotion regulation with a change of 1 unit in the scores of empathy among the sample. Thus, the hypothesis stating “*Empathy will be positively correlated with emotion regulation among college students.*” was accepted.

**Table 3**

***Empathy (IV) and Mindfulness (M)***

Variables	B	SE	Beta	t	R	R Squared	F
EMPATHY	0.337	0.055	0.353	6.163	0.353	0.125	37.978

**\*\*p < 0.01**

Through the second step in mediation formula, a significant and positive relationship between empathy and mindfulness was confirmed ( $\beta = 0.353$ ,  $t = 6.163$ ,  $p < 0.001$ ). Results are indicated in table 3. Empathy being the independent variable and mindfulness being the mediating variable. The B value predicts a change of 0.337 units that take place in the scores of mindfulness as a result of 1 unit change in the score of empathy. Therefore, the hypothesis stating “*Empathy will be positively correlated with mindfulness*” was accepted.

**Table 4**

***Mindfulness (M) and Emotion Regulation (DV)***

Variables	B	SE	Beta	t	R	R Squared	F
MINDFULNESS	0.391	0.057	0.384	6.805	0.384	0.148	46.311

**\*\*p < 0.001**

The third step of mediation analysis showed a positive correlation between mindfulness and emotion regulation ( $\beta = 0.384$ ,  $t = 6.805$ ,  $p < 0.001$ ). Results were seen significant as reflected in Table 4. Mindfulness being the mediating variable and emotion regulation being the dependent variable. A variation of 0.391 is predicted by 1



unit change of mindfulness in the scores of emotion regulation. Therefore the hypothesis stating “*Mindfulness will be positively associated with Emotion Regulation*” was accepted.

**Table 5**

*Mediation of Mindfulness in relation between Empathy and Emotion Regulation.*

*Hierarchical regression analysis with emotion regulation as dependent variable.*

Variables	B	SE	Beta	t	R	R Squared	F
<b>Step 1</b>							
<b>Empathy</b>	<b>0.299</b>	<b>0.057</b>	<b>0.308</b>	<b>5.291</b>	<b>0.308</b>	<b>0.095</b>	<b>27.995</b>
<b>Step 2</b>							
<b>Empathy</b>	<b>0.191</b>	<b>0.058</b>	<b>0.197</b>	<b>3.322</b>	<b>0.426</b>	<b>0.182</b>	<b>29.543</b>
<b>Mindfulness</b>	<b>0.320</b>	<b>0.060</b>	<b>0.315</b>	<b>5.314</b>			

Table 5 shows the results of multiple regression analysis where empathy and mindfulness were the independent variables and emotion regulation was the dependent variable.

The results results from the hierarchical regression analysis that empathy was positively correlated with emotion regulation ( $\beta = .308$  ,  $t = 5.291$ ,  $p < 0.01$ ). However when empathy and mindfulness were taken together in the regression analysis, a downfall in the relationship between empathy and emotion regulation was seen ( $\beta = 0.197$  ,  $t = 3.322$ ,  $p < 0.01$ ). This result highlights a mediation. We can observe that mindfulness partially explains the relation of empathy and emotion regulation. As a result, the hypothesis that stated “Mindfulness will fully mediate the association of Empathy and Emotion Regulation in college students” was partially accepted.



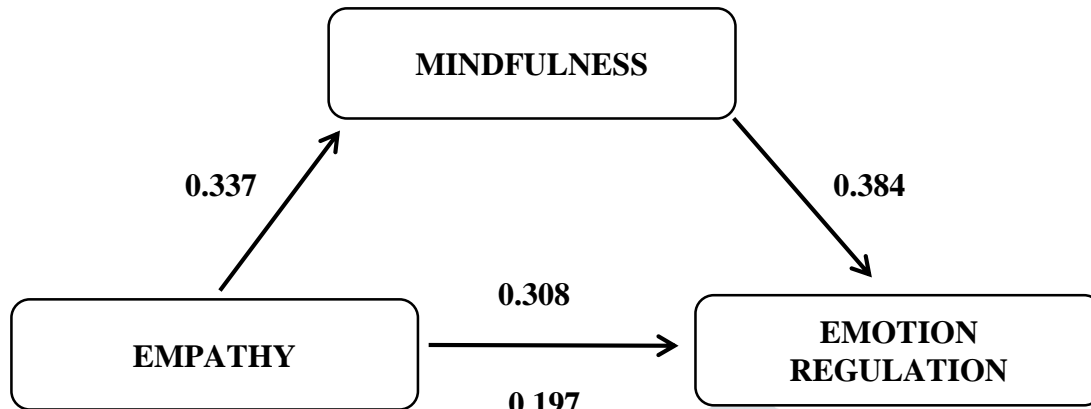


Figure 3 : Mediator role of mindfulness in the relation between empathy and emotion regulation.

The hierarchical regression analysis findings that tested the mediating role of mindfulness in the association between empathy and emotion regulation is shown in the above shown figure (figure 3). As shown, the beta value of empathy when predicted alone on emotion regulation was 0.308. The beta value however decreased from 0.308 to 0.197 when mindfulness was added to the equation. Therefore, the partial mediating role of mindfulness in the relationship between empathy and emotion regulation is proven.

## FINDINGS AND DISCUSSION

Data analysis and elaborate interpretation of the results that were obtained from the study conducted were as follows :

- Empathy was found to have a significant positive association with emotion regulation.
- Empathy and mindfulness were found to have a significant and positive relationship with each other.
- Mindfulness was found to have a positive and significant association with emotion regulation.
- Mindfulness was found to be partially mediating the link between empathy and emotion regulation.

**Guo, Zheng, Ruan et.al (2023)** conducted a study to examine how emotion regulation affects the negative affect associated with empathy through experimental tasks and self-report surveys, in that order. 442 college students were given the Depression Anxiety Stress Scale (DASS-21), the Emotion Regulation Questionnaire (ERQ), the Interpersonal Reactivity Index (IRI), and the Questionnaire of Cognitive and Affective Empathy

(QCAE). Separate analyses were conducted to look at the moderating effects of expressive suppression and cognitive reappraisal on the relationship between empathy and negative affect. Study 2 employed the Empathic Accuracy Task (EAT) in Chinese to investigate the impact of emotion control, or cognitive reappraisal, on affective reactions and cognitive empathy.

The results of these two studies indicated that the relationships between empathy and negative affect are defended by both expressive suppression and cognitive reappraisal, and that supporting cognitive reappraisal would enhance task performance on both cognitive and affective empathy. **Cooper, Yap, O'Brien and Scott (2020)** examined how mindfulness and empathy are related, as well as how mindfulness-based training affects counselors' and psychotherapists' empathy. A thorough examination was conducted on published research and dissertations that were indexed by PsycINFO, Scopus, Web of Science Core Collection, and Medline. We conducted random-effects meta-analyses on pre-post mindfulness-based training results as well as cross-sectional data. 22 studies in all met the requirements. Higher levels of self-reported mindfulness were linked to lower levels of empathetic personal distress. Pre-post data analysis revealed that mindfulness-based training had no discernible impact on empathy. Certain elements of empathy and mindfulness are positively correlated. But training grounded in mindfulness did not substantially change empathy levels. It might be wise to investigate additional strategies for enhancing empathy in psychotherapists and counselors. **Bunio, Battles and Loverich (2019)** conducted a research to Examine the conceptual similarities and differences between FA and SUDS in relation to emotion regulation. As potential areas for FA management, note how mindful awareness and acceptance may differ in their contributions to FA symptoms when negative affect is present. Online responses from 769 community members and undergraduate college students were used to gather data. According to research, people with FA may have heightened emotional awareness but not the coping mechanisms necessary to deal with negative affect. For those who support FA symptomatically, emotion dysregulation and mindful acceptance may be suitable therapeutic focuses. **Lee & Park (2022)** conducted a research to understand the association between among nurses in terms of sociocognitive mindfulness, emotion regulation, and empathy. It also looked at how emotion regulation functions as a mediator. A quantitative cross-sectional study was carried out on a sample of 245 nurses from two South Korean university hospitals. Data collection involved the use of convenience sampling. The control of emotions in reappraisal and empathy was positively impacted by socio-cognitive mindfulness Mediating the relationship between socio-cognitive

mindfulness and empathy was emotion management of reappraisal. The results show that through strengthening reappraisal, sociocognitive mindfulness can effectively increase empathy in nurses.

## CONCLUSION

Life for college students often gets stressful and hectic due to numerous activities that take place in a day and through this all they usually feel exhausted and tired physically, emotionally and mentally. This particular age group is important for students to develop holistically and amidst all the chaos they often forget self-care. While being caught up in all of this they tend to overlook their emotions and their emotional well-being. Empathy, mindfulness and emotion regulation are crucial skills that an individual must develop to foster their growth and to also maintain a healthy relationship with people around them. College can often be demanding with various social, financial and academic challenges. Lack of various resources such as counseling, mental health services and various mindfulness programs can affect students and also hinder their holistic development. It is essential to take measures, help students practice mindfulness, help them introspect and realise their true emotions and also educate them about the importance of these skills (empathy, mindfulness and emotion regulation) in order to foster their personal, social, mental and emotional well-being.

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