

## Article

# Impact of Academic Perfectionism on Test Anxiety among University Students in Pakistan through Mediating Role of Avoidance of Academic Coping Strategies

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## ABSTRACT

Students often dedicate themselves to extremely high standards of academic success, have a strong desire to meet these standards, and criticize themselves when they don't. The purpose of the study was to determine whether University students' avoidance of using coping strategies, test anxiety, and perfectionistic study habits are related. Sample size was calculated using G-power. Using convenient sampling, data was gathered from 198 students of different educational institutions in Multan, Pakistan data of 198 students (155 female, 43 male) was gathered from different educational institutions in Multan, Pakistan using printed and google forms. Participants' ages ranged from 15 to 35, with most falling in the 21–25 range. Data was collected using printed and google forms. Only students residing in Multan city were included. For the evaluation of each construct, three instruments were used in the study: the Academic Perfectionism Scale (APS), the Test Anxiety Questionnaire, and the Academic Cope Inventory. The results showed that academic perfectionism, whether maladaptive or adaptive, is associated with elevated test anxiety and lessened usage of academic coping strategies. The results showed that maladaptive perfectionism positively correlates with adaptive perfectionism ( $r = 0.458$ ,  $p < 0.01$ ), avoidance ( $r = 0.152$ ,  $p < 0.05$ ), and test anxiety ( $r = 0.244$ ,  $p < 0.01$ ). Adaptive perfectionism correlates negatively with avoidance ( $r = -0.214$ ,  $p < 0.01$ ) but positively with test anxiety ( $r = 0.248$ ,  $p < 0.01$ ). Avoidance also correlates positively with test

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anxiety ( $r = 0.441, p < 0.01$ ). Mediation analysis indicated partial mediation of avoidance, accounting for 30% effect in adaptive perfectionism and 15% in maladaptive perfectionism (both  $p < 0.001$ ). Perfectionists typically employ less productive study techniques, which makes test anxiety worse. Therefore, promoting the usage of coping strategies may lessen test anxiety and enhance students' academic performance and well-being. However, real-world evaluations are needed to protect student well-being.

**KEYWORDS:** academic perfectionism; coping strategies; test anxiety; adaptive coping; maladaptive coping

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## INTRODUCTION

Students constantly strive for academic success. This quality helps improve grades and meet academic standards. However, if this desire for perfection surpasses a limit and is coupled with unproductive coping, anxiety may rise. The desire to achieve perfection in one's studies is referred to as academic perfectionism [1]. University students are particularly vulnerable to these perfectionistic tendencies. There are two main types of academic perfectionism: adaptive and maladaptive. Adaptive academic perfectionism is when you set high personal standards and work hard to meet them. It is linked to achieving goals and not giving up [2]. On the other hand, being too worried about making mistakes, being afraid of criticism, and doubting yourself over and over again are all signs of maladaptive academic perfectionism, which is linked to mental health problems [1,3].

The psychological health of University students has become one of the most important research topics in the recent years, particularly concerning the influence of personality types and perfectionistic nature on the development of mental health. The increasing body of research indicates that academic settings tend to create a sense of competitiveness and self-assessment pressure which heightens the chances of mental agony among learners. A recent cross-cultural study comparing Italian and American University students in order to determine how the predictive value of personality factors in predicting psychological symptoms is achieved [4]. Their results found that emotional instability, neuroticism and low conscientiousness were highly predictors of anxiety, depression and stress manifestations in both cultural backgrounds. This paper has highlighted the fact that despite cultural differences, some personality traits make one prone to psychological challenges. Rigid self-expectations and perfectionistic attitudes of students were especially susceptible to anxiety and self-criticism, which indicates a general role of personality structure in the regulation of academic stress.

Based on these findings, a study explored the interplay between introversion, alexithymia, and hostility in the predictive power of suicidal ideation in University students. Their path analysis showed that

introversion was an indirect cause of suicidal ideation by increasing the alexithymia (the inability to recognize and express emotions) and hostility [5]. These results exemplify the interaction of maladaptive personality traits and emotional dysregulation into the academic setting in which students tend to internalize failure and suppress their emotions. These repression of emotions may develop to these extreme psychological consequences, hopelessness, social withdrawal, and academic burnout. The paper highlighted the importance of early psychological intervention in higher institutions to enhance emotional sensitivity and self-control particularly to those with high introversion or perfectionistic traits.

Another related study, in which they investigated the predictive ability of perfectionism, Type A behavior, emotional stability, and gender on mental health outcomes among University students [6]. The study found perfectionism and Type A behavioral patterns that bore competitiveness, time urgency, and high achievement orientation as the important risk factors of anxiety and stress. The concept of emotional stability became an effective preventive measure, which reduced the negative psychological impact of perfectionistic striving. The results can be interpreted that although aiming at excellence can promote motivation, too much perfectionism and self-inflicted strict standards might result in the development of chronic anxiety, inability to control emotions, and loss of academic satisfaction. Notably, there also existed gender differences in perfectionistic attitudes, where the female students were more emotional to academic stress. This emphasizes the interaction of personality, gender, and coping stressing the fact that the effect of perfectionism on mental health is not a homogeneous phenomenon.

More so, a study explored how the COVID-19 pandemic affects the mental health of Italian University students with the moderating role of personality traits. They reported that the pandemic greatly contributed to the symptoms of anxiety, loneliness, and emotional exhaustion, especially in perfectionistic and neurotic students [7]. The research showed that perfectionism increased the intensity of the psychological load of isolation and uncertainty since perfectionistic individuals are more likely to reflect disturbances to their goals on themselves. On the other hand, higher emotionally stable and adaptive students demonstrated the superior coping reactions. These findings are strong arguments to believe that personality does not only determine mental health in the circumstances of normal academic stress, but also determines resilience or vulnerability in crisis situations. Taken together, the works of Guidotti and others highlight the importance of perfectionism and personality factors as the key determinants of the psychological well-being of University students, which means that the prevention of maladaptive perfectionism and support of adaptive coping strategies should become the focus of preventive interventions.

One type of mental distress is test anxiety, which includes worrying, intrusive thoughts, and anxiety [8]. It is closely related to academic

perfectionism and causes mental and emotional stress during tests, which can hinder performance and health [9]. According to an exploration, maladaptive perfectionists are much more likely to be anxious about tests than adaptive perfectionists [10]. Fear of not meeting expectations, being more sensitive to criticism, and anxiety can all explain this connection [11]. Due to this, students who have maladaptive perfectionism are more likely to feel stressed emotionally and academically [12]. Maladaptive perfectionists avoid hard tasks to avoid failing [13]. This leads to unresolved problems, last-minute cramming, academic stress, and test anxiety [14].

Perfectionism and test anxiety are mediated by avoidant academic coping [15]. Students may use avoidance strategies like procrastination or distraction instead of facing academic difficulties [16,17]. According to a research, coping strategies are typically divided into three categories: problem-focused, emotion-focused, and avoidance coping [18]. Adaptive perfectionists use two strategies to reduce anxiety and improve results: planning and asking for help [11]. Maladaptive perfectionists typically steer clear of stressful situations out of a fear of failing, which reduces their effectiveness in the classroom [19].

As supported by multiple studies, students with high levels of maladaptive perfectionism report high on test anxiety and use more avoidance-based techniques [10]. In a similar vein, a study linked psychological distress, resulting from inadequate coping strategies and academic stress, to maladaptive perfectionism [20]. Dunkley et al. (2000) [15] showed that avoidance coping significantly predicted psychological maladjustment. Students are more likely to experience academic stress and anxiety if they avoid techniques like time management, problem-solving, or cognitive restructuring [16]. Avoidance often leads to delayed task initiation, increased pressure, and increased pre-exam anxiety, especially for those with high expectations and high self-criticism [21].

Maladaptive perfectionism results from maladaptive beliefs, as per cognitive-behavioral theory. Beliefs such as “I must succeed in everything” or “Failure equals worthlessness,” lead to anxiety and catastrophic thinking [1,22]. Such thoughts frequently result in avoidance behaviors which serve as short-term escapes. These increase failure while elevating anxiety [23]. Additionally, the emotion regulation theory pertains that perfectionists suffer from chronic anxiety due to their choice to deny rather than manage their negative emotions [24]. Perfectionism and coping strategies are also shaped by sociocultural factors. Perfectionistic academic standards can be elevated by competitive environments, social pressure, and parental expectations [25]. Students may avoid instead of asking for help because they feel afraid of being judged in collectivist cultures where family honor is reflected in academic achievement [26,27].

In conclusion, there exists a strong relationship between maladaptive academic perfectionism and test anxiety among college students, with avoidance coping strategies as a significant mediator. Academic tensions

increase when students fear failing and have excessive expectation. This results in the avoidance of problem-solving and help-seeking. While adaptive perfectionists use healthy coping mechanisms to reduce anxiety. Understanding this mediation provides important information about how coping mechanisms and perfectionism affect academic performance. This can help in student counseling, highlighting the necessity of reducing harmful perfectionistic views and encouraging positive coping techniques to improve well-being and academic achievement [28].

### Literature Review

Perfectionism, among students aiming for academic achievement, has been widely studied. It is frequently associated with self-criticism, unrealistic expectations, and fear of failing. Recent studies support a dual model: maladaptive perfectionism, motivated by self-doubt and fear of evaluation, brings negative outcomes, while adaptive perfectionism, characterized by high personal standards, results in resilience [1,11]. A study conducted in Seoul with medical students revealed that high achievers used effective coping mechanisms to reduce test anxiety and maladaptive perfectionism [29].

Rather than using a step-wise plan, people usually employ religious practices and caffeine overdose to get through problems. This is very common among University students, specifically female and those with lower GPAs [30]. Academic performance is strongly influenced by test anxiety, often elevated by maladaptive perfectionism [31]. Procrastination, denial, and disengagement are some forms of avoidance coping strategies that concentrate on avoiding stress rather than dealing with it [17]. According to research conducted among college students, avoidance coping significantly mediates the relationship between maladaptive perfectionism and academic difficulties. Those with discrepancy-driven perfectionism showed high test anxiety and task avoidance [32].

According to a longitudinal research [33], adaptive perfectionists exhibited greater focus on problem-solving and emotional regulation. Conversely, students exhibiting high levels of discrepancy perfectionism tended to experience higher levels of test anxiety and frequently resorted to avoidance strategies. Maladaptive perfectionism and test anxiety are predicted by personality traits like neuroticism. Medical students who were less neurotic showed better coping fewer maladaptive characteristics [34]. Abdollahi et al. (2018) [35] also demonstrated that avoidance coping increased test anxiety.

Research using various statistical models such as structural equation models (SEM), regression testing, and meta-analyses supports the association among avoidance coping, test anxiety, and perfectionism. While Zhao et al. (2022) [36] demonstrated that negative perfectionism was a strong predictor of test anxiety in adolescents. Mosavi et al. (2014) [37] indicated that avoidance strategies partially mediate this connection. Al-Hassan et al. (2025) [38] discovered that students with high test anxiety

used less effective coping methods. As a result of a fear of failing, many individuals avoided planning and collaborating [19]. Additionally, research has explored how different types of perfectionism affect coping strategies. According to Rice and Ashby (2007) [20], adaptive perfectionists often use proactive techniques to reduce stress, such as setting objectives, managing time, and seeking help. Conversely, maladaptive perfectionists generally turn to self-criticism, avoidance, and emotional withdrawal [15,21].

Besides feeling emotionally upset, maladaptive perfectionists often find it difficult to manage their emotions [24]. Research shows that some variations of perfectionism can lead to depression, according to Li et al. (2024) [39] study on Chinese college students. Perfectionism is also linked to long-term anxiety, as found by Smith et al. (2018) [40]. However, students who exhibit academic hardiness, which means they are better at handling stress and solving problems, experience less test anxiety even though they are perfectionists [35]. Similarly, being kind to one's own self can help reduce the stress caused by perfectionistic thinking [34]. Vanstone and Hicks (2019) [41] noticed that maladaptive perfectionists often avoid facing problems, which increases anxiety. On the other hand, adaptive perfectionists focus on solving problems, ultimately reducing anxiety.

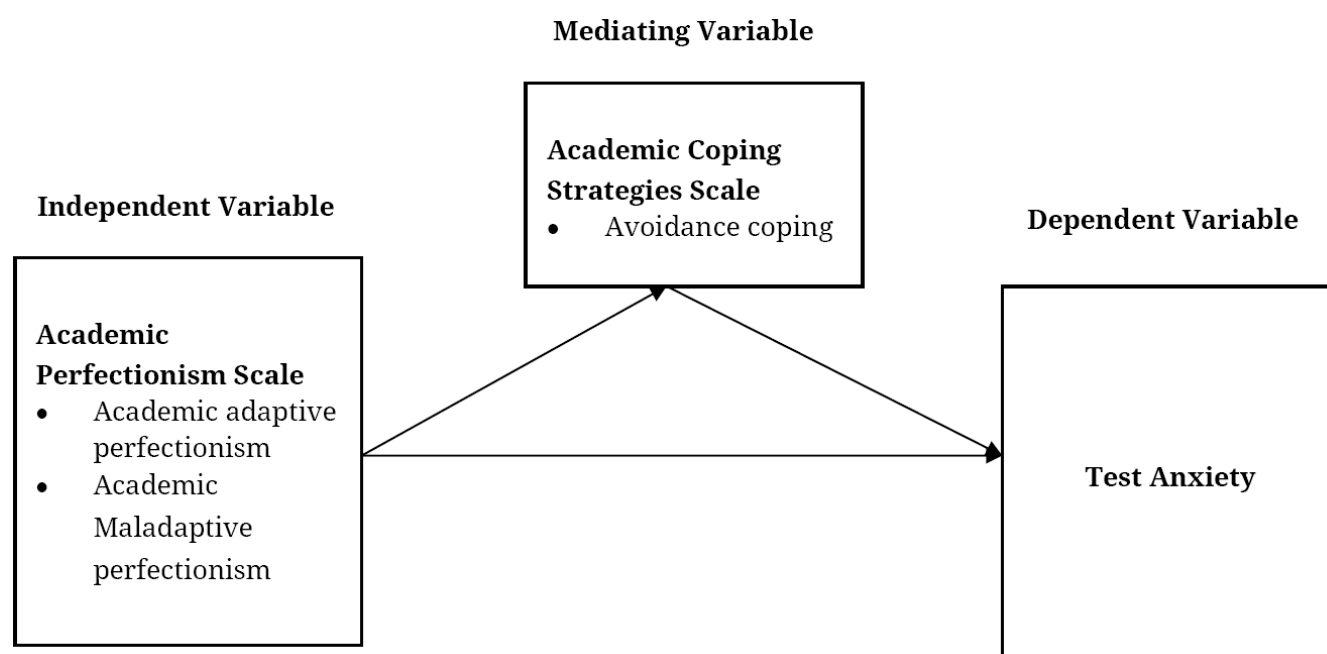
Current research examines the emotional consequences of avoidance behavior resulting from perfectionism. Students who suffer from long-lasting academic failures due to avoidance often face learned helplessness, low academic self-efficacy, and emotional fatigue [32]. Such patterns are particularly common among students who link their success to their self-worth.

This situation is often observed in rigorous academic environments where perfectionism is widespread.

### **Problem Statement**

Many University students face heightened academic pressure, which leads to increased levels of perfectionism and test anxiety, ultimately hindering their academic success and psychological well-being. Research has shown that maladaptive perfectionism in academics is linked to higher levels of test anxiety and emotional discomfort [1,10].

Furthermore, students who exhibit high perfectionism often employ avoidance-based coping mechanisms regarding their studies, which exacerbates their test anxiety and academic challenges [15,16] as depicted by Figure 1. While prior studies have looked into perfectionism and test anxiety individually, few have explored the mediating role of avoidance coping in this dynamic. This gap in the literature highlights the need to investigate how avoidance coping styles may mediate the relationship between perfectionism and test anxiety [20]. Gaining a deeper insight into this process is crucial for creating targeted interventions that can improve students' academic performance and emotional health.



**Figure 1.** Conceptual framework.

### Research Objectives

1. To examine the relationship among academic perfectionism, avoidance of academic coping strategies and test anxiety among University student.
2. To investigate whether avoidance of academic coping strategies mediates the relationship between maladaptive academic perfectionism and test anxiety.
3. To assess whether avoidance of academic coping strategies mediates the relationship between adaptive academic perfectionism and test anxiety.

### Hypothesis

1. There will be significant correlation among academic perfectionism, avoidance of academic coping strategies and test anxiety among University student.
2. There will be significant impact of maladaptive academic perfectionism on test anxiety through mediating role of avoidance of academic coping strategies among University students.
3. There will be significant impact of Adaptive academic perfectionism of academic perfectionism on test anxiety through mediating role of avoidance of academic coping strategies among University students.

### METHOD

The study employed survey method where a questionnaire was designed to gather data. Both online and in-person questionnaires were distributed using convenient sampling technique. All the assumptions of parametric testing were tested before carrying out correlation and

regression-based mediation tests. The data were filtered against normality, linearity, multicollinearity, and homoscedasticity. Skew and kurtosis ( $\pm 2$ ) were used to verify normality, Shapiro-Wilk tests were done and histograms and Q-Q plots were plotted. Scatter plots of the standardized residuals were used to check the linearity and homoscedasticity. Variance Inflation Factor ( $VIF < 5$ ) and Tolerance values ( $>0.2$ ) were used to determine multicollinearity. No significant violations were observed, which means that the data did not defy the assumptions to make parametric analyses. Thus, Pearson correlations and mediation analyses via regression were performed (under model 4) when using PROCESS macro (Model 4).

### Participants

A sample of 198 University students was taken from different Universities in Multan by using a convenient sampling method. The sample size was calculated using G\* power analysis 3.1.9. Only the students residing in Multan were included in the study.

### Instruments

#### *Academic Perfectionism Scale (APS)*

The APS developed by Malik & Ghayas (2016) [42], includes 41 items where each one is responded on a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). It is further divided into six subscales. These subscales include: Parental expectancies (having items 1, 2, 3, 4, 5, 6, 7 and 8), doubts and concerns on performance quality (having items 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20 and 21), organization (having items 22, 23, 24, 25 and 26), personal standards (having items 27, 28, 29, 30, 31 and 32), parental criticism (having items 33, 34, 35, 36 and 37), and socially prescribed perfectionism (having items 38, 39, 40 and 41).

The collective score of APS ranges from 41 to 205, where a higher score indicates a greater level of academic perfectionism. This scale also assesses maladaptive and adaptive dimensions of perfectionism. In order to determine academic maladaptive perfectionism, the scores from four subscales will be added. These subscales include: parental criticism, parental expectation, socially prescribed perfection, and doubts and concerns regarding performance quality. Conversely, for academic adaptive perfectionism, the sum will be taken from personal standards and organization. The internal consistency of the overall scale is measured at ( $\alpha = 0.82$ ), while the internal consistency of the subscales is 0.68 for parental expectation, 0.61 for doubts and concerns about performance quality, 0.56 for socially prescribed perfectionism, 0.72 for personal standards, 0.64 for organization, and 0.67 for parental criticism.

#### *The Test Anxiety Questionnaire*

This questionnaire comprises of 10 questions and the answers are rated on a 5-point scale ranging from 1 (never) to 5 (always) [43]. The final score

is achieved by adding up all the responses. The score ranges from 10 to 50 where the scores ranging from 10 to 19 show low or no test anxiety, scores between 20 and 35 suggest moderate or healthy test anxiety, and scores above 36 till 50 indicate high test anxiety.

*Academic Coping Strategies Scale (ACSS)*

The ACSS evaluates coping behaviors specifically in responses to academic stressors. This scale was originally developed by [16]. The version used in the current study was later on adapted by [44]. Its current version contains a total of 56 items to assess different coping methods. The scoring is done using a Likert scale from 1 (never) to 5 (almost always). It has 3 subscales: Approach, Avoidance, and Social support. The current study included avoidance subscale in its questionnaire having the following items: (3, 8, 10, 14, 16, 17, 18, 24, 27, 32, 35, 38, 39, 42, 43, 51, 53, 54, 56).

**DESCRIPTION**

Table 1 shows the correlation strengths between maladaptive academic perfectionism, adaptive academic perfectionism, avoidance and test anxiety. As shown in the above correlation, maladaptive academic perfectionism is related to adaptive academic perfectionism (458), avoidance (152) and test anxiety (244). In contrast, having adaptive academic perfectionism avoid avoidance ( $r = -0.214, p < 0.01$ ), but it is also associated with more test anxiety ( $r = 0.248, p < 0.01$ ). Also, people reporting avoidance as a strategy are more likely to experience test anxiety ( $r = 0.441, p < 0.01$ ). These results suggest that certain kinds of perfectionism are related to different mental responses and having maladaptive perfectionism tends to result in worse outcomes.

**Table 1.** Correlation.

| Variables                          | 1 | 2        | 3         | 4        |
|------------------------------------|---|----------|-----------|----------|
| Maladaptive Academic Perfectionism | - | 0.458 ** | 0.152 *   | 0.244 ** |
| Adaptive Academic Perfectionism    | - | -        | -0.214 ** | 0.248 ** |
| Avoidance                          | - | -        | -         | 0.441 ** |
| Test Anxiety                       | - | -        | -         | -        |

\*\*  $p < 0.01$ , \*  $p < 0.05$

The mediation analysis revealed that the adaptive academic perfectionism significantly predicted avoidance coping and test anxiety and so perfectionistic striving, despite being viewed as adaptive, can also lead to stress responses in academic contexts. In particular, avoidance coping ( $b = 0.6346, SE = 0.1230, p < 0.001$ ) and directly predicted increased levels of test anxiety ( $b = 0.4265, SE = 0.0992, p < 0.001$ ) were strongly predicted by adaptive academic perfectionism. Further, avoidance coping

in and of itself was a strong predictor of test anxiety ( $b = 0.2845$ ,  $SE = 0.0539$ ,  $p < 0.001$ ) showing it to be a partial mediator of the relationship between adaptive perfectionism and the outcome of anxiety. The indirect interaction was statistically significant ( $b = 0.1806$ , 95% CI [0.09, 0.27]) meaning that students who need avoidance mechanisms get more anxious when they are in evaluative situations. The general model proved to be statistically significant ( $R^2 = 0.2643$ ;  $F(2,196) = 35.1995$ ;  $p < 0.001$ ), which accounted an approximate of 26.4 percent of the variance in test anxiety. These findings indicate that although adaptive perfectionism can initially lead to achievement, it will also dispose of students to experience greater anxiety when their coping systems focus on avoidance instead of solving the problems actively.

Table 2 mediation model displayed that maladaptive academic perfectionism was seen to be a significant predictor of both avoidance coping and test anxiety, which supports its negative effect on the emotional functioning of students. It was observed that maladaptive perfectionism was a predictive of avoidance coping ( $b = 0.2249$ ,  $SE = 0.0531$ ,  $p < 0.001$ ) and was a direct predictor of high levels of test anxiety ( $b = 0.1780$ ,  $SE = 0.0411$ ,  $p < 0.001$ ). Likewise, avoidance coping was a predictor of test anxiety ( $b = 0.2984$ ,  $SE = 0.0528$ ,  $p < 0.001$ ), which proves that avoidance coping behavior increases stress associated with academic performance. Indirect effect via avoidance coping was also significant ( $b = 0.0671$ , 95% CI [0.03, 0.12]) which means partial mediation. The entire mediation model was statistically significant ( $R^2 = 0.2651$ ,  $F(2,196) = 35.3585$ ), and it accounted about 26.5% of the variance in test anxiety. Taken together, these results indicate that maladaptive perfectionism is a contributor of anxiety not only directly- via excessive self-criticism and fear of failure- but indirectly- by encouraging avoidance based coping styles that are damaging to the emotional regulation and preparedness of the students.

**Table 2.** Mediation analysis between maladaptive academic perfectionism of academic perfectionism and test anxiety through avoidance of academic coping strategy among University students (N = 198).

| Antecedent                         | Consequent                             |        |           | Test Anxiety                           |        |           |
|------------------------------------|----------------------------------------|--------|-----------|----------------------------------------|--------|-----------|
| -                                  | Avoidance                              |        |           |                                        |        |           |
| -                                  | Coeff.                                 | SE     | <i>p</i>  | Coeff.                                 | SE     | <i>p</i>  |
| Constant                           | 32.0397                                | 5.2221 | 0.000 *** | -5.6827                                | 4.2253 | 0.180     |
| Maladaptive Academic Perfectionism | 0.2249                                 | 0.0531 | 0.000 *** | 0.1780                                 | 0.0411 | 0.000 *** |
| Avoidance                          | -                                      | -      | -         | 0.2984                                 | 0.0528 | 0.000 *** |
| -                                  | $R^2 = 0.0835$                         |        |           | $R^2 = 0.2651$                         |        |           |
| -                                  | $F(1,197) = 17.9597$ , *** $p < 0.001$ |        |           | $F(2,196) = 35.3585$ , *** $p < 0.001$ |        |           |

Note: Coeff = standardized regression coefficient effect (effect = 0.0671 boot strap Interval).

## DISCUSSION

The aim of the research was to investigate a potential connection between academic perfectionism, anxiety related to tests, and the lack of strategies to tackle academic challenges. It is typical for students to experience daily anxiety concerning their studies, with each individual

employing different methods to cope. Perfectionism arises when individuals set unrealistically high expectations for themselves, often referred to as excessive personal standards [2]. The combination of ambitious performance goals with an inability to acknowledge personal shortcomings is termed adaptive perfectionism, while setting excessively high expectations and maintaining a critical stance following failure is recognized as maladaptive perfectionism.

Moreover, the current results are consistent with those of Guidotti, Fiduccia, and Pruneti (2024) [6], who revealed that perfectionism and Type A behavior do lead to increased anxiety and reduced emotional stability in the context of University students, and with Guidotti, Coscioni, and Pruneti (2025) [4], who concluded that emotional instability and self-critical behaviors are predictive of psychological distress across cultures. Guidotti et al. (2022) [7] also agree with our data sources, noting that perfectionism and neuroticism exacerbate anxiety in times of crisis, e.g., the COVID-19 pandemic—which also support the notion of perfectionism increasing stress in the environments of uncertainty.

The current results are consistent with the existing studies that show a strong association between perfectionistic orientations, especially maladaptive perfectionism and increased anxiety and emotion-oriented coping. Eum and Rice (2011) [10] established that the maladaptive perfectionism positively correlated with test anxiety, which is consistent with our results that indicated that maladaptive perfectionism had a direct and indirect (through the avoidance coping) positive correlation with test anxiety ( $b = 0.1780$ ,  $p < 0.001$ ; indirect  $b = 0.0671$ ). On the same note, Vanstone and Hicks (2019) [41] also found that high self-critical perfectionism students have an increased worry and cognitive interference problem during exams, which is the same case in the current study. Nevertheless, we also found that adaptive perfectionism had a significant relationship with test anxiety ( $b = 0.4265$ ,  $p = 0.001$ ) which is in contrast to findings by Arana and Furlan (2016) [33] and Rice and Ashby (2007) [20], who determined adaptive perfectionism to reduce stress by using goal-oriented coping. Such difference can be caused by cultural differences; Pakistani students usually are under increased academic pressure, competitive grading, and high family expectations which can cause otherwise adaptive striving to become a source of anxiety. In addition, avoidance coping, which has been mediating in the current situation, is compatible with the results of Mosavi et al. (2014) [37] and Weiner and Carton (2012) [31], who state that avoidant coping increases test-related anxiety by preventing successful preparation. In line with Guidotti et al. (2024, 2025) [4–7], our data highlights psychological issues of perfectionism and points to the role of emotional stability and self-regulatory coping as determined by academic well-being across cultures.

Conversely, Shin et al. (2023) [34] and Abdollahi et al. (2018) [35] have stated that the association between perfectionism and test anxiety can be mitigated by self-compassion and hardiness. Such moderating factors

might be absent in our sample hence the stronger associations that we have found in our study. All of these comparisons put our results in context with the wider academic conversation and point out the presence of cultural, emotional, and contextual moderators that affect the perfectionism-anxiety relationship. To that end, these differences and similarities are now incorporated into the Discussion, citing various studies (e.g., [4–7,10,33–35,37,41]). This facilitated analysis places our findings in the world literature and shows how our findings help in the interpretation of the mediating effect of avoidance coping in the academic perfectionism in South Asian settings.

The researchers identified a strong connection between academic perfectionism, limited coping strategies, and anxiety prior to University exams. An analysis of the data revealed a positive correlation between academic perfectionism, not utilizing study techniques, and experiencing anxiety during tests. Believing that parents have high expectations, harboring doubts or concerns, prioritizing high standards, criticizing their child's performance, and pressuring for academic excellence are all positively associated with students avoiding various strategies for managing tests and experiencing test anxiety. Academic perfectionism is linked to employing less effective methods to succeed in school, which leads to higher stress levels before exams. Avoiding different coping techniques for academic challenges has been positively correlated with indicators suggesting test anxiety. Research has shown that certain forms of perfectionism, such as socially prescribed and discrepancy perfectionism, are strongly associated with increased test anxiety [13,45]. These findings emphasize that perfectionistic tendencies, especially those shaped by external expectations, can undermine students' ability to manage exam-related stress. Early identification of such patterns may be crucial in designing interventions to promote healthier academic behaviors [46].

The second hypothesis proposed that adaptive academic perfectionism would significantly impact test anxiety among University students through a reliance on avoidance coping strategies. As indicated in Table 3, adaptive academic perfectionism has a strong influence on both the avoidance of effective academic practices and the experience of anxiety during tests. The failure to employ academic strategies affects how students manage their test anxiety. Previous studies have shown that perceiving a situation as successful is closely tied to concerns about failure and being viewed as less competent [47–49]. For example, a student who sets high goals but avoids reviewing feedback after receiving a lower-than-expected grade may appear adaptive, yet still experience high test anxiety—highlighting the need for emotional coping alongside achievement strategies. This suggests that even perfectionism perceived as “adaptive” may have adverse effects when paired with ineffective coping [50]. Students may benefit from targeted support that not only encourages achievement but also builds practical, emotionally intelligent

coping mechanisms. For example, nature exposure can be one effective way to reduce anxiety and promote emotional regulation. These approaches should be assessed in the real-world contexts [51].

**Table 3.** Mediation analysis between adaptive academic perfectionism of academic perfectionism and test anxiety through avoidance of academic coping strategies among University students (N = 198).

| Antecedent                      | Consequent           |        |           | Test Anxiety         |        |           |
|---------------------------------|----------------------|--------|-----------|----------------------|--------|-----------|
| -                               | Avoidance            |        |           |                      |        |           |
| -                               | Coeff.               | SE     | <i>p</i>  | Coeff.               | SE     | <i>p</i>  |
| Constant                        | 31.0891              | 4.4860 | 0.000 *** | -2.9502              | 3.7855 | 0.436     |
| Adaptive Academic Perfectionism | 0.6346               | 0.1230 | 0.000 *** | 0.4265               | 0.0992 | 0.000 *** |
| Avoidance                       | -                    | -      | -         | 0.2845               | 0.0539 | 0.000 *** |
| -                               | $R^2 = 0.1191$       |        |           | $R^2 = 0.2643$       |        |           |
| -                               | $F(1,197) = 26.6241$ |        |           | $F(2,196) = 35.1995$ |        |           |
| -                               | *** $p < 0.001$      |        |           | *** $p < 0.001$      |        |           |

Note: Coeff = standardized regression coefficient

Another hypothesis of the research is that maladaptive academic perfectionism impacts test anxiety by allowing avoidance of academic coping strategies to serve as a mediator for University students. Results from Table 2 indicated that maladaptive academic perfectionism is a key factor in the low utilization of academic coping techniques and the high levels of test anxiety. The lack of use of academic coping methods can also affect an individual's test anxiety. Research has demonstrated that maladaptive perfectionism is linked to negative outcomes, such as test anxiety, depression, and reduced academic performance [52]. This reinforces the harmful nature of maladaptive perfectionism, particularly when it leads students to withdraw from effective academic behaviors. Interventions should focus on reshaping perfectionistic thought patterns while equipping students with adaptive coping tools to break the cycle of stress and under-performance.

## LIMITATIONS

There are certain limitations in the present study that should be considered for improvement. One limitation is that the study included participants only from Multan, Pakistan. Another limitation is that the target group of this study was only University students. Lastly, convenient sampling technique was used.

## Suggestions

In order to enhance generalization, this study can be conducted on different school and college students. It can also be conducted in different cities of Pakistan. Moreover, random sampling technique can be utilized.

## Implications

The findings from this study can be used to apply targeted interventions to reduce maladaptive perfectionism, in order to lower text anxiety and avoidance. University counseling services and mental health

professionals can address students' distress linked to perfectionism through various interventions

- Encouraging adaptive perfectionism with the help of cognitive-behavioral interventions to oppose maladaptive beliefs and self-criticism.
- Combining mindfulness-based interventions and stress management training to boost emotional control.
- Boarding personality and perfectionism screening on University counseling centers to allow early detection of at-risk students.
- Normalizing academic failure and avoidance behaviors brought about by anxiety through creating psychoeducational sessions and peer-support programs.

## CONCLUSIONS

The findings of the study revealed that there is a significant positive correlation between academic perfectionism, test anxiety, and the tendency to avoid certain learning strategies. The results also show that maladaptive academic perfectionism has a strong impact on test anxiety as well as on avoidance of coping strategies. Additionally, the avoidance of academic coping strategies significantly contributes to increases test anxiety. The mediation analysis indicates a partial mediation, suggested through the significant direct effect of academic perfectionism on test anxiety. Conclusively, the results of the study suggest that avoidance plays an important but not an entirely exclusive role in linking perfectionism to anxiety. This indicates the presence of other contributing factors as well like attitude, aptitude, personality traits, memory, self-confidence, intelligence and environmental factors.

## ETHICAL STATEMENT

### Ethics Approval

The study was approved by the Institutional Review Board Bahauddin Zakariya University Multan. Informed Consent was obtained from all subjects involved in the study

### Declaration of Helsinki STROBE Reporting Guideline

This study adhered to the Helsinki Declaration. The Strengthening the Reporting of Observational studies in Epidemiology (STROBE) reporting guideline was followed.

## DATA AVAILABILITY

The dataset of the study is available from the authors upon reasonable request.

## **AUTHOR CONTRIBUTIONS**

All authors meet the authorship criteria outlined by the International Committee of Medical Journal Editors (ICMJE). The study was conducted under the supervision and guidance of MAK and all authors—MAK, MK, NP, AF and YK—worked collectively and contributed equally in all stages of the research.

All authors participated in the conceptualization, methodology design, software handling, formal analysis, investigation, and data interpretation. They jointly contributed to writing the original draft, as well as reviewing and editing the manuscript. The research process was a team effort, and all authors approved the final version of the manuscript and agree to be accountable for all aspects of the work.

## **CONFLICTS OF INTEREST**

The authors declare that they have no conflicts of interest.

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