



## Unveiling the Essence of Achievement Goals: Examining Multidimensional Pursuits and Gender Differences in University Students' Academic Success

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**Abstract:** Setting achievement goals is of paramount importance for students as it provides a clear sense of direction and purpose in their academic pursuits, including achievement. By defining precise goals and targets, students can effectively plan their actions, allocate resources, and track their progress, which in turn enhances their motivation, value of task, engagement, and their overall academic performance. This research study aims to investigate the multidimensional pursuits of academic achievement goals among university students in Pakistan, considering the significance of goal setting in enhancing motivation and academic performance. Drawing upon a comprehensive literature review, the study examines the nature of academic achievement goals, including mastery and performance goals, and their implications for students' learning and performance. The research employs a survey and correlational research design, with data collected from 1036 randomly selected students across three universities in Multan city using the Achievement Goal Questionnaire (AGQ). The findings reveal that university students predominantly adopt mastery approach goals, followed by performance approach goals, with minimal adoption of performance avoidance goals and even less adoption of mastery avoidance goals. Gender differences are observed, with female students reporting significantly higher scores in mastery approach goals. Analysis also highlights significant correlations among different dimensions of academic achievement goals, although they do not significantly predict students' academic achievement. These results underscore the importance of understanding students' goal orientations and provide insights into shaping educational policies and practices to support student success and well-being in Pakistan.

**Key words:** Achievement goals, Mastery goals, Performance goals, University, Pakistan.

### 1. Introduction

Setting achievement goals is of paramount importance for students as it provides a clear sense of direction and purpose in their academic pursuits, including achievement (Baghurst, Tapps, & Kensinger, 2015; Guan, Xiang, McBride, & Keating, 2013). By defining specific goals and targets, students can effectively plan their actions, allocate resources, and track their progress, which in turn enhances their motivation, the value of task, engagement, and overall academic performance (Ames & Archer, 1988; Locke & Latham, 2002; Treasure & Roberts, 1995; Wolters, 2003; Woods, 2020). Furthermore, scholars are of the view that goal setting promotes a growth mindset in students, where they believe in their ability to improve and view challenges as opportunities for learning, fostering resilience and perseverance in the face of obstacles (Bai & Wang, 2023; Dweck, 2006; Woods, 2020). Considering

importance of achievement goals, this concept has played a pivotal role in research on students' motivation within achievement-oriented environments, especially over the past twenty years (Bai & Wang, 2023; Dweck, 2006; Woods, 2020).

It is evident from literature that the notion of academic achievement goals has been extensively studied within the field of educational psychology in context of students' achievement (Chazan, Pelletier, & Daniels, 2022; Martínez, Youssef-Morgan, Chambel, & Marques-Pinto, 2019). The notion of academic achievement goals generally refers to various targets, objectives, and aspirations set by students for themselves in context of their academic pursuits (Gegenfurtner & Hagenauer, 2013). Rooted in seminal works by Dweck (1986) and later expanded by Middleton and Midgley (1997), Rawsthorne and Elliot (1999), Elliot and McGregor (2001), and Elliot (2005), the notion of achievement goals has become integral to understand students' motivation, self-regulation, and students' academic performance. Academic achievement goals are pivotal in understanding individuals' aspirations and behaviors in pursuit of academic success (Elliot, 1999; Fryer, 2008). This literature review, therefore, aims to delve into various aspects of academic achievement goals, including their concepts, types, emergence of approaches and avoidance tendencies, gender differences, and their implications for students' learning and performance.

The literature demonstrates that academic achievement goals are broadly categorized into two main types: mastery goals and the performance goals (Elliot, 2005; Elliot & McGregor, 2001; Middleton & Midgley, 1997). The difference between mastery goals and the performance goals serves as a foundational concept in academic achievement goal research (Dweck, 1986; Elliot, 2005; Rawsthorne & Elliot, 1999; Wang, Biddle, & Elliot, 2007). Mastery goals revolve around developing competence, acquiring new knowledge, understanding material, developing skills, mastering task, and understanding concepts deeply, whereas performance goals emphasize demonstrating superiority and outperforming others (Dweck, 1986; Elliot & McGregor, 2001). Individuals with mastery goals adopt adaptive learning strategies, such as seeking challenges and persisting in the face of difficulties, and leading to better academic outcomes and learning (Elliot, 2005; Middleton & Midgley, 1997). Conversely, individuals with performance academic achievement goals may exhibit maladaptive strategies, such as avoiding challenging tasks and seeking to outperform others rather than focusing on deepening understanding (Elliot & Harackiewicz, 1996; King & Mendoza, 2020; Middleton & Midgley, 1997). Furthermore, these distinctions underscore the significance of academic achievement goals in shaping students' learning approaches and subsequent academic performance.

Considering the importance of achievement goals in shaping students' learning approaches, the mastery goals focus on developing competence and mastering new skills (Dweck, 1986). Likewise, individuals with mastery goals are motivated by the desire to understand deeply and acquire new knowledge (Elliot & McGregor, 2001). Researchers are of the view that mastery goals are more positively related to task involvement and intrinsic motivation, leading to better academic outcomes (Elliot & Church, 1997; Elliot & Murayama, 2008). Moreover, individuals adopting a mastery goal view their intelligence as a flexible rather than fixed, and thus can be improved (Elliot & Church, 1997; Wolters, 2004). This view is likely to motivate them to regulate their performance for achieving goals. Performance achievement goals, on the other hand, emphasize demonstrating competence and outperforming others (Dweck, 1986). Furthermore, individuals with performance goals may prioritize achieving high grades or surpassing peers rather than deeply understanding concepts (Elliot & McGregor, 2001). Likewise, the performance goals can lead to maladaptive behaviors such as avoiding challenging tasks and focusing on superficial performance indicators. These goals are, therefore, associated with competition and extrinsic motivation rather than intrinsic (Elliot & Church, 1997). Moreover, individuals with performance goal view their intelligence as fixed one and consequently, they motivate themselves by comparing their performance with others for achieving their goals (Elliot & Church, 1997; Wolters, 2004). Performance goals are usually associated with procrastination and may lower individuals' academic performance.

Elliot and McGregor (2001) and Elliot (2005) proposed that achievement goals may be further categorized into two domains, i.e., approach and avoidance. Scholars are of the view that these two domains play a very vital role in shaping how students pursue their academic achievement goals and consequently their achievement-related academic outcomes (Elliot & Harackiewicz, 1996; Elliot & Church, 1997). Furthermore, students' ways towards approaching and avoiding academic achievement goals indicate their orientations towards success and failure. Moreover, students who adopt an approach-oriented mindset pursue success and concentrate on attaining positive outcomes, whereas those with an avoidance-oriented mindset aim to avoid failure and unfavorable outcomes (Elliot & Church, 1997). Integrating the ideas of mastery-performance goals and approach-avoidance domains leads to four distinct categories of achievement goals, as proposed by Elliot (2005): mastery-approach (centered on

achieving proficiency within tasks or personal development), performance-approach (aimed at meeting the established standards), mastery-avoidance (aimed at evading incompetence within tasks), and performance-avoidance (aimed at steering clear of falling short of established standards of competence) (Elliot, 2005; Elliot & Murayama, 2008; Ratsameemonthon, 2015).

Within the 2x2 framework of mastery and performance achievement goals proposed by Elliot (2005), individuals may exhibit various tendencies. For example, some individuals may pursue mastery goals with approach strategies, thus focusing on developing competence and mastering tasks, while others may adopt avoidance tendencies, concentrating on avoiding incompetence and maintaining their perceived abilities. Similarly, within the dominion of performance goals, individuals may pursue approach strategies, aiming to outperform others and gain recognition, while some may resort to avoidance strategies, driven by the fear of failure and desire to evade negative judgments (Elliot, 2005; Elliot & Murayama, 2008; Ratsameemonthon, 2015). Furthermore, Elliot (2005) introduced the concept of mastery-avoidance goals to delineate cognitive avoidance within mastery-approach goals, where individuals strive to evade self-referential or task-related incompetence, preserving their skills and abilities. However, such goals may lead to maladaptive learning styles and negative self-motivational beliefs, hindering adaptive help-seeking behaviors and fostering dependency on assistance (Pintrich, 2000; Ratsameemonthon, 2015). Research suggests that gender differences also exist in adoption of mastery and performance achievement goals by individuals. While both genders may pursue mastery goals, females tend to exhibit higher levels of approach-oriented mastery goals, and emphasizing the desire to learn and understand deeply. Conversely, males may exhibit higher tendencies towards performance goals, driven by desire to outperform others, achieve high grades, and to gain social recognition (Elliot, 2005; Wolters, 2004; Woods, 2020). The adoption of both mastery and performance goals has significant implications for students' academic achievement. For instance, mastery goals have more positive relation with intrinsic motivation, task involvement, and deep learning strategies, leading to better academic outcomes (Elliot & Harackiewicz, 1996). Conversely, performance goals may lead to the maladaptive behaviors, such as procrastination and adopting the surface-level learning, resulting in lower academic achievement (Elliot & Harackiewicz, 1996; Elliot & McGregor, 2001).

It is evident from the above cited literature that academic achievement goals are multifaceted constructs and play a very crucial role in shaping individuals' behaviors and attitudes towards learning. Likewise, understanding the distinctions between mastery and performance goals, along with the emergence of approach-avoidance orientations, provides valuable insights into students' motivations and behaviors in educational settings. These areas of research, however, are not much investigated among university students in Pakistan, and demand further research. Hence, the primary objective of this research is to examine diverse facets of students' academic achievement goals within Pakistani university environment, encompassing mastery-approach, mastery-avoidance, performance-approach, and then performance-avoidance goals within 2x2 framework. Additionally, the study seeks to explore gender differences in adopting these goals, and relationship of types of achievement goals with students' academic achievement. Drawing upon a comprehensive literature review, which also underpins the significance of academic achievement goals in shaping students' approaches to learning and subsequently their academic performance, this research study aims to contribute to understanding of how goal orientations influence students' academic outcomes. By addressing these objectives, this research endeavors to provide valuable insights into dynamics of academic achievement goals among university students in Pakistan, thereby informing educational policies and practices to foster student success and well-being.

## **2. Research Objectives and Hypotheses**

This research was designed to unveil the essence of academic achievement goals by examining the multidimensional pursuits for these goals in university students in Pakistan. This research further examines the gender differences in students' academic achievement goals across various dimensions and relationship of these goals with students' academic achievement in university setting in Pakistan. Specifically, this study was designed to achieve the following objectives:

- To examine the nature of students' academic achievement goals by four dimensions in university setting.
- To observe the gender differences in students' academic achievement goals across four dimensions in university setting.
- To examine differences in students' approach and avoidance tendencies in relation to mastery and performance academic achievement goals.

- To examine differences in students' approach and avoidance behaviors towards mastery and performance academic achievement goals.
- To examine the relationship between students' academic achievement goals and their achievement in university setting.
- To examine the extent to which four dimensions of students' achievement goals are significant predictors of their achievement.

Furthermore, five research hypotheses were formulated to examine gender differences across various dimensions of achievement goals of university students, difference in approach and avoidance tendencies in relation to mastery and performance achievement goals, differences in students' approach and avoidance behaviors towards mastery and achievement performance goals, relationship between students' achievement goals and their academic achievement, and for examining the dimensions of students' achievement goals as predictors of their academic achievement.

- Research Hypothesis 1 (H<sub>1</sub>): A significant differences exist in academic achievement goals of male and female students across different dimensions in university setting.
- Research Hypothesis 2 (H<sub>1</sub>): Students' approach and avoidance tendencies differ in relation to mastery and performance academic achievement goals in university setting.
- Research Hypothesis 3 (H<sub>1</sub>): Students differ in their approach and avoidance behaviors towards mastery and performance academic achievement goals in university setting.
- Research Hypothesis 4 (H<sub>1</sub>): A significant relationship exists between students' academic achievement goals and their achievement in university setting?
- Research Hypothesis 5 (H<sub>1</sub>): Various dimensions of students' achievement goals are significant predictors of their achievement in university setting.

### **3. Research Methodology**

#### **3.1 Research Design and Participants**

The primary objective of this research was to unveil the essence of academic achievement goals by examining the multidimensional pursuits for these goals in university students. This research further examines the gender differences in students' academic achievement goals across various dimensions and relationship of these goals with students' academic achievement in university setting. Aligned with the objectives of research, this study used both survey and correlational research designs, and was descriptive in nature. Population of the study comprised all students, who were studying at three selected universities of Multan city. Of these, two universities were public sector universities, and included Bahauddin Zakariya University [BZU], Multan and the University of Education [UE], Lahore, Multan campus. Of these, one private sector university was also selected to ensure representation, and it included Institute of Southern Punjab, Multan.

For selection of participants as a sample, multistage cluster sampling technique was used. The total number of departments/institutes were varying at three selected universities. From these three universities, 17 departments/institutes were randomly selected from BZU, Multan, eight from UE, Lahore, Multan campus and six from Institute of Southern Punjab [ISP], Multan were randomly selected, ensuring representation of each university in the same proportion as in population. This resulted in a total random selection of 31 departments/institutes from three universities. A single class was randomly chosen from each of the 31 departments/institutes, constituting a cluster, and subsequently, all students within that specific class were selected as the sample. This resulted in a selection of 1036 students, from both genders and from different programs. Out of these 1036 students, 458 were male and the remaining 578 were female.

#### **3.2 Research Tool**

The Achievement Goal Questionnaire (AGQ) served as a research tool for this study. This tool was derived from Elliot and McGregor's work (2001). It evaluates achievement goals within the 2 X 2 achievement goal framework, a concept established by Elliot (2005). This framework views achievement goals as cognitive aims centered on competency, where each goal is made up of elements from two distinct competency dimensions. The first competency dimension, referred to as the definitional dimension, distinguishes between mastery goals and performance goals. The mastery goals are oriented towards learning and are evaluated against personal standards (intrapersonal standard), while performance goals put emphasis on demonstrating competence with reference to

external standards (normative standard) (Elliot & McGregor, 2001). The second dimension, the valence one, distinguishes between approach and avoidance goals. The approach goals are geared towards positive outcomes (success), while avoidance goals emphasize avoiding negative outcomes (failure) (Elliot, 2005). Combining these dimensions resulted in four types of academic achievement goals, namely, mastery-approach (aiming for intrapersonal competence or based on task), the performance-approach (aimed at normative competency rather than mastery), mastery-avoidance (aims at avoiding intrapersonal incompetence or task-based rather than aiming at mastery), and performance-avoidance (aimed at avoiding normative incompetency).

The AGQ, adapted from Elliot and McGregor (2001), comprised two sections. The first section aimed at seeking demographic information of the participants in the local context. The second section of the AGQ 12 items for measuring students' academic achievement goals. These items were further distributed into four sub-sections of three items. Each sub-section of items focused on measuring four types of achievement goals, as mentioned earlier. The questionnaire was designed utilizing five-point scale, with a range from Strongly Disagree (1) to Strongly Agree (5). To assess the questionnaire's reliability, Cronbach's Alpha reliability coefficient was computed, yielding a value of 0.83. This ensured that tool was highly reliable. The validity of the AGQ has already been certified as it was adapted from Elliot and McGregor (2001). The CGPA was taken as a measure of achievement of the respondents, and was sought in demographic section of the tool.

### 3.3 Data Collection and Data Analysis

The AGQ was administered to the participants, both personally and through goggle forms in some classes. A total of 1036 responses were submitted, from both genders and from different programs, by respondents from 31 departments/institutes of three universities. Of 1036 selected students, 458 were male and 578 were female students. The data were analyzed employing a variety of descriptive and inferential statistical methods, including the calculation of the mean, standard deviation, Pearson correlation coefficient, independent-sample t-test, paired-sample test, and regression analysis. The latest version of SPSS was also used for data analysis.

## 4. Results

The results of data analysis have been organized into four sections, aligning with the research objectives and hypotheses. These sections are outlined below.

### 4.1 Students' Academic Achievement Goals (AAGs)

This section is focused the examination of university students' aspirations regarding academic achievement, encompassing four distinct goals. Students were queried about their pursuit of four types of achievement goals, as mentioned and elaborated in earlier sections. Subsequent subsections provide an analysis of each of these goals.

#### 4.1.1. Mastery Approach Goals

The analysis of data pertaining to students' mastery approach goals is presented in Table 1. Students responded to three statements related to mastery approach. Mean and standard deviation were calculated for data analysis, and the findings are shown in Table 1 below:

Table 1: Mastery approach goals

S. No.	Students' mastery approach goals (only themes)	Mean	SD
1	Aiming at understanding the information completely.	3.65	1.09
2	Aiming at maximal learning.	4.25	0.99
3	Aiming at efficient understanding of subject matter.	3.88	1.02
4	<b>Overall mastery approach goals</b>	3.92	1.03

The mean values for each statement in Table 1 indicate the level of agreement or disagreement among students regarding mastery approach goals. For Statement 1 and Statement 3, the mean values are 3.65 and 3.88 respectively, falling between 3.5 and 4.00. This suggests that students moderately believe in the aim of entirely understanding the information given in class and in trying to understand the subject matter as efficiently as possible. For Statement 2, the mean value is 4.25, indicating strong agreement among students regarding the goal of learning as much as possible.

The overall mean value for mastery approach goals is 3.92, suggesting a general agreement among students regarding the adoption of mastery approach goals. The standard deviation values, ranging around 1 for each statement, indicate a moderate level of variability or agreement among students regarding each statement.

#### 4.1.2 Performance Approach Goals

The analysis of data concerning students' performance approach goals is presented in Table 2. Students were surveyed regarding three statements related to performance approach. Mean and standard deviation were calculated for data analysis, and the findings are shown in Table 2 below:

Table 2: Performance approach goals

S. No.	Students' performance approach goals	Mean	SD
1	Aiming at doing well in comparison with other students.	3.71	1.07
2	Aiming at performing well in comparison with others.	3.89	1.01
3	Aiming at exhibiting better performance in comparison with others.	4.05	1.03
4	<b>Overall performance approach goals</b>	3.88	1.03

The analysis of Table 2 reveals that the mean values of the first two statements fall within the range of 3.5 and 4.00. This indicates a moderate belief among university students that they endeavor to perform well in comparison to their peers and aim to achieve satisfactory performance relative to others. Conversely, the mean value of the third statement falls between 4.00 and 4.5, suggesting strong agreement among university students regarding this assertion. The overall mean value for performance approach goals is 3.88, indicating a moderate level of agreement among university students in adopting a performance-oriented approach. The standard deviation for all statements is around 1, indicating a moderate level of consensus among students on each statement.

#### 4.1.3 Mastery Avoidance Goals

The analysis of data regarding students' mastery avoidance goals is presented in Table 3. Students responded to three statements related to mastery avoidance. Mean and standard deviation were calculated for data analysis, and the findings are shown in Table 3 below.

Table 3: Mastery avoidance goals

S. No.	Students' mastery avoidance goals	Mean	SD
1	Aiming at avoiding learning less than one's potential.	2.79	1.30
2	Aiming at avoiding learning less than possible learning.	2.80	1.27
3	Aiming at avoiding an inadequate understanding of content.	3.35	1.24
4	<b>Overall mastery avoidance goals</b>	2.98	1.27

The mean values for each statement indicate the level of agreement or disagreement among students regarding mastery avoidance goals. For Statement 1 and Statement 2, the mean values are 2.79 and 2.80 respectively, falling between 2.5 and 3.00. This suggests that students tend to disagree with the notion of avoiding learning less than they possibly can. Similarly, for Statement 3, the mean value is 3.35, falling between 3.00 and 3.5, indicating a slight agreement among students regarding avoiding an inadequate understanding of course content. Overall, the mean value for the overall mastery avoidance goals is 2.98, suggesting a general disagreement among students regarding the adoption of mastery avoidance goals. The standard deviation values, ranging around 1 for each statement, indicate a moderate level of variability or agreement among students regarding each statement.

#### 4.1.4 Performance Avoidance Goals

The analysis of data concerning students' performance avoidance goals is summarized in Table 4. Students responded to three statements related to performance avoidance. Mean and standard deviation were calculated for data analysis, and the findings are shown in Table 4 below.

Table 4: Performance avoidance goals

S. No.	Students' performance avoidance goals	Mean	SD
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1	Aiming at abstaining poor performance than others.	3.33	1.35
2	Aiming at refraining from worse performance than others.	3.29	1.28
3	Aiming at avoiding doing worse than others.	3.54	1.29
4	<b>Overall performance avoidance goals</b>	3.38	1.31

The mean values for each statement in Table 4 indicate the level of agreement or disagreement among students regarding performance avoidance goals. For Statement 1, 2, and 3, the mean values are 3.33, 3.29 and 3.54 respectively, falling within the range of 3.00 to 3.5. This suggests that students tend to slightly agree with the goals of abstaining from poor performance in comparison with others, refraining from performing worse than others and avoiding performing worse than other students.

#### 4.2 Differences in Academic Achievement Goals of Male and Female Students

To explore gender differences among university students across four aspects of achievement goals as mentioned earlier in the manuscript, an independent sample t-test was performed, with the outcomes presented in Table 5.

Table 5: Differences in academic achievement goals of male and female students

Students' Perceptions	Gender	n	Mean	t	df	Sign. (2-tailed)
Mastery Approach Goals	Male	458	11.61	-2.137	1034	.033
	Female	578	11.91			
Performance Approach Goals	Male	458	11.53	-1.432	1034	.153
	Female	578	11.75			
Mastery Avoidance Goals	Male	458	08.97	.285	1034	.775
	Female	578	08.92			
Performance Avoidance Goals	Male	458	09.99	-1.510	1034	.131
	Female	578	10.27			

Table 5 indicates that male students reported a mean score of 11.61, while female students reported a slightly higher mean of 11.91 in the domain of mastery approach goals. The t-test yielded a statistically significant result ( $t = -2.137$ ,  $df = 1034$ ,  $p = .033$ ), indicating significant difference between male and female students in adopting mastery approach goals. To be more explicit and clear, female students believe that their orientation towards adopting the mastery approach goals is significantly higher than male students in university settings. Likewise, table 5 further indicates that male students had a mean score of 11.53, whereas female students had a slightly higher mean of 11.75 in the domain of performance approach goals. The t-test result ( $t = -1.432$ ,  $df = 1034$ ,  $p = .153$ ), however, showed insignificant difference between male and female students in adopting performance approach goals. To be more explicit, an insignificant difference exists between male and female students at universities in terms of their orientation towards adopting performance approach goals.

Table 5 further demonstrates that male students achieved an average score of 8.97, while female students attained a comparable mean of 8.92 in the realm of mastery avoidance goals. The t-test result ( $t = .285$ ,  $df = 1034$ ,  $p = .775$ ), however, indicated an insignificant difference between male and female students in adopting mastery avoidance goals. This shows that an insignificant difference exists between male and female students in terms of their orientation towards adopting mastery avoidance goals. In the domain of performance avoidance goals, table 5 shows that male students reported a mean score of 9.99, while female students reported a slightly higher mean of 10.27. The t-test result ( $t = -1.510$ ,  $df = 1034$ ,  $p = .131$ ), however, showed insignificant difference between male and female students in performance avoidance goals. To be more explicit, an insignificant difference exists between male and female students at universities in terms of their orientation towards adopting performance avoidance goals.

In summary, significant gender differences were found in mastery approach goals, with female students achieving higher scores compared to male students, and related research hypothesis was accepted. However, insignificant gender differences were observed in the goals related to performance approach, mastery avoidance, and performance avoidance, and so all three related hypotheses were rejected.

#### 4.3 Differences in Students' Approach and Avoidance Tendencies

To examine differences in students' approach and avoidance tendencies concerning mastery and performance

achievement goals, a paired sample t-test was executed and results are shown in Table 6.

Table 6: Differences in mastery and performance academic goals for students in terms of approach and avoidance

Dimensions	Goals	n	Mean	t	df	Sign. (2-tailed)
Approach Goals	Mastery goals	1036	11.77	1.768	1035	.077
	Performance goals	1036	11.65			
Avoidance Goals	Mastery goals	1036	8.94	-14.297	1035	.000
	Performance goals	1036	10.15			

Table 6 indicates that, in terms of approaching achievement goals, the mean value for mastery approach was 11.77, while for performance approach goals, it was slightly lower at 11.65. The t-test result ( $t = 1.768$ ,  $df = 1035$ ,  $p = .077$ ), however, suggests an insignificant difference between students' tendencies towards mastery and performance approach goals, although there was a trend towards mastery goals. To be more explicit, table shows an insignificant difference between students' tendencies towards mastery and performance approach goals, although there was a trend towards mastery approach goals.

Table 6 further shows that, in terms of avoiding achievement goals, the mean values for mastery avoidance goals was 8.94, significantly lower than the mean value for performance avoidance goals, which was 10.15. The t-test result ( $t = -14.297$ ,  $df=1035$ ,  $p < .001$ ) also indicates a highly statistically significant difference between university students' tendencies towards mastery and performance avoidance goals. To be more explicit, table further shows that students' tendencies towards performance avoidance goals is statistically significantly higher than their tendencies towards mastery avoidance goals.

In summary, the results of data analysis reported an insignificant difference between students' tendencies towards mastery and performance approach goals, and related research hypothesis was rejected. However, there was a significant difference between students' tendencies towards mastery and performance avoidance goals, which led to acceptance of related hypothesis, with students showing a stronger inclination towards performance avoidance compared to mastery avoidance goals.

#### 4.4 Differences in Students' Approach and Avoidance Behaviors

To investigate differences in students' approach and avoidance behaviors concerning mastery and performance academic achievement goals, a paired sample t-test was executed and results are shown in Table 7.

Table 7: Differences in mastery and performance academic goals for students in terms of approach and avoidance

Goals	Dimension	n	Mean	t	Df	Sign. (2-tailed)
Mastery Goals	Mastery Approach	1036	11.77	28.268	1035	.000
	Mastery Avoidance	1036	8.94			
Performance Goals	Performance Approach	1036	11.65	14.812	1035	.000
	Performance Avoidance	1036	10.15			

Table 7 shows that the mean score for students' mastery approach goals was 11.77, significantly higher than mean score for mastery avoidance, which was 8.94, concerning mastery academic achievement goals. The t-test result ( $t = 28.268$ ,  $df=1035$ ,  $p < .001$ ) also indicates a highly significant difference between students' behaviors towards mastery approach goals and mastery avoidance goals. To be more explicit, students believe that have statistically significant higher orientation towards mastery approach goals than towards mastery avoidance goals, concerning mastery academic achievement goals.

Table 7 further shows that the mean value for students' performance approach goals was 11.65, significantly higher than the mean score for the performance avoidance goals, which was 10.15, concerning performance academic achievement goals. The t-test result ( $t = 14.812$ ,  $df = 1035$ ,  $p < .001$ ) also indicates very significant difference between students' behaviors towards higher adoption of performance approach goals than performance avoidance one. To be more explicit, students believe that have significantly higher orientation towards performance approach goals than towards performance avoidance, concerning performance academic achievement goals.

#### 4.5 Correlation between Students' Achievement Goals and their Academic Achievement



To examine the relationship between university students' academic achievement goals (AAGs) across four dimensions, as mentioned earlier in manuscript, and their achievement (ACH), Pearson Correlation was employed for data analysis, and results are shown in Table 8.

Table 8: Correlation between students' achievement and dimensions of their academic achievement goals (AAGs)

Achievement and AAGs / Correlation		ACH	MAP	PAP	MAV	PAV
Achievement (ACH)	Pearson Correlation	1	.046	.042	.034	.034
	Sig. (2-tailed)		.138	.177	.270	.271
Mastery Approach (MAP)	Pearson Correlation	.046	1	.538**	.163**	.240**
	Sig. (2-tailed)	.138		.000	.000	.000
Performance Approach (PAP)	Pearson Correlation	.042	.538**	1	.179**	.268**
	Sig. (2-tailed)	.177	.000		.000	.000
Mastery Avoidance (MAV)	Pearson Correlation	.034	.163**	.179**	1	.536**
	Sig. (2-tailed)	.270	.000	.000		.000
Performance Avoidance (PAV)	Pearson Correlation	.034	.240**	.268**	.536**	1
	Sig. (2-tailed)	.271	.000	.000	.000	

\*\* . Correlation is significant at the 0.01 level (2-tailed); n=1036.

Table 8 shows that the values of Pearson Correlation coefficient between students' achievement (ACH) and each dimension of academic achievement goals (AAGs) was found to be  $r = 0.046$ ,  $r = 0.042$ ,  $r = 0.034$ , and  $r = 0.034$  (namely, mastery approach, performance approach, mastery avoidance, performance avoidance respectively). Furthermore, table 8 shows that none of the associations between achievement and AAGs were statistically significant at the 0.01 level (2-tailed). However, there was a weak positive association observed between achievement and each dimension of AAGs. Table 8 also show that all correlations between mastery approach (MAP) and other dimensions of AAGs were statistically significant, indicating the moderate to strong positive correlations. Table 8 further shows that all correlations between performance approach (PAP) goals and other dimensions of AAGs were statistically significant, indicating moderate to strong positive correlations. It is also evident from the table 8 that the correlation between mastery avoidance (MAV) goals and performance avoidance (PAV) was statistically significant, indicating a strong positive correlation.

In summary, while there were insignificant correlations between students' achievement and their AAGs, significant correlations were observed among the different dimensions of AAGs. Specifically, mastery approach was strongly correlated with the other AAGs, and performance approach showed significant correlations with mastery avoidance and performance avoidance. Additionally, mastery avoidance was significantly correlated with performance avoidance.

#### 4.6 Regression Analysis: Students' Achievement Goals as Predictors of their Academic Achievement

To examine the degree to which four dimensions of students' achievement goals, as mentioned in earlier sections, are significant predictors of their academic achievement, regression analysis was employed. The results are reported in Tables 9, 10, and 11, starting from model summary in Table 9.

Table 9: Summary

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Standard error of Est.
1	.057 <sup>a</sup>	.003	-.001	2.68257

a. Predictors: (Constant), mastery approach, performance approach, mastery avoidance, performance avoidance.

b. Dependent Variable: Achievement.

The results of multiple correlation coefficient (R) of 0.057 suggests that four types of students' achievement goals collectively have a weak predictive power regarding their academic achievement. The R Square value of 0.003 indicates that these four independent variables explain only 0.30% of the variability in academic achievement. Table 10 report the the results of statistical significance.

Table 10: An ANOVA<sup>a</sup> (Statistical Significance)

Model		Sum of Squares	df	Mean Squares	F	Sign.
1	Regression	24.188	3	6.047	.840	.500 <sup>b</sup>
	Residual	7419.268	1031	7.196		
	Total	7443.456	1035			

a. Dependent Variable: Achievement.

b. Predictors: (Constant), mastery approach, performance approach, mastery avoidance, performance avoidance goals.

The F-ratio of 0.840 from the ANOVA table suggests that the combination of four types of achievement goals does not significantly predict academic achievement ( $F(4, 1031) = 0.840, p > .05$ ). This indicates that the regression model poorly fits the data. Table 11 report the results of the estimated model coefficient.

Table 11: Estimated coefficients

Model		Unstandardized Coeff.		Standardized Coeff.		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	2.573	.525		4.905	.000
	Mastery Approach	.035	.044	.030	.801	.424
	Performance Approach	.022	.042	.019	.516	.606
	Mastery Avoidance	.020	.037	.020	.542	.588
	Performance Avoidance	.010	.034	.011	.295	.768

a. Dependent Variable: Achievement

The estimated model coefficients provide insights into the relationship between the predictor variables and academic achievement. The equation to predict achievement from all four types of achievement goals is:

$$\text{Predicted Achievement} = 2.573 + (0.035 \times \text{mastery approach}) + (0.022 \times \text{performance approach}) + (0.020 \times \text{mastery avoidance}) + (0.010 \times \text{performance avoidance})$$

The unstandardized coefficients reveal the change in the dependent variable (achievement) for a one-unit increase in each independent variable, with all other variables held constant. For instance, a one-unit increase in mastery approach goals is associated with a 0.035 unit increase in achievement. However, none of the independent variable coefficients are statistically significant ( $p > .05$ ), indicating that they do not significantly contribute to predicting academic achievement.

In conclusion, the regression analysis indicates that four types of academic goals collectively do not significantly predict students' academic achievement. These variables did not add statistically significant predictive value ( $p > .05$ ) to the model.

#### 4.7 Discussion

The findings of this research contribute to the existing body of literature on achievement goals by providing insights into multidimensional pursuits of these goals among university students in Pakistan. Consistent with previous research, the study confirms the prevalence of mastery approach goals among universities students in Pakistan, highlighting their emphasis on competence development and deep understanding of academic material. This aligns with studies by Elliot and Church (1997) and by Elliot (2005), which have also emphasized positive connections between students' adoption of mastery goals and intrinsic motivation, ultimately leading to better academic outcomes. However, the relatively modest adoption of performance avoidance goals suggests a noteworthy concern among students regarding failure avoidance, which may impact their academic engagement and achievement negatively, as discussed by Elliot and McGregor (2001).

Furthermore, the identification of significant gender differences in the adoption of mastery approach achievement goals mirrors findings from previous research (Elliot, 2005; Wolters, 2004), emphasizing the need to consider sociocultural factors in understanding students' goal orientations. This finding underscores the importance of addressing gender disparities in educational settings to ensure equitable opportunities for all students. While the absence of significant gender differences in other dimensions of academic achievement goals may diverge from

some earlier studies, such as those by Elliot and Harackiewicz (1996), it suggests the complexity of gender dynamics in academic goal pursuit and warrants further investigation.

The study's exploration of differences between approach and avoidance tendencies in relation to mastery and performance goals adds nuance to our understanding of students' goal pursuit strategies, echoing the framework proposed by Elliot (2005). This framework suggests that individuals may exhibit various tendencies within the domains of mastery and performance goals, influencing their academic behaviors and outcomes. The observed stronger inclination towards performance avoidance goals compared to mastery avoidance goals underscores the significance of addressing fear of failure and promoting adaptive learning behaviors among students, as discussed by Pintrich (2000) and Ratsameemonthon (2015).

Despite the lack of significant relationships between students' academic achievement goals (AAGs) and their achievement in this study, the very significant correlations among different dimensions of AAGs provide valuable insights into the interplay between various goal orientations. These findings align with earlier research by Elliot and Harackiewicz (1996), emphasizing the complexity of relationship between goal orientations and academic outcomes. While the regression analysis indicates that AAGs collectively do not significantly predict students' academic achievement, it highlights the need for further exploration of other factors that may influence academic performance, such as self-efficacy, study habits, and contextual factors. Overall, this study underscores the importance of considering the multidimensional nature of academic achievement goals and their implications for student success in educational settings.

## 5. Conclusions

Aligned with objectives and hypotheses, the following five conclusions were drawn from this research:

- First, this study concluded that university students highly agreed that they mostly adopt mastery approach achievement goals. Furthermore, adoption of mastery approach was found to be the most of the four types of academic achievement goals, followed by good adoption of performance approach, and modest adoption of the performance avoidance. The adoption of mastery avoidance was found to be the least of the four dimensions of achievement goals, and participants disagreed upon this, although of very low level.
- Second, significant gender differences were found in adoption of the mastery approach, with female students reporting significantly higher scores compared to male students. However, no significant gender differences were observed in the performance approach goals, mastery avoidance, and performance avoidance.
- Third, the analysis revealed an insignificant difference between students' tendencies towards mastery and performance approach goals. However, significant difference was observed between students' tendencies towards mastery and performance avoidance, with students showing a stronger inclination towards performance avoidance compared to mastery avoidance.
- Fourth, analysis revealed that university students have statistically significant higher orientation towards mastery approach than towards the mastery avoidance, concerning mastery academic achievement. Analysis also revealed that students have statistically significant higher orientation towards performance approach than towards performance avoidance, concerning performance.
- Fifth, while there were no significant correlations between students' achievement and their AAGs, significant correlations were observed among the different dimensions of AAGs. Specifically, mastery approach was strongly correlated with the other AAGs, and performance approach showed significant correlations with mastery avoidance and performance avoidance. Additionally, mastery avoidance was significantly correlated with performance avoidance.
- Finally, the regression analysis indicated that all four dimensions of achievement goals collectively do not significantly predict students' achievement. These variables did not add statistically significant predictive value ( $p > .05$ ) to the model.

### 5.1 Recommendations

Drawing insights from research on examining the nature of academic achievement goals among university students in Pakistan, the following recommendations emerge to support students in pursuing their goals and consequently enhancing their learning outcomes:

First, it is recommended to promote mastery approach goals among university students. Given the prevalence of

mastery approach goals among university students, educational institutions should actively promote a culture that emphasizes the value of learning and competence for the sake of understanding and skill development. Encouraging students to set goals centered on the competence development and deep understanding of academic material can enhance their intrinsic motivation and engagement with learning. Second, it is recommended to work on and address the gender disparities among students. The significant gender differences observed in the adoption of mastery approach goals highlight the need for targeted interventions to address disparities in goal orientation. Educational initiatives should aim to create an inclusive learning environment that empowers all students, regardless of gender, to pursue their academic goals with confidence and enthusiasm.

Third, it is suggested to mitigate performance avoidance tendencies among university students. The stronger inclination towards performance avoidance compared to mastery avoidance goals indicates a need to address fear of failure and promote adaptive learning behaviors. Educational interventions should focus on cultivating a growth mindset among students, motivating them to view challenges as opportunities for learning and personal development rather than as threats to their abilities. Fourth, it is a key to develop balance performance goals for students. While performance approach goals can serve as motivators for academic achievement, efforts should be made to ensure that university students do not prioritize superficial performance indicators over deep understanding of concepts. Emphasizing the importance of intrinsic motivation and long-term skill development can help students strike a balance between performance goals and mastery goals.

Fifth, it is recommended to enhance goal orientation awareness among students. Educational institutions should provide students with opportunities for self-reflection and goal-setting exercises to increase their awareness of their academic achievement goals. Furthermore, it is important to help students in identifying their strengths and areas for improvement and growth. Likewise, educators must support students in developing clear and achievable goals that align with their values and aspirations. Finally, it is further recommended that universities integrate goal orientation in academic support programs. Academic support programs should incorporate strategies to address students' goal orientation tendencies and provide tailored support based on individual needs. By offering targeted interventions, such as goal-setting workshops and personalized mentoring, educational institutions can help students overcome obstacles and achieve their academic goals more effectively. By implementing these recommendations, educational stakeholders can create a supportive and empowering environment that fosters students' academic achievement and well-being in Pakistan.

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