

## SELF-EFFICACY AND COPING STRATEGIES AMONG STUDENTS WHO FAILED MDCAT

**Hidna Iqbal**

Email: [hidna.ccpsy@pu.edu.pk](mailto:hidna.ccpsy@pu.edu.pk)

**Noor ul Ain**

Email: [nooorulain14@gmail.com](mailto:nooorulain14@gmail.com)

**Hafiza Zainab Amir**

Email: [zainabamir0317@gmail.com](mailto:zainabamir0317@gmail.com)

**Emman Ahmad**

Email: [emmanahmad09@gmail.com](mailto:emmanahmad09@gmail.com)

**Ifra Ather**

Email: [ifraather27@gmail.com](mailto:ifraather27@gmail.com)

**Maham Tariq**

Email: [mahamtariq402@gmail.com](mailto:mahamtariq402@gmail.com)

**Sanaila Attique**

Email: [sanailaattique63@gmail.com](mailto:sanailaattique63@gmail.com)

1: Lecturer, Centre for Clinical Psychology, University of the Punjab, Lahore.

2-7: Centre for Clinical Psychology, University of the Punjab, Lahore.

**Correspondence Author**

**Hidna Iqbal**

Email: [hidna.ccpsy@pu.edu.pk](mailto:hidna.ccpsy@pu.edu.pk)

### Abstract

*This study aimed to investigate the relationship between self-efficacy and coping strategies among MDCAT students who failed the exam, with a focus on gender differences. The correlational design with a purposive sampling strategy was used, involving 120 participants aged 18 to 24 from various universities in Lahore. Data was collected using the Brief Cope Inventory and the General Self-Efficacy Scale and analyzed using Pearson's correlation and independent sample t-tests. The results showed a significant positive correlation between General Self-Efficacy (GSE) and Problem-Focused coping. However, no significant relationships were found between Self Efficacy and Emotion-Focused and Avoidant-Focused Coping. Additionally, gender differences in self-efficacy and coping strategies were not statistically significant. These findings have implications for educational policies and practices, indicating that interventions aimed at increasing self-efficacy could enhance students' resilience and academic performance.*

### Introduction

Medicine is a high-status and highly demanded profession choice among university students worldwide. Medicine, a noble profession guided by rules like the Hippocratic oath, is generally associated with prestige, power, and respect. It provides benefits such as financial security, professional standing, and career satisfaction. However, medicine has changed over time, making it difficult to preserve historically cherished aspects (M. Roy Wilson, 2019). The MDCAT is a competitive annual exam for Pakistani undergraduate medical education, consisting of 200 multiple-choice questions with a passing rate of 65% (130 out of 200) for admission into medical colleges. There are 3405 seats available for admission to public medical colleges based on

academic records, resulting in 94% of applicants failing to secure a seat in medical college (Admin, 2023). The present study focuses on what coping tactics students adopt in response to academic failure. It has been observed that certain predictors and performance anxiety have a strong impact on academic failure. A study by Imran et al. (2023) suggests that addressing anxiety is crucial to improve students' academic success. Stress among students can lead to academic failure due to an excessive workload, time constraints, peer competition, and difficulty comprehending the content. Personal expectations and the fear of failure further intensify stress levels, with students striving to meet high standards set by themselves or others. Socioeconomic background can also play a role, students facing financial instability or lack of resources may face additional stressors. Developmental health issues, pressure from parents, and external stressors such as family problems or societal pressures further contribute to students' stress load. (Psychology writing, 2023).

Certainly, failure in Pakistan's society is generally perceived negatively. Individuals face societal pressure such as criticism, judgment, and high expectations. To deal with this situation, people can use Freud's defense mechanism. However, these defense mechanisms have both emotional and cognitive consequences. For example, repression results in the unconscious suppression of distressing memories, and denial results in the avoidance of confronting certain realities. Rationalization involves applying logical but incorrect explanations to explain undesired behavior or failure. Projection is the process of assigning unwanted thoughts or behavior to others. These protective mechanisms may influence how we cope with failure (Frued, 1936).

Coping strategies are crucial for how people handle stressful events and respond to stressors. People can improve their capacity to manage stress, preserve mental health, and adjust to difficult situations by recognizing and applying useful coping strategies. (Carver et al., 1989). Effective coping strategies can significantly improve mental health outcomes and resilience in individuals. Avoidant coping includes short-term strategies like substance abuse, denial, and distraction. Problem-focused coping involves taking proactive measures to lessen the consequences of stressors, such as planning, active coping, and instrumental social support. Emotion-focused coping aims to lessen the emotional suffering brought on by stressors through actions like turning to religion, acceptance, and looking for social support. These techniques can assist people in developing flexible coping strategies and enhancing general well-being (Buchanan, 2024).

Coping strategies are interlinked, and people can frequently use many strategies in reaction to stressors. Social support aids in problem-focused coping by providing necessary resources, information, and emotional support to effectively manage stressors (Thoits, 2011). Individuals utilize problem and emotion-focused coping strategies to directly address stressors and reduce discomfort, thereby effectively managing both practical and emotional aspects of stress (Folkman & Lazarus, 1980).

Gender differences in coping strategies are influenced by various stressors, with females using more problem-focused strategies and seeking emotional support, while males use active coping and instrumental support. (Matud, 2004). Positive family relationships and positive teacher relationships also contribute to active coping behaviors. (Zimmer-Gembeck & Locke, 2006). Individualistic and collectivistic societies have distinct ways of coping. Individualistic cultures encourage.

Bandura (1997) defined self-efficacy as a person's confidence in their ability to complete a certain task successfully. Self-efficacy is crucial for human cognition and survival, shaping a person's identity based on their beliefs about their abilities and accomplishments. When presented with a difficulty, individuals choose coping strategies based on their perceived self-efficacy.

Research suggests that individuals with high self-efficacy use problem-focused coping strategies, while those with low self-efficacy tend to use passive coping methods such as avoidance and distraction. (Taiwo, 2015). High self-efficacy is essential for sustaining optimism, life satisfaction, and a positive effect while lowering depression and anxiety. Self-efficacy predicts how professional, family and social demands affect an individual's ability to perform in challenging circumstances (Kondratowicz & Godlewska-Werner, 2022).

According to Bandura and Jourden (1991), gender roles and societal expectations influence people's beliefs about their abilities. Men are typically encouraged to be confident and assertive, while women may experience social pressures that diminish their perceptions of their abilities. The variations across domains suggest that women may have more self-efficacy in domains linked to femininity, while men may have higher self-efficacy in traditionally male-dominated fields like mathematics (Huang, 2012).

Lazarus and Folkman's stress and coping theory explains how people perceive and evaluate failure and use strategies to cope with it. Stress is the body's internal reaction to harmful external stimuli, and the Transactional Model of Stress and Coping helps manage stressful situations using objective appraisal and coping strategies. The appraisal literature explains problem-focused coping or emotion-focused coping known as active and passive coping styles. Approach and avoidance-style measures, assertiveness or withdrawal, and emotion-focused coping, such as wishful thinking. Coping strategies range from positive thinking to denial (Lazarus, R. S., & Folkman, S. 1984).

Albert Bandura's concept of self-efficacy in social cognitive theory is crucial for understanding academic achievement, motivation, and coping styles. He argues that self-efficacy belief is a major basis of action, as it motivates individuals to act and function effectively. Bandura also refers to this phenomenon as "reciprocal causation," which acknowledges the reciprocal relationship between self-efficacy and healthy human functioning. People estimate their self-efficacy beliefs through four primary sources: enactive mastery (actual performance), observation of others (vicarious experiences), forms of persuasion, and physiological and affective states. Successful individuals tend to expend more effort and persevere longer, which can lead to low self-efficacy, which can become self-limiting. To succeed, individuals must have a strong sense of task-specific self-efficacy coupled with resilience to overcome life's inevitable hurdles. This theory emphasizes the importance of self-efficacy in achieving academic success and overcoming life's challenges (Bandura et al., 1999).

Thus, Students can overcome obstacles and achieve academic and professional success by developing effective coping skills and cultivating self-efficacy.

### **Literature Review**

The research by Mamnoun et al, (2023) was done to investigate gender differences in students perceived self-efficacy across six topic areas, with a specific focus on whether students assessed their perceived self-efficacy differently in male-dominated and female-dominated courses. A self-designed questionnaire was used to collect data from 367 high school students attending Moroccan public high schools. The findings demonstrated that male students reported greater self-efficacy scores in mathematics and sciences, whereas female students scored higher in languages. Surprisingly, girls had greater scores in philosophy and general academic self-efficacy. These findings may reinforce gender stereotypes about topic proficiency while also implying that females may have stronger overall self-efficacy.

The study by Khan in 2023 aims to examine the relationship between academic self-efficacy, stress-coping abilities, and academic performance among undergraduate students at a

university in the northwest United States. The study included 66 people, 17 males and 49 girls from various ethnic origins, aged 18 to 52. The COPE Inventory and the Academic Self-Efficacy Scale were used as measures of stress-coping skills and self-efficacy, respectively. The findings revealed a significant relationship between academic self-efficacy, particularly in planning, and GPA. Furthermore, academic self-efficacy correlated positively with several COPE Inventory subscales, but negatively with the Substance Use subscale. These findings indicate that higher levels of academic self-efficacy and efficient stress-coping skills are linked to improved performance.

The study by Graves et al., 2021, analyzed stress, coping mechanisms, and gender differences among undergraduate students in Boca Raton, Florida. A study was conducted on 448 university students in the twelfth week of the semester, using a convenience sampling design. The participants were asked to complete the Perceived Stress Scale and Brief Cope. The results indicated that female students reported higher stress levels as compared to male students. Gender differences were evident in coping dimensions and strategies utilized. Females used emotion-focused coping strategies more often than males, including self-distraction, emotional support, instrumental support, and venting.

In 2016, Van Der Kaap-Deeder et al. studied the correlation between EC perfectionism and three types of emotion-focused coping (rumination, avoidance, and acceptance) in reaction to experimental-induced failures. The 72 participants (61 women) from the Department of Developmental, Social, and Personality Psychology at Ghent University in Ghent, Belgium, volunteered for this study. According to the findings, Individuals with high EC perfectionism scores were more likely to exhibit higher levels of rumination and avoidance, as well as lower levels of acceptance, when faced with experimentally induced failure. The data imply that EC perfectionism influences coping with failure.

This study by Matud in 2004 was designed to explore gender differences in some stress process variables in a broad sample of the general population. The data were acquired via convenience sampling from 2816 Canary Island, Spain individuals (1566 women and 1250 men) aged 18 to 65. The study found that women tended to use emotional and avoidance coping mechanisms more often than men, while men were more likely to exhibit emotional restraint. Women were found to use rational and detachment coping mechanisms less frequently than men.. According to the findings of this study, women experience greater stress than men and have a more emotion-focused coping strategy.

These studies emphasize the significance of self-efficacy and coping techniques in academic achievement and stress management, with significant gender differences in how people approach and deal with stress.

### **Clinical and Social Significance**

This research focuses on exploring the relationship between self-efficacy and coping strategy in MDCAT students. Understanding self-efficacy and coping skills can help clinicians develop interventions to improve student mental health. For example, one study discovered that fostering flexibility in coping methods might aid in boosting university students' self-efficacy. From a social perspective, this study can help to shape educational policies and practices. Understanding how self-efficacy and coping techniques affect academic achievement will help policymakers in developing programs that promote these abilities. For example, curriculum or programs can be created to promote students' self-efficacy and teach them appropriate coping mechanisms, which may lead to improved academic outcomes.

## **Aims**

- To investigate the relationship between self-efficacy and coping strategies in MDCAT students.
- To find out gender differences in terms of efficacy and coping strategies in MDCAT students.

## **Hypothesis**

- There is likely to be a significant relationship between self-efficacy and coping strategies in MDCAT students.
- There will be significant gender differences in terms of self-efficacy and coping strategies.

## **Methodology**

### **Research Design**

The research design used was a correlation design to study the relationship between self-efficacy and coping strategy.

### **Sampling Strategy**

Purposive sampling was used to collect data since our goal is to investigate the correlation between coping techniques and self-efficacy in MDCAT students who attempted but failed the exam.

### **Participant characteristics**

#### ***Inclusion Criteria***

- Young individuals between the ages of 18 and 24 will be a part of this research, as they make up a majority of MDCAT candidates.
- The participants who have failed the attempt of MDCAT.
- The participants who are studying in 1st or 3rd semester of his/her undergraduate course

#### ***Exclusion Criteria***

- Students who are going to repeat MDCAT will be excluded from the study.

## **Measures**

### ***Demographic form***

The demographic form provides the participant's age, gender, education level, birth order, religion, and failure in MDCAT to analyze the background of participants.

### ***Brief Cope Inventory***

Based on the original 60-item scale, the 28-item Brief COPE provides a multidimensional assessment of coping strategies. Problem-focused, emotion-focused, and avoidant coping strategies are the three subscales. Coping mechanisms for problem-solving are displayed by items 2, 7, 10, 12, 14, 17, 23, and 25. Active coping, planning, and positive reframing are some of its characteristics. Examples of coping strategies that focus on emotions are items 5, 9, 13, 15, 18, 20, 21, 22, 24, 26, 27, and 28. These include humor, self-blame, emotional support, venting, and religion. Avoidant-focused coping mechanisms like self-distraction, denial, substance misuse, and behavioral disengagement are discussed in items 1, 3, 4, 6, 8, 11, 16, and 19. The scoring is based on a four-point Likert scale, with Cronbach's alpha reliability ranging from 0.59 to 0.95 (Carver et al., 1989).

### ***General Self-Efficacy Scale***

In 1981, Matthias Jerusalem and Ralf Schwarzer developed the General Self-Efficacy Scale. It is a ten-item self-report psychometric measure that assesses positive self-efficacy attitudes about dealing with life's challenges or issue-solving. This tool uses a four-point Likert Scale, allowing participants to rate statements from "not true at all" to "exactly true". The final score is



calculated by summing up all of the responses. This scale measures perceived self-efficacy on a range of 10-40. Cronbach's alpha reliability ranges from 0.76 to 0.90. This scale is positively connected with an optimistic attitude, job satisfaction, and emotions, and negatively correlated with stress, anxiety, sadness, and burnout (Wright & Weinman, 1995).

### **Procedure**

The research method began with an in-depth review of existing literature and a discussion with the supervisor to refine the research topic, eventually formulating a short synopsis. The Brief Cope and General Self-Efficacy scales were chosen to meet the study's objectives. The research proposal was critically evaluated through an external viva and was approved. Then, data was collected from various departments of government universities.

### **Ethical Consideration**

The study requires permission from all relevant questionnaire authors. The participants were briefed about the study's purpose and informed consent was obtained. They were informed of their rights, their freedom to opt-out, and the confidentiality of their information. They were assured that their identities would remain anonymous and their data would be kept confidential. This ensured a fair and transparent study process.

### **Statistical Analysis**

The data was interpreted using SPSS, while variables will be analyzed using descriptive statistics. Pearson product-moment correlation was utilized to investigate the relationship between self-efficacy and coping strategies. Furthermore, an independent sample t-test was used to determine gender differences in term of self-efficacy and coping strategies.

### **Results**

There is a moderate positive correlation between GSE and Problem-Focused Coping, and this correlation is statistically significant ( $r = .357, p < .01$ ). This implies that higher levels of self-efficacy are associated with higher use of problem-focused coping strategies.

There is a very weak negative correlation between GSE and Emotion-Focused Coping, and this correlation is not statistically significant ( $r = -.044, p = .632$ ). This suggests no meaningful relationship exists between self-efficacy and emotion-focused coping in this sample.

There is a weak negative correlation between GSE and Avoidant-Focused Coping, and this correlation is not statistically significant ( $r = -.077, p = .406$ ). This indicates that higher levels of self-efficacy are not significantly associated with using avoidant-focused coping strategies. Levene's test of equality of variance indicates that the F-significance value is greater than 0.05 hence we will take values of "equal variance assumed". As evident from the table the two-tailed significance value is 0.102, which is higher than 0.05, hence we reject the hypothesis and conclude that the difference between the general self-efficacy between males and females is nonsignificant.

The t-test for Equality of Means shows no statistically significant difference in Problem-Focused Coping, Emotion-Focused Coping, and Avoidant-Focused Coping between the two groups with a significance value of 0.15, 0.83, and 0.37 respectively.

The demographic characteristics of the participants ( $N = 120$ ; Age  $M = 19.93$ ,  $SD = 1.26$ ; Semester  $M = 2.9$ ,  $SD = 1.0$ ). The sample included an equal proportion of men and women. Most participants were middle-born or eldest siblings, with very few being only children. The majority identified as Muslim and were single. Students were enrolled from various universities, mostly from Punjab University, followed by Government College, King Edward, UVAS, and UHS, with most in their second or fourth semester. Nearly all had previously failed the MDCAT exam. Most participants reported that they had chosen their current field independently. Medical fields were the most preferred choice of study, followed by their current field, and other options

**Table 1**

*Table showing descriptive statistics*

| Characteristic                     | N   | %    |
|------------------------------------|-----|------|
| Gender                             |     |      |
| Men                                | 60  | 50   |
| Women                              | 60  | 50   |
| Birth Order                        |     |      |
| Elder                              | 38  | 31.7 |
| Middle                             | 45  | 37.5 |
| Youngest                           | 23  | 19.2 |
| Only child                         | 2   | 1.7  |
| Religion                           |     |      |
| Islam                              | 117 | 97.5 |
| other                              | 3   | 2.5  |
| Relationship status                |     |      |
| Married                            | 5   | 4.2  |
| single                             | 115 | 18.3 |
| University                         |     |      |
| PU                                 | 53  | 44.2 |
| GC                                 | 22  | 18.3 |
| KE                                 | 17  | 14.2 |
| UVAS                               | 14  | 11.7 |
| UHS                                | 14  | 11.7 |
| Semester                           |     |      |
| 1 <sup>st</sup>                    | 8   | 6.7  |
| 2 <sup>nd</sup>                    | 45  | 37.5 |
| 3 <sup>rd</sup>                    | 15  | 12.5 |
| 4 <sup>th</sup>                    | 52  | 43.3 |
| Ever failed MDCAT?                 |     |      |
| Yes                                | 118 | 98.3 |
| No                                 | 2   | 1.7  |
| Who choose your current field      |     |      |
| You                                | 89  | 74.2 |
| Parent                             | 14  | 11.7 |
| Teacher's recommendation           | 3   | 2.5  |
| other                              | 14  | 11.7 |
| What was your own choice of study? |     |      |
| Current field                      | 37  | 30.8 |
| Medical                            | 62  | 51.7 |
| other                              | 14  | 17.5 |

N=120; Age (M= 19.93; SD=1.26); Semester (M = 2.9; SD= 1.0)

**Table 2**

*Showing Correlation among Self-Efficacy, Problem-Focused, Emotional Focused, and Avoidant Focused Coping*

|                         | Self-Efficacy | Problem-Focused Coping | Emotion-Focused Coping | Avoidant-Focused Coping |
|-------------------------|---------------|------------------------|------------------------|-------------------------|
| Self-Efficacy           | -             |                        |                        |                         |
| Problem-Focused Coping  | .36**         | -                      |                        |                         |
| Emotion-Focused Coping  | -.04          | .19*                   | -                      |                         |
| Avoidant-Focused Coping | -.08          | -.09                   | .45**                  | -                       |
| Mean                    | 30.32         | 20.45                  | 28.56                  | 14.41                   |
| SD                      | 5.13          | 4.00                   | 4.26                   | 3.54                    |

**Table 3**

*Independent Sample t-Test for Gender Differences*

|                         | Men   |      | Women |      | t(118) | p   | Cohen's d |
|-------------------------|-------|------|-------|------|--------|-----|-----------|
|                         | M     | SD   | M     | SD   |        |     |           |
| Self-Efficacy           | 31.08 | 4.74 | 29.56 | 5.42 | 1.65   | .10 | .30       |
| Problem-Focused Coping  | 20.98 | 4.24 | 19.92 | 3.48 | 1.44   | .15 | .26       |
| Emotion-Focused Coping  | 28.65 | 4.59 | 24.48 | 3.94 | .21    | .83 | .04       |
| Avoidant-Focused Coping | 13.85 | 3.89 | 14.43 | 3.15 | .90    | .37 | -.16      |

## Discussion

This study aimed to evaluate how self-efficacy affects the coping strategies of students who failed the MDCAT.

The correlation analysis results reported a significant positive relationship between GSE and Problem-Focused Coping. Various studies have explained the association between self-efficacy and problem-focused coping providing support for these findings. For instance, (Chwalisz et al., 1992) found that people with higher self-efficacy have a positive view of themselves and their abilities, enabling them to effectively manage stressors. They can easily bounce back from setbacks and see failure as an opportunity to grow and learn. When faced with difficult situations, they choose proper ways to resolve them and find solutions to the problems. By actively engaging in problem-focused coping strategies like time management, conflict resolution, making to-do lists, and seeking information, individuals can effectively address the root cause of stressors.

People with strong self-efficacy can redirect their focus and think creatively to find different solutions, as well as change their automatic thought patterns and replace them with more deliberate and suitable ones. Therefore, having a stronger sense of self-efficacy can help individuals cope more effectively with new stressful situations. The research by Chemers et al. (2001) discovered that increased academic self-efficacy was substantially associated with improved stress management and academic performance among college students. This shows that



students who have high self-efficacy beliefs are more likely to use problem-solving skills to overcome academic obstacles.

In the case of MDCAT candidates who do not qualify or obtain seats in medical institutions, the correlation between self-efficacy and problem-focused coping is important. The difficult nature of the admissions process frequently results in severe academic pressure and disappointment for these adolescents. Higher levels of self-efficacy may motivate people to persevere in their studies, pursue alternate paths, or enhance their study techniques in order to attain their objectives (Schunk & Pajares, 2009).

The t-test for Equality of Means shows no statistically significant difference in Problem-Focused Coping, Emotion-Focused Coping, and Avoidant-Focused Coping between the two groups. The insignificant differences identified in emotional-focused coping can be attached to a variety of social and cultural influences. In many modern countries, there is a growing emphasis on gender equality and the breakdown of conventional gender roles. This cultural revolution enables both men and women to express themselves more openly and seek emotional assistance without being restricted to stereotyped assumptions. As cultural standards develop, individuals' coping techniques may become more gender-neutral (Addis & Mahalik, 2003).

In Pakistan's collectivistic culture, both men and women depend on their families and have equal access to social support networks, including friends, family, and peers. This results in similar self-efficacy and coping strategies. Regardless of gender, MDCAT students share common goals and motivation to succeed in the exam and secure admission to a medical college, fostering a sense of unity and equality among students.

### **Conclusion**

According to the research, the coping strategies of students who fail the MDCAT are significantly influenced by self-efficacy. There is a positive correlation between self-efficacy and problem-focused coping methods, indicating that students with higher self-efficacy are more inclined to engage in active problem-solving. This correlation supports the idea that students with a strong belief in their abilities can better manage stressors by focusing on actionable solutions. However, there is no significant relationship between self-efficacy and emotion-focused or avoidant-focused coping strategies, indicating that self-efficacy has little impact on these coping mechanisms. The study also revealed no significant gender differences in the use of problem-focused, emotion-focused, or avoidant-focused coping methods. This lack of gender differences is attributed to a cultural context that values collectivism and equal access to social support networks.

### **Limitations and Suggestions**

The limitations for this research can be small sample size and sampling bias as the sample does not represent the entire population who failed the MDCAT exam. A large sample size is expected to generalize the research findings. In addition, cultural factors and social influences like family dynamics can impact the self-efficacy and coping strategies of students

### **Future Implications**

The study suggests that interventions to enhance students' self-efficacy are needed, as this can lead to improved stress management and more adaptive coping methods. Consequently, academic performance and general well-being may be enhanced. Educational policies should incorporate self-efficacy training and culturally responsive support structures to provide emotional and practical assistance. Future studies should examine the long-term effects of self-efficacy on various outcomes, while considering factors such as socioeconomic position and family dynamics.

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