

Direct and Indirect Effects of Academic Stress, Coping Strategies, Academic Self-Motivation, on Adaptation among University Students

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Abstract

The objective of the research is to develop a structural model that illustrates the direct and indirect causal effects between academic stress, academic coping strategies, academic motivation, and academic adaptation among university students. Additionally, the study aims to identify gender differences in the four research variables. The study was conducted on a sample of 191 students, consisting of 100 males and 91 females, selected from the College of Education at King Khalid University. The participants had an average age of 19.82 years with a standard deviation of 1.013.

Four scales were administered to the participants:

The Academic Stress Scale, Academic Coping Strategies Scale, Academic Motivation Scale, and Academic Adaptation Scale. The research findings indicated that the empirical data supported the validity of the proposed structural model, which represents the direct and indirect relationships and effects between academic stress, coping strategies, academic motivation, and academic adaptation. The results also revealed that students were more likely to use problem-focused coping strategies, while females were more likely to use emotion-focused coping strategies. Furthermore, male students showed higher levels of academic self-motivation and academic adaptation compared to female students.

Keywords: *Academic stress, Academic strategies of coping, academic self-motivation, Academic Adaptation.*

Introduction

University students face numerous challenges in their pursuit of academic achievement. The pursuit of academic success is responsible for students' engagement in various events that extend beyond academic aspects alone and encompass personal relationships, social life, and experiences that students perceive as stressful. Thus, academic stress among university students is considered an inevitable aspect (Donatelle, 2004, p. 46).

Students, particularly those striving for academic success and their future academic prospects, are exposed to pressures. They also face challenges at social, emotional, physical, and familial levels that may potentially impact their learning ability and academic performance (Greubel & Kecklund, 2011; Jeronimus et al., 2014).

Academic stress is considered one of the primary sources of psychological pressure among students. It encompasses difficulties in dealing with peers and teachers, academic

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challenges, lack of concentration, inability to complete homework assignments, and exam failures (Shakeer, 2002).

According to Aladdin (2005), academic stress refers to a series of external events faced by university students as a result of their interaction with the university environment and the requirements of the surrounding environment. These events impose a need for students to quickly adapt in order to avoid negative psychological and social effects and to achieve compatibility with university life. Aladdin (2005) defines academic stress as the pressures arising from curriculum demands, examinations, punishments, academic rules, academic activities, homework, and parental expectations, as well as academic failure. Academic stress encompasses three main components: academic frustration, resulting from students' failure to understand the required academic goals; academic anxiety, arising from fear of not achieving academic goals; and academic conflict, resulting from the high demands, tasks, and limited time available, making it impossible to accomplish them (Wilks, 2008).

Sources of academic stress in university vary, ranging from tangible factors such as exam preparation and attending lectures to intangible ones like the fear associated with studying unfamiliar subjects. However, these pressures do not directly determine students' academic performance; rather, they interact with their perception to produce reactions that significantly in The main sources of academic stress among university students have been identified through survey studies. These include competition among students, the difficulty of academic curricula, limited time for task completion, inflexibility of curricula, lack of sleep and its perception of self-efficacy, and separation from family and friends (Polychronopoulou & Divaris, 2009). The key sources of stress for university students can be summarized as follows:

- Academic workload: Excessive academic workload is often associated with difficulty, anxiety, pressure, resource depletion, and a desire to give up.
- Technostress: Information and communication technology (ICT) is largely responsible for increasing individuals' stress levels, known as technostress (Ayyagari et al., 2011).
- Financial pressures: This involves individuals feeling negative emotions due to their inability to meet financial requirements, cope with life necessities, and possess sufficient financial resources to achieve their goals (Davidson et al., 2011).
- Pressures related to the academic environment: The academic environment is considered a source of academic stress for students who face a new environment (Hussain et al., 2008).
- Racial-cultural pressures: The composition of society, its environmental, social, and cultural conditions, impose pressures on students (Oluwafemi & Agbolade, 2017).

The pressures students face have an impact on their academic performance and adaptation. Students can perceive stressful events as either challenges or threats. When students view learning as a challenge, pressure can enhance their sense of competence and increase their learning abilities. However, perceiving learning as a threat can lead to feelings of hopelessness and loss, resulting in decreased academic achievement and adaptation (Dusselier et al., 2005).

Currently, university students face more complex problems compared to the past decade. These include increased academic demands, changes in family relationships, social life, and exposure to new ideas and temptations from others. Some students exhibit different strategies to adapt to their new environment when entering university. While some sources of stress are necessary for personal growth, the level of pressure can overwhelm students and negatively impact their ability to cope with these pressures (Kumaraswamy, 2013).

Academic pressures can lead to various physical and psychological symptoms. They are associated with conditions such as headaches and negative effects on students' mental health, including depression and anxiety (Conner et al., 2012). Academic pressures have a negative impact on the overall health of university students and may contribute to the development of various illnesses, including high blood pressure. They also negatively affect academic achievement, self-confidence, and negative self-concept (Michie et al., 2001; Zajacova et al., 2005).

Students perceive university life as filled with pressures and urgent demands, resulting in emotional and cognitive responses to these pressures, especially those stemming from external pressures and self-imposed expectations (Misra & McKean, 2000).

Academic pressures are a personal experience and a state of stress that arises from the burdens and tasks associated with studying, which exceed a student's capabilities and adaptive capacities. These pressures include heavy workloads, assignments, exams, inadequate learning environments, peer and faculty interactions, as well as the fear of academic failure. They can disrupt a student's psychological and physiological functioning (Misra & McKean, 2000).

In a study conducted by Fram and Bonvillian (2001) to examine students' perception of pressures and their relationship with academic burden, it was found that 55% of students reported that they ignored one subject to focus on understanding another, as they found it challenging to integrate both subjects in their perception. Furthermore, 45% of students attempted to adjust the level of pressures they experienced, while 27% of them felt that the level of pressures was beyond their control. The academic pressures faced by students, such as academic requirements (competition for grades, limited time for coursework, time management challenges, increased complexity of courses, and increased time and effort required), require adaptation to the new learning environment and a constant need for self-regulation and the development of improved thinking skills, including learning to use new learning techniques (Misra & McKean, 2000).

A study by Mahassenh et al. (2021) found no statistically significant differences in the level of academic pressures attributed to gender, while there was a statistically significant negative correlation between academic pressures and academic resilience among university students.

The findings of Al-Jamili's study (2022) revealed the presence of academic pressures among university students, with statistically significant differences in academic pressures based on gender (males vs. females), favoring females. There was also a significant negative inverse relationship between academic pressures and self-efficacy among university students.

A study conducted by Ibrahim (2021) on a sample of 528 university students found that academic well-being can be predicted by academic pressures among university students.

Psychological pressures experienced by students vary depending on the events and circumstances they encounter, and the responses and reactions required by those events may leave students feeling overwhelmed due to a lack of skills, mechanisms, and appropriate methods to cope with these pressures in a healthy manner that promotes their psychological well-being (Al-Yousef, 2014, p. 9).

Coping style plays an important role in determining how students manage academic events that exert pressure on them and also determines their level of academic performance in university. University students face numerous challenges as they strive to achieve their academic goals. When they perceive their experiences in a negative manner, it negatively impacts their performance and academic motivation. If these experiences persist and are perceived as uncontrollable, they can generate feelings of helplessness among students (Carver & Scheier, 1994).

Coping strategies refer to the means or methods individuals use to deal with stressors. Coping with pressures involves flexible organization of available resources to address environmental challenges. It involves self-directed strategies and environmental strategies to address the source of threat in the environment or to change oneself to confront the environment (Selye, 1983). Some view coping as a dynamic process that changes across stages of coping, while others consider it relatively stable, depending on individual characteristics (Kausar, 2010).

Coping strategies in academic stress refer to the methods or techniques used by students to deal with the pressures and difficulties they encounter in their academic lives. These pressures and difficulties are perceived as threats and challenges, and the aim of coping strategies is to reduce the level of perceived pressures, resolve the stressful situation, or alleviate the resulting tension and emotional reactions.

Coping strategies have been found to be significantly associated with learning variables. A study by Bandari et al. (2018) found that academic coping strategies significantly predict academic achievement. Abu Qurah et al. (2019) demonstrated a relationship between psychological resilience and coping strategies among university students, indicating a significant correlation between psychological resilience and coping strategies. The findings of Al-Freih's study (2020) conducted on a sample of 162 gifted students showed that the most common coping strategies among gifted students were positive re-evaluation of stressors and self-efficacy development. It also revealed a positive correlation between all dimensions of coping strategies and locus of control. In Ismail's study (2022), the possibility of predicting adaptation to university life through coping strategies among university students was identified, and there were no significant differences in coping strategies attributed to gender.

Coping strategies aim to reduce levels of stress, although some strategies may be maladaptive and contribute to maladjustment by increasing the perception of stress. Therefore, they are ineffective and non-adaptive. Additionally, the term coping generally refers to reactive coping, which refers to the coping response that follows stressors, contrasting with proactive coping strategies that aim to prevent stressors in the future (Carver & Connor-Smith, 2010).

Weiten and Lloyd (2008) distinguished three patterns of coping responses:

A. Appraisal-focused coping: This type of coping is focused on challenging an individual's own assumptions (cognitive adaptation). It occurs when a person changes the way they think about a situation. Examples include denial or avoidance of the problem or changing their perspective on a specific problem by altering their goals and values, such as seeing the positive aspects of a situation rather than the negative (Worell, 2001).

B. Problem-focused coping: This refers to attempts by an individual to acquire additional information to solve the problem, make cognitive decisions, or change the event leading to stress. This strategy aims to reduce or eliminate stress factors through behavioral adaptation. Individuals use this strategy to deal with the root cause of their problem by gathering information about the problem and learning new skills to manage it. The goal is to reduce or change the sources of stress (Folkman & Lazarus, 1980). Lazarus and Folkman (1984) identified three problem-focused coping strategies: control, seeking information, and evaluating positives and negatives.

C. Emotion-focused coping: This strategy aims to change emotional reactions and responses. It serves as a mechanism to alleviate stress by reducing or managing emotional components of stressors. This mechanism can be applied through various methods such as seeking social support, reframing stressors in a positive light, accepting responsibility, using avoidance, emotional venting, practicing self-control, and distancing (Zarei et al., 2016). This coping strategy focuses on changing the meaning or shifting attention away

from stressors. It relies on managing emotions associated with stress perception Contrada and Baum (2011).

classified coping strategies into five types: denial, escape/avoidance, taking responsibility or blame, self-control, and positive reappraisal. Coping strategies serve two main functions: managing the problem causing stress and controlling the emotions associated with that stress. The perceived level of stress increases when an individual's ability to adapt and cope with the situation decreases. Stressors perceived as controllable require proactive coping mechanisms, while stressors perceived as uncontrollable require avoidance strategies.

Research conducted on university students has shown that coping strategies vary among students and reflect the influence of personality on coping styles. Students who report using proactive behavioral strategies such as time management, specific problem-solving, and information seeking (Misra & McKean, 2000). It has also been found that students who use cognitive-behavioral strategies, such as positive conceptualization of stressors, in addition to other factors such as different personality patterns, contribute significantly to students' perception of anxiety about studying and academic performance (Kausar & Munir, 2004).

To explain the variation in students' reactions to dealing with negative situations, Lazarus and Folkman (1984) proposed a process in which their perceived coping capacity plays a crucial role in facing such events. Students face these negative events through three steps: initial appraisal of the situation and assessing the threat, secondary appraisal and preparing implementable responses, and finally, coping or executing coping responses. Two methods of coping are involved in this process: problem-focused coping and emotion-focused coping.

The results of a study by Ward et al. (2000) revealed that the relationship between academic stress among university students and their grades in academic courses was influenced by problem-focused coping style and motivation but not by emotion-focused coping style. High academic stress was associated with low grades. However, students who engaged in problem-focused coping strategies were more motivated and performed better compared to those who engaged in emotion-f As shown by the results of Kausar's study (2010), there is a positive correlation between academic workload and perceived stress. Additionally, a positive correlation was found between academic workload and proactive/executive coping strategies, and a negative correlation with avoidance coping and active distractions. Furthermore, the study by Struters et al. (2000) found that students who focus on problem-solving strategies exhibit higher motivation and better performance compared to those who rely on emotional coping.

On the other hand, motivation is considered one of the most influential variables in educational outcomes. Motivation is a fundamental condition for achieving learning goals. Without it, students exert little effort in learning.

Academic self-motivation plays a vital role in stimulating learners' interest in academic subjects, directing and enhancing their educational behavior, promoting their participation and interaction in classroom situations (Abu Ghazal, 2015). It is one of the most important pre-requisites for learning.

Academic motivation refers to the internal state of learners that drives their attention to educational situations, enjoyment of the learning process, and orientation towards achieving learning, competence, self-reliance, perseverance, effort, and tackling challenging tasks (Saeed, 2015).

Academic self-motivation refers to the learner's performance of educational tasks for their own sake, without relying on external rewards, driven by a sense of self-efficacy, enjoyment of learning, self-confidence, and perseverance (Nabhawi, 2013).

Academic self-motivation is defined as the desire to engage and enjoy academically stimulating activities, curiosity, exploration, determination, and facing challenges (Al-Samadi et al., 2012).

Academic self-motivation is an internal process with complex characteristics that reflect individuals' effort and engagement in learning situations and academic achievement. It consists of two underlying factors: intrinsic motivation, which includes the need for achievement and goal mastery, and extrinsic motivation, which includes fear of failure, acceptance by peers, others' expectations, and the strength of motivation (El-Feki, 2008).

Academic self-motivation manifests through various indicators, such as the student's response to instructions, commitment to assignments without reminders, adherence to academic tasks, completion and participation in multiple activities, integration in classroom work, and persistence until the end without procrastination or aversion (Abdel-Aal & Abdo, 2021).ocused coping strategies.

Regarding the relationship between psychological stress and motivation, Hanson (1986) indicated that high psychological stress leads to low levels of competence and a sense of futility and worthlessness. On the other hand, individuals achieve a high level of competence when faced with moderate psychological stress, while achievement decreases with low psychological stress, which may result in apathy, neglect, and reduced arousal. Additionally, Jeed (2010) suggests that an increase in individual motivation does not necessarily lead to increased success. Excessive motivation can push individuals to respond to additional pressures that hinder achievement.

Baddawi's study (2002) revealed a negative impact of academic self-motivation on overall stress levels. High academic self-motivation among university students leads to reduced stress. Aliwi's study (2013) also indicated a statistically significant negative correlation between stress and achievement motivation among university students.

Furthermore, a study by Ward et al. (2000) examined the mediating role of academic coping strategies and motivation in the relationship between academic stress and performance among university students, using structural modeling. The study found that the relationship between academic stress and students' academic performance was influenced by problem-focused coping strategies and motivation but was not affected by emotion-focused coping strategies. Students who engaged in problem-focused coping strategies showed higher motivation and performed better than those who engaged in emotion-focused coping strategies.

On another note, academic adaptation is a fundamental concept in psychology that focuses on an individual's ability to adapt to their environment, perceive new situations, and respond to them. Academic adaptation refers to the ongoing dynamic process that students engage in to achieve alignment between themselves and the educational environment. It involves adapting to the learning routine, interacting with peers, adapting to physical conditions, and should not be limited to the student's compliance with specific study obligations but rather encompasses the student's alignment with the learning environment (Mubarak, 2015).

Academic adaptation encompasses various cognitive, social, and emotional requirements. The student's attitudes towards learning, relationships with peers and teachers, and their ability to regulate emotions significantly contribute to their academic alignment. When university students face difficulties in learning in specific academic domains, it negatively affects their personal well-being and may lead to psychological disturbances and imbalances (Abdulwahid, 2014).

The study conducted by Al-Abdulqader and Al-Shanawi (1997) indicated a negative correlation between the intensity of academic stress and the level of adaptation among university students. One of the influencing factors on academic adaptation is the coping strategies that students employ when faced with stress. To mitigate the impact of stress,

students adopt specific coping strategies before assessing the situation, and different coping methods lead to different outcomes. It has been found that the use of positive coping strategies supports academic adaptation among university students and reduces the occurrence of maladaptive behaviors. Therefore, different coping strategies have varying effects on academic adaptation, and previous coping strategies play a mediating role in the relationship between isolation and academic adaptation among university students (Lijuan et al., 2014).

From the above, it is evident that there are complex and intertwined relationships and effects between academic stress and factors such as coping strategies, academic self-motivation, which intricately influence the academic adaptation of university students. This necessitates the need for a structural causal model to explain the interrelationships and causal directions among these variables. Such a model can be relied upon to create suitable educational environments that foster a high level of adaptation among university students, leading to improved academic outcomes and achievements.

The current study aims to construct a structural model that explores the reciprocal relationships between perceived academic stress, coping strategies for academic stress, academic self-motivation, and academic adaptation among university students and empirically test it.

Research Questions:

1. Are there differences between male and female university students in perceived academic stress?
2. Are there differences between male and female university students in perceived coping strategies for academic stress?
3. Can a causal model be established to illustrate the paths of reciprocal relationships between perceived academic stress, coping strategies for academic stress, academic self-motivation, and academic adaptation?

Research Hypotheses:

1. There are statistically significant differences between male and female students in the means of perceived academic stress grades.
2. There are statistically significant differences between male and female students in the means of coping strategies for academic stress grades.
3. The empirical data support the validity of the proposed structural model for the reciprocal relationships among perceived academic stress, coping strategies, academic self-motivation, and academic adaptation.

Methods:

Participants:

The research sample included a psychometric proficiency sample to verify the psychometric properties of the instruments, as well as a primary sample. The psychometric proficiency sample consisted of 45 students (23 males, 22 females) randomly selected from the students of the College of Education at King Khalid University. The average age of the sample was 19.35 years with a standard deviation of 0.97. The primary study sample consisted of 191 students (100 males, 91 females) selected from students of the Elementary Education Department at the College of Education for Boys and the Psychology Department at the College of Education for Girls at King Khalid University in Abha. The average age of the sample was 19.82 years with a standard deviation of 1.013

Measures:

1. Academic Stress Scale:

Developed by Oluwafemi and Agbolade (2017) (translated by the researchers)

The purpose of this scale is to assess the academic stress experienced by university students. The scale consists of 40 items distributed across five subscales that represent five types of stressors (financial burdens/stress, academic course burdens, environmental factors/academic environment, cultural climate, technological pressure). The items are scored on a five-point Likert scale. The scale items were translated and linguistically reviewed to ensure semantic equivalence in both Arabic and English languages.

- Internal consistency: Pearson correlation coefficients were calculated for each item score and the total score of the corresponding subscale. The correlation coefficients ranged from 0.39 to 0.68, all of which were statistically significant. Additionally, correlation coefficients were calculated between the item scores, the total score of each subscale, and the total score of the entire scale. The coefficients for the subscales were 0.76, 0.58, 0.71, 0.75, and 0.78, respectively, all of which were statistically significant at a p-value of 0.01.

- Scale reliability: The scale's reliability was assessed using Cronbach's alpha coefficient, and the overall coefficient was found to be 0.87.

2. Coping Strategies for Academic Stress Scale:

Developed by Struthers, Perry, and Menec (2000) (translated by the researchers).

This scale was based on Carver et al.'s (1989) Coping Scale, and Struthers et al. (2000) developed a modified and abbreviated version consisting of 30 items. In its original form,

The scale consists of eight subscales that measure two main coping strategies:

First main strategy: problem-focused coping and emotion-focused coping. The scale assesses strategies such as academic planning, general adaptation activity, competence/efficacy, academic engagement

Second main strategy: Emotion-focused coping, which includes general emotional support, denial, emotional ventilation, and academic isolation. The scale items were translated and linguistically reviewed to ensure semantic equivalence in both Arabic and English languages.

- Internal consistency: Pearson correlation coefficients were calculated for each item score and the total score of the corresponding dimension. The correlation coefficients ranged from 0.47 to 0.73, all of which were statistically significant. Additionally, correlation coefficients were calculated between the scores on the two main strategies (problem-focused coping, emotion-focused coping) and the total score on the scale, which were 0.68 and 0.61, respectively.

- Construct validity of the scale: The results of the factor analysis revealed two main factors that the questionnaire items loaded on as follows: The first factor had an eigenvalue of 4.6, and the factor accounted for 15.33% of the total variance. This factor can be labeled as "problem-focused coping." The second factor had an eigenvalue of 3.92, and the factor accounted for 13.06% of the total variance. This factor can be labeled as "emotion-focused coping."

- Scale reliability: The reliability of the scale was confirmed using Cronbach's alpha coefficient. The overall Cronbach's alpha coefficient was 0.82, and the coefficients for the sub-dimensions were 0.79 and 0.73, respectively. These results indicate that the scale is valid and reliable in its final form.

3. Academic Self-Motivation Scale for University Students (developed by the researchers):

The scale consists of 30 items distributed across three dimensions: intrinsic motivation, extrinsic motivation, and amotivation. Responses are provided on a five-point Likert scale (strongly applies, applies significantly, applies moderately, applies slightly, does not apply at all).

Psychometric properties of the scale in the current study:

1. Internal consistency: The internal consistency reliability of the scale was assessed by calculating the correlation coefficients between the score of each item and the total score of the corresponding dimension to which the item belongs, as well as the total score of the entire scale. The correlation coefficients ranged from 0.45 to 0.69, all of which were statistically significant. These results indicate that all items within each dimension have a satisfactory level of internal consistency.

2. Correlation coefficients were calculated between the total score of each dimension and the total score of the scale. The correlation coefficients for the five dimensions were as follows: 0.87, 0.92, 0.88, 0.71, and 0.78, all of which were statistically significant at the 0.01 level. These results indicate a strong positive correlation between the dimensions and the overall scale.

3. Construct validity: Exploratory factor analysis was conducted to assess the construct validity of the scale. The results of the factor analysis revealed the extraction of three factors with eigenvalues greater than one, explaining a total of 61.49% of the total variance.

4. Scale reliability: The reliability of the scale was assessed using Cronbach's alpha coefficient. The overall Cronbach's alpha coefficient was 0.87, indicating a high level of internal consistency. The coefficients for the sub-dimensions were 0.78, 0.75, and 0.72, respectively, indicating satisfactory levels of internal consistency for each sub-dimension.

4. Academic Adaptation Scale for University Students (developed by Adili, 2016):

The scale consists of 30 items distributed across three domains: social adaptation, academic adaptation, and emotional adaptation (appendix-5). Responses are provided on a five-point Likert scale (strongly agree, agree, neutral, disagree, strongly disagree).

Psychometric properties of the scale in the current study:

1. Internal consistency: The correlation coefficients between the score of each item and the total score of the domain to which the item belongs (after excluding the item's score) and the total score of the questionnaire as a whole were calculated to assess internal consistency reliability. The correlation coefficients ranged from 0.41 to 0.72, indicating satisfactory levels of internal consistency for all items within each domain.

2. Correlation coefficients were calculated between the total score of each domain and the total score of the scale. The correlation coefficients for the three domains were as follows: 0.76, 0.8, and 0.88, all of which were statistically significant at the 0.01 level. These results indicate a strong positive correlation between the domains and the overall scale.

3. Scale reliability: The reliability of the scale was assessed using Cronbach's alpha coefficient. The overall Cronbach's alpha coefficient was 0.82, indicating a high level of internal consistency. The coefficients for each domain were 0.73, 0.79, and 0.76, respectively, indicating satisfactory levels of internal consistency for each domain.

Research Results:

Results of Hypothesis 1:

Hypothesis 1 states that there are statistically significant differences between male and female students in the mean scores of perceived academic stress. To test the validity of

this hypothesis, an independent samples t-test was employed, and the results are presented in Table 1.

Table 1 t-test for Significance of Differences between Mean Scores of Male and Female Students in Academic Stress

The dimension	The groups	number	Average	standard deviation	c	Degree of freedom	indication
Financial pressures	Male students	100	13.48	3.3	1.73	189	Non-functional
	Female students	91	14.75	4.01			
Course pressures	Male students	100	21.37	3.58	5.32	189	0.01
	Female students	91	24.46	4.43			
Cultural pressures	Male students	100	8.59	2.07	2.54	189	0.05
	Female students	91	9.45	2.58			
Pressures of the academic environment	Male students	100	19.35	6.78	5.39	189	0.01
	Female students	91	26.46	10.03			
Technological pressures	Male students	100	21.13	3.21	5.08	189	0.01
	Female students	91	23.79	4.01			
Total degree of stress	Male students	100	84.28	12.51	6.74	189	0.01
	Female students	91	99.21	17.83			

It is clear from Table (1) that:

-There are statistically significant differences at the level of (0.01) between male and female students in the average scores of total stress in favor of the group of female students.

-There are statistically significant differences between male and female students in the average scores of the sub-dimensions of the stress scale (course pressures, cultural pressures, academic environment pressures, technological pressures) in favor of the group of female students.

-There are no statistically significant differences between male and female students in the average scores of financial stress.

Results of the second hypothesis: The second hypothesis states: There are statistically significant differences between male and female students in the average scores of strategies for coping with academic pressures.

To verify the validity of this hypothesis, a t-test was used for independent samples, and Table (2) shows the results.

Table (2) T-test for the significance of the differences between the average grades of male and female students in strategies for coping with academic pressures.

The strategy	Degree of freedom	c	standard deviation	Average	the number	the group	indication
Problem-based coping	Male students	100	50.08	10.85	5.93	189	0.01
	Female students	91	40.17	12.21			
Emotion-based coping	Male students	100	34.29	8.48	8.77	189	0.01
	Female students	91	47.57	12.24			

The following can be inferred from Table (2):

- There are statistically significant differences at a significance level of (0.01) between male and female students in the mean scores of problem-focused coping strategies, favoring the male group.
- There are statistically significant differences at a significance level of (0.01) between male and female students in the mean scores of emotion-focused coping strategies, favoring the female group.

Results of Hypothesis Three:

Hypothesis Three states that the empirical data support the validity of the proposed structural model for the direct and indirect relationships and effects between perceived academic pressures, coping strategies, academic self-motivation, and academic adaptation.

To verify the assumed validity of the proposed structural model, which includes the four variables (perceived academic pressures, coping strategies, academic self-motivation, and academic adaptation), the correlation matrix of these variables was calculated. This matrix was then used in testing the proposed model using the statistical analysis software AMOS, version number (24).

Figure (1) illustrates the results of testing the proposed model and the path coefficients

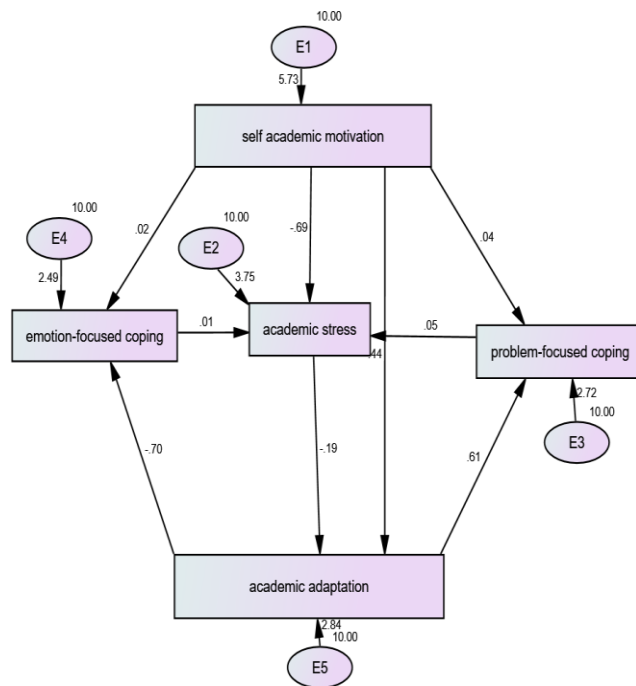


Figure (1) Model test results and path coefficients

Table (3) also shows the indicators of goodness of fit between the data of the current study and the hypothesized final model.

Table (3) Indicators of good fit between the data of the current study and the proposed final model

Indicator	N	Chi2	Df	P	GFI	AGFI	CFI	RMSEA
Value	191	0.33	1	0.56	0.999	0.99	1.00	0.001

It is clear from the indicators presented in Table (3) that: The value of Ka2 relative to the degree of freedom is (0.33), which is less than the value (2), which indicates that the proposed model is identical to the empirical data for the sample. Also, the value of the RMSEA indicator is less than (0.09), and the rest of the indicators in Table (9) also have a value of more than (0.9), which confirms the conformity of the proposed model to the sample data.

The following is evident from the values of the path coefficients calculated through this hypothesized model:

First: Paths (direct effects):

- The path from perceived academic pressure to academic adjustment = (-0.19), which is significant.

Statistically at the level of (0.05), which means that perceived academic pressures have a direct and inverse effect on academic adjustment.

- The path from intrinsic academic motivation to perceived academic pressure is (-0.69), which is statistically significant at a level of (0.01). This means that intrinsic academic motivation has a direct inverse effect on perceived academic pressure.

- The direct path from intrinsic academic motivation to academic adaptation is (0.44), which is statistically significant at a level of (0.01). This means that intrinsic academic motivation has a direct positive effect on academic adaptation
- The direct path from academic adaptation to problem-focused coping strategy is (0.614), which is statistically significant at a level of (0.01). This indicates the presence of a direct positive effect of academic compatibility on the use of problem-focused coping strategy.
- The direct path from academic adaptation to emotion-focused coping strategy is (-0.72), which is statistically significant at a level of (0.01). This indicates the presence of a direct negative effect of academic compatibility on the use of emotion-focused coping strategy.
- The direct path from problem-focused coping strategy to perceived academic pressure is (0.053), which is not statistically significant.
- The direct path from emotion-focused coping strategy to perceived academic pressure is (0.014), which is not statistically significant.

Secondly, the indirect effects:

- The path (intrinsic academic motivation - academic pressure - academic adaptation) consists of the product of the regression coefficients in these paths. Thus, the indirect effect of intrinsic academic motivation on academic adaptation, mediated by perceived academic pressure, is calculated as $(\beta = -0.69) \times (-0.19) = 0.13$. This means that there is a positive indirect effect of intrinsic academic motivation on academic adaptation through perceived academic pressure. This indicates that perceived academic pressure mediates the relationship between intrinsic academic motivation and academic adaptation.

From the above, it is evident that the significant paths (direct effects) of intrinsic academic motivation on academic adaptation are observed through both the direct and indirect effects via perceived academic pressure as a mediator.

Discussion of Results and Interpretation:

Referring to the results of the first hypothesis regarding the differences between male and female students in academic pressures, as indicated in Table 1, statistically significant differences at the 0.01 level are observed between male and female students in the mean scores of total academic pressures, favoring female students. Statistically significant differences are also found between male and female students in the mean scores of subcategories of academic pressures (curricular pressures, cultural pressures, environmental pressures, and technological pressures), favoring female students. However, no statistically significant differences are found between male and female students in the mean scores of financial pressures.

These results support the acceptance of the first hypothesis, which indicates the existence of overall differences in academic pressures between male and female students, with female students being more aware of these pressures compared to male students. The findings of the current study do not provide a conclusive resolution to the conflicting results in previous studies, as these results align with the findings of the study by Ashwini and Vijay (2014) but differ from the results of the study by Al-Rufai and Al-Hajaya (2008).

These current results can be interpreted in light of what Al-Zaidani (2011, p. 521) suggested, that the perception of psychological pressure begins with the interpretation of the stressful environmental event. Therefore, these interpretations vary widely among individuals, and thus individual differences in cognitive interpretations may be one of the reasons for the gender differences observed. This is supported by the affirmation of Blaug, Kenyon, and Lekhi (2007, p. 3) that the perception of pressure depends on the event perceived as a threat and on the available resources (psychological and social) to

cope with it. Thus, pressures can be viewed as personal experiences that arise and result from pressure or urgent needs on individuals, and their ability to adapt and perceive this ability varies between genders due to the cultural and social framework in the Saudi Arabian environment and the conservative social upbringing. This framework tends to reinforce the role of males, making them more independent and self-reliant, and capable of handling responsibilities, which increases their ability to tolerate pressures. On the other hand, females may be more negative and dependent, with less problem-solving ability compared to males, which makes them less capable of handling pressures, as they become easily stressed and lose control over their emotions.

The absence of differences between males and females in financial pressures can be attributed to the fact that this factor does not vary significantly within families in relation to gender, as financial support is provided to both male and female students by the university.

Regarding the results of the second hypothesis, which confirmed statistically significant differences at the 0.01 level between male and female students in the mean scores of problem-focused coping strategies, favoring male students, and statistically significant differences at the 0.01 level between male and female students in the mean scores of emotion-focused coping strategies, favoring female students. This means that male students are more likely to use problem-focused coping strategies, while female students are more likely to use emotion-focused coping strategies. These current results differ from the findings of Khalifa et al. (year) study, which showed no gender effect on coping strategies. This difference may be attributed to the age group of the samples used, as Khalifa et al. conducted their study on high school students, while the current study was conducted on university students.

These current results can be interpreted in light of what Al-Dubaai (2013) mentioned, that females tend to exaggerate their emotions and feelings when exposed to painful situations and experiences. This means that females rely more on the emotional aspect in dealing with these pressures, which is associated with the nature and composition of females. Additionally, these results can be explained by the nature of social upbringing in Saudi society, which makes males more capable of problem-solving and handling responsibilities compared to females, who rely more on negative emotional coping.

Finally, the results of the third hypothesis support the theoretical model proposed to explain the interrelationships between research variables and empirical data by achieving ideal values for the conformity indicators and providing an integrated and comprehensive explanatory model for the complex and reciprocal relationships between research variables. The results showed direct (significant and non-significant) and indirect paths between perceived academic pressures, academic self-motivation, and academic adaptation as follows:

- This model confirmed the indirect significant effect of academic self-motivation (through perceived academic pressures as a mediating variable) on academic adaptation, indicating the mediating role of perceived academic pressures in the relationship between academic self-motivation and academic adaptation. These results align with the findings of the study by Struthers et al. (2000), which demonstrated a strong correlation between academic pressures faced by students and the nature of the courses they study at university, and that these pressures negatively affect academic self-motivation and academic achievement in various academic courses.
- The current model did not show a mediating role for the coping strategies used, which contradicts the results of the study by Ward et al. (2000), which revealed the mediating role of academic coping strategies used by university students and their motivation in the relationship between academic pressures and performance in university

Here is the scientific translation of the provided text into English:

The interpretations of the results regarding the multiple paths (direct and indirect/function and non-function) and the differences in the influence coefficients can be explained in light of the following foundations and justifications:

1. The positive and negative correlational relationships between the research variables, as confirmed by the results of the fifth hypothesis.
2. The impact of variables on academic adaptation is mediated by cognitive and motivational variables. The influence of academic self-motivation on achievement is mediated by various complex, interrelated, and dynamic cognitive and motivational mechanisms.
3. The changing roles of variables in the occurrence of variance in academic adaptation can be understood through their relationship with the reciprocal causality between these variables. The success or failure of students in adaptation also affects their perception of pressures, motivation for achievement, and the type of coping strategy used. The reciprocal causality may involve a positive or negative feedback loop that occurs over time and may lead to changes in perceived pressures and the level of achievement motivation.
4. The level of perceived pressures represents a crossroad or intersection point between university-related factors (academic adaptation), student-related variables (such as motivation and coping strategies). The continuous influence between academic self-motivation, perceived pressures, and academic adaptation is reciprocal and complex. It can either spiral upward towards academic adaptation or descend towards maladaptation, frustration, fear, and expected failure.

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