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Research Article

Academic Hardiness, Learning Motivation, Student Learning Outcomes In Indonesia: The Mediation Effect

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Abstract.
The research objective was to determine and analyze the mediating effect of learning motivation on the effect of academic hardiness on student learning outcomes. This research is motivated by the existence of problems in student learning outcomes in Indonesia which are still low, this is indicated by the Grade Point Average. The method used is an explanatory survey with a questionnaire data collection technique. The population in this study were 625 students of the Faculty of Economics and Business Education, Indonesian Education University. The sample was obtained as many as 245 students with the Slovin formula using the random sampling technique. The data that has been collected is then analyzed by multiple regression analysis with the mediating variable. The results showed that learning motivation partially mediates academic hardiness on learning outcomes. The results of this study imply that to improve learning outcomes one must have good academic hardiness and learning motivation.

Keywords: Learning motivation; academic hardiness; mediation effect; improve learning

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1. Introduction

Learning outcomes are changes that occur in students, both concerning cognitive, affective, and psychomotor aspects [1]. Learning outcomes are the result of an interaction between learning and teaching actions [2]. ”Learning outcomes outline what a person should be able to do at the end of his / her studies” [3]. [4] explains that ”A learning outcome is defined as something that students can do now that they could not do before”. ”Learning outcome is an important indicator for educators in evaluating curriculum design” [5].

Bloom with revisions Anderson explained that learning outcomes can be known or can be measured through a benchmark or can be called an indicator of learning outcomes, namely the cognitive, affective and psychomotor domains [6]. Cognitive Domain, which deals with intellectual learning outcomes which consists of six aspects, namely

remembering, understanding, application, analysis, evaluation and creating, Affective Domain, which deals with attitudes consisting of five aspects, namely acceptance, answers or reactions, research, organization and internalization and the Psychomotor domain, which relates to the learning outcomes of skills and the ability to act. There are six aspects of the psychomotor domain, namely reflex movements, basic movement skills, perceptual abilities, harmony or accuracy, complex skill movements, and expressive and interpretive movements.

Based on the explanations of experts, it can be concluded that learning outcomes are a change in a person's behavior as a result of the learning process which includes 3 assessments, namely cognitive (knowledge), affective (attitude), and psychomotor (skills) assessments of students. In this study the learning outcomes studied were student learning outcomes seen from the cognitive realm (knowledge) of a person according toRepublic of Indonesia Government Regulation No. 19 of 2005 concerning national education standards regarding teachers and lecturers, Article 64 explains that the assessment of educators' learning outcomes is carried out continuously to monitor the process, progress and improvement of results in the form of daily tests, midterm tests, end-of-semester tests, and class promotion tests. Among the three domains, it is the cognitive domain that is most widely used by teachers and lecturers to determine whether or not learning objectives are achieved because it is related to students' ability to master the content of teaching materials [7]

Student learning outcomes in higher education are known as the GPA (Grade Point Average). One of the universities in Indonesia, namelyIndonesian education university. The University of Education of Indonesia is an Educational Personnel Education Institute that produces high quality and dedicated graduates. The Indonesian University of Education sets assessment standards for students as stated in the 2016-2020 Strategic Plan. One of the strategic plans is that 75% of the graduate students have a GPA above 3.30.

Based on pre-research data conducted by the author at one of the faculties at the Indonesian University of Education, namely the Faculty of Economics and Business Education. To see the quality of student learning, it can be seen from the learning outcomes obtained by students for several semesters, namely the Student Achievement Index for 4 semesters for each department. From the data obtained, there are only 2 study programs that reach the target of more than 75%, namely office management and management education. Furthermore, 5 other study programs are still below 75%. In this case, it means that the target of the 2016-2020 University of Indonesia Strategic Plan has not been achieved. This means that in this case there are problems with student

learning outcomes, if it is not followed up immediately, it is feared that there will be more student graduates with a GPA <3.30.

Improving the quality of education through learning outcomes is influenced by several factors both from within the individual called internal factors and from outside the individual called external factors proposed by [8], [9], [10], [11]. Factors originating from outside, namely the family environment, school and society and internal factors, namely fatigue (physical fatigue and spiritual fatigue), physical factors (health, disability) and psychological factors (intelligence, attention, interests, talents, motivation, maturity, skills and learning readiness).

From this statement, psychological factors are one of the internal factors that affect learning outcomes. Hardiness can be interpreted as a tough or resilient personality. Hardiness is a psychological factor because it is one of the personality types that can help a person manage the stress they experience [12]. In education, this personality is commonly referred to as academic hardiness. Benishek et al. explained that students with high academic hardiness show a high willingness to engage in challenging academic work, are committed to academic activities and pursuits, and consider them to have control over their academic performance and results [13]. This means that when someone has high academic hardiness, he can overcome existing academic problems and make these problems as motivation to become a better person. Academic hardiness is based on cognitive theory as proposed by [14] regarding the view of hardiness on a problem with an optimistic cognitive assessment (commitment, control and challenge). This is also in accordance with Gagne regarding learning consisting of three important components including external conditions, namely the stimulus from the environment in learning, internal conditions that describe the internal state of student cognitive processes, and learning outcomes that describe verbal information, intellectual skills, motor skills, attitudes and cognitive tactics [15]. This is reinforced by Lewin's cognitive theory which states that behavior is the result of the interaction between forces, both from within the individual such as goals, needs, psychological pressure, and from outside the individual such as challenges and problems he experiences [16].

Apart from academic hardiness, other internal factors, namely learning motivation, are also thought to have a strong influence on learning outcomes. Motivation is a force both from within and from outside that encourages someone to do something to achieve predetermined goals [17]. Learning outcomes will be optimal when there is motivation within a person [18]. In this case, it means that high learning motivation can affect one's learning outcomes. This is in line with the cognitive model theory, namely explaining that a person's motivation develops through the complex interaction

of environmental factors around him with factors within the child, Wiegfield & Eccless argued that this theory has three motivational approaches that describe the relationship between learning motivation and learning outcomes. including the value expectation model, goal orientation model and attribution theory [19]. The expected value model is about the expectation of success and the value of individual success is an important determinant of motivation that determines achievement-related behavior. The goal orientation model is about individual reasons or goals for doing a particular task. Meanwhile, attribution theory explains the causes of success and failure (attribution), as well as emotions and expectations that will influence subsequent behavior. This means that when a person has high learning motivation, he can overcome existing academic problems and make this motivation determine the behavior associated with learning outcomes. It is also strengthened by research conducted by [20] states that student motivation is a very significant factor in influencing learning outcomes. Furthermore, research from [21], [22], [23] states that learning motivation has a positive direction towards student learning outcomes.

In this case academic hardinees and learning motivation, including internal factors, are considered as solutions to problems with student learning outcomes. Furthermore, the learning motivation variable is assumed to be able to mediate the effect of academic hardiness on student learning outcomes because it has an association with academic hardiness and learning outcomes. In a pandemic like now, academic psychological conditions such as the resilience of a person in carrying out the learning process will be disrupted due to various factors. If the academic hardinsess factor and learning motivation possessed by someone is low in the learning process, the learning outcomes are low. Seeing the existing phenomena, it is feared that the quality of human resources will decline due to the learning process during the current pandemic. Based on research conducted by [24] regarding hardness and achievement motivation as factors of academic achievement state that hardness has a negative and insignificant effect on academic achievement, and academic motivation has a positive and significant effect on hardness on academic achievement. Meanwhile [25] regarding The Relationship of Hardiness and Some Other Relevant Variables to College Performance statedthat there is a positive relationship between the Hardiness personality and the GPA.

Based on the description above, it is necessary to further investigate the Effects of Mediating Learning Motivation on the Effect of Academic Hardiness on Student Learning Outcomes.

2. Theory

2.1. Learning Outcomes

[1] states that learning outcomes are changes that occur in students, both concerning cognitive, affective, and psychomotor aspects. Learning outcomes are the result of an interaction of learning and teaching actions[2]. ”Learning outcomes outline what a person should be able to do at the end of his / her studies”[3]. Nawawi stated that learning outcomes can be interpreted as the level of student success in learning subject matter at school which is expressed in scores obtained from test results regarding a number of certain subject matter [4]. [26] explain that learning outcomes are statements about what students expect, know and can do at the end of the learning period. [4] explained that ”A learning outcome is defined as being something that students can do now that they could not do previously”. [5] defines learning outcomes as an important indicator for educators in evaluating curriculum design.

Learning outcomes are reinforced by Gagne’s theory that learning consists of three important components including external conditions, namely the stimulus from the environment in learning, internal conditions that describe the internal state of the student’s cognitive processes, and learning outcomes that describe verbal information, intellectual skills, motor skills, attitudes and cognitive tactics [15].

Kurt Lewin developed a cognitive-field theory of learning by paying attention to personality and social psychology. Lewin explained that learning outcomes take place as a result of changes in cognitive structures. Lewin explained that behavior is the result of the interaction between the strengths of the bail: those originating from the individual such as goals, needs for psychological pressure and those from outside the individual such as challenges and problems. [27]. Lewin explained that the change in the cognitive structure is the result of two kinds of forces, one from the structure of the cognitive field itself, the other from the needs and internal motivation of the individual. Lewin gives a more important role to reward motivation. [16].

A learning outcome can be known or can be measured through a benchmark or can be called an indicator of learning outcomes. Bloom with Anderson’s revision explains that learning outcomes can be known or can be measured through a benchmark or can be called an indicator of learning outcomes, namely the cognitive, affective and psychomotor domains. [6]

1. Cognitive Domain, which deals with intellectual learning outcomes which consists of six aspects, namely remembering, understanding, application, analysis, evaluation and creating,

2. Affective domain, which deals with attitudes which consist of five aspects, namely acceptance, answers or reactions, research, organization and internalization.

3. Psychomotor domain, which deals with learning outcomes of skills and ability to act. There are six aspects of the psychomotor domain, namely reflex movements, basic movement skills, perceptual abilities, harmony or accuracy, complex skill movements, and expressive and interpretive movements.

Learning outcomes are something that is influenced by several factors, both from within the individual and from outside the individual. Internal factors are called internal factors and external factors are known as external factors. [8] explains that the factors that influence learning are as follows:

1. Internal factors

Namely the factors that exist within the individual who is learning. Internal factors consist of:

1. (a) Physical factors (health and disability).

2. Psychological factors (intelligence, attention, interests, talents, motives, maturity and readiness).

3. The fatigue factor.

2. External factors

Namely factors that exist outside the individual. External factors consist of:

1. Family factors (how parents educate, relationships between family members, home atmosphere, family economic conditions, parental understanding, and cultural background).

2. School factors (teaching methods, curriculum, teacher-student relations, student-student relations, school discipline, learning tools, school time, standard lessons over the size, building conditions, learning methods, and homework).

3. Community factors (student activities in society, mass media, social friends, and social life).

[9] explains that the factors that influence the achievement of learning outcomes can come from within the person who learns and some from outside himself. Internal factors consist of health, intelligence, interests, motivation, and learning methods. As for the external factors, including family, school, community, and the environment. [11] explained that the factors that influence learning outcomes are divided into 2, namely internal factors and external factors.

1. Internal factors, which include physical aspects, such as organ health, psychological aspects, such as intellectual, emotional, motivational, and social aspects, such as the ability to socialize with the environment.
2. External factors, such as the variety and degree of difficulty of the material being studied, the place of study, the climate, the environment, the learning culture of the community and so on.

Furthermore, [28] explains that the factors that affect learning outcomes are.

1. Internal factors, namely physiology such as physical and sensory conditions as well as psychological conditions concerning interests, intelligence levels, talents, motivation, and cognitive abilities
2. External factors, namely curriculum, teachers, facilities and management applicable in the school (place of learning) concerned.

[29] explained the factors that influence learning outcomes are

1. Internal factors include health, intelligence and talents, interests and motivation, and how to learn.
2. External factors include family, school, community and the surrounding environment.

Based on the explanation above, it can be concluded that there are factors that influence learning outcomes, namely that come from within the students themselves or internally and come from outside the students or externally. Internal factors such as learning methods, interests, motivation, health, psychology of students and external factors such as family, school and community environment.

2.2. Academic Hardiness

Academic hardiness, starting from two words, namely academic and hardiness. Academic in KBBI can also be called academic which means scientific, scientific, and

theoretical in nature. This means that in this case academic is related to what is called science in a learning. . Hardiness is a psychological factor because it is one of the personality types that can help someone manage the stress they experience [12]. Kobasa explained that hardiness can also be said as a way to understand one's relationships with other people, goals, and problems [30]. [31] explains that hardiness is a personality characteristic that makes individuals stronger, more resilient, stable, and optimistic in dealing with stress and reduces the effects of stress they experience.

Hardiness is a personality characteristic that has main components, namely commitment, control, and challenge [14]. Hystad explained that a person with a high hardiness personality will believe that he can control any event that contains stress and has the perception of being a positive and constructive event so that it becomes a challenge and can be used as a lesson in life[32]. Academic Hardiness is based on cognitive theory as proposed by [14] regarding the view of hardiness on a problem with an optimistic cognitive assessment (commitment, control and challenge). Benishek et al. Describe a person with high academic hardiness who shows a high willingness to engage in challenging academic work, is committed to academic activities and pursuits, and considers them to have control over their academic performance and results [13]. Hardiness personality reflects a healthy personality so that it provides courage and existential motivation to do hard work turning pressure into profit [31]

From this explanation, it can be concluded that academic hardness is a personality characteristic that a person has in relation to toughness in facing various challenges and problems he faces with optimistic cognitive assessment so that it becomes a challenge and can be used as a lesson in life.

Academic hardiness indicator is also stated by [13] which consists of commitment, challenge, control:

1. Commitment

   The tendency of individuals to be involved, have an understanding of goals and to find meaning in an activity and environment.

2. Challenge

   Understanding that change is an expected part of life and an element needed to develop oneself.

3. Control

The view that individuals can manage important events in life through the use of imagination, knowledge, skills and choices.

2.3. Learning Motivation

Motivation is the internal and external encouragement of students who are learning to make changes in behavior [17]. Pintrich states [33] :

”Motivation explains the reason why people do a particular thing, makes them keep doing it, and helps them to finish the task. A motivation concept is used to explain an individual’s desire to behave, behavior direction, behavior intensity, and a real accomplishment or a real achievement”.

Motivation to learn is the overall driving force in students that leads to learning activities, which ensures the continuity of learning activities and provides direction for learning activities, so that the goals desired by the learning subject can be achieved [18]. [34] explains that learning motivation is the overall psychological driving force within students that causes learning activities, ensures continuity of learning activities and provides direction for learning activities to achieve a goal.

Learning motivation is based on Carol Dweck’s goal orientation theory of academic motivation. Dweck explains that the two cognitive-oriented theories are skills-based orientation (performance-oriented) and learning-based orientation (learning-oriented) [24]. Students learning from a skills-based orientation (performance-oriented) seek to build their academic standing by avoiding situations that might indicate their disability. Conversely, students learning from a learning-based orientation view academic challenges as opportunities to acquire a new set of skills and to improve their competencies.

Further reinforced by the Motivation Theory: A Cognitive Model from Wiegfield & Eccless. Through this model, Wigfield & Eccles explains that expectations and values are cognitive rather than motivational. This has a direct effect on behavior related to one’s achievement. [19] Wigfield & Eccles explained that there are 3 cognitive model assumptions, namely:

1. A person’s motivation develops through the complex interaction of environmental factors with factors within the child
2. Learners are active information processors
3. A learner’s motives, needs, or goals are explicit information

This theory has three motivational approaches that describe the relationship between learning motivation and learning outcomes, including the value expectation model, the goal orientation model and the attribution theory [19] Weiner explained that the value expectation model and the goal orientation model describe specific anticipations, values

or reasons for approaching and performing tasks related to achievement. Furthermore, the goal orientation model identifies positive and negative learning strategies that are associated with different goal orientations. Meanwhile, attribution theory discusses a person's thoughts, emotions, and expectations after results related to achievement appear [19]. This means that when one's learning strategy is related to the goal of facing academic challenges,

From this explanation, it can be concluded that learning motivation is the driving force in a person that causes learning activities, providing direction so that it is expected that the existing goals can be achieved, namely obtaining optimal learning outcomes.

[35] explained that motivation indicators can be classified as follows:

1. There is desire and desire to succeed
2. There is an encouragement and need in learning
3. There are hopes and dreams for the future
4. There is an appreciation in learning
5. There are interesting activities
6. The existence of a conducive learning environment

3. Research Method

3.1. Types of Research

In this study, using an explanatory survey research method (explanatory method) or research that takes a sample from a population and uses a questionnaire as the main data collection tool, with the aim of explaining or testing the relationship between the variables studied [36]

3.2. Subject

The population in this study were 625 students from the Faculty of Economics and Business Education, Universitas Pendidikan Indonesia, class 2018. The sample was obtained as many as 245 students with the Slovin formula using the random sampling technique.

The research subject data is presented in table 1.

TABLE 1: Sample calculation.

Study Program	Total student's
Accounting Education	37
Business Education	38
Office Management Education	35
Economic Education	37
Accounting	35
Management	32
Islamic financial economics	31

3.3. Data Analaysis Technique

The data that has been collected is then analyzed by multiple regression analysis with the mediating variable. [37] explains that to test the mediation hypothesis generally uses two ways or two strategies, namely the causal step based on Baron & Kenny's provisions and the product of coefficient.

The model in this study sIn summary, it can be written in the following three equations:

Equation 1: $y = i1+cX$ c must be significant (p <0.05) or (c ≠ 0). (1)

Equation 2: $M = i2 + aX$ a must be significant (p <0.05) or (a ≠ 0). (2)

Equation 3: $Y = i3 + bM + c'X$ b must be significant (p <0.05) or (b ≠ 0). (3)

Information :

Y = Student Learning Outcomes

i1 = Regression Constant Equation 1

i2 = Regression Constant Equation 2

i3 = Regression Constant Equation 3

c = Variable Regression Coefficient X against Y (in equation 1)

a = Variable Regression Coefficient X against M

b = Variable Regression Coefficient M against Y

c '= Variable Regression Coefficient X against Y (in equation 3)

X = Academic hardiness

M = Learning Motivation

4. Results and discussion

4.1. Overview of Respondents

4.1.1. Overview of Research Respondents by Study Program

The sample in this study consisted of seven study programs in the Faculty of Economics and Business Education. The number of research samples based on the study program is presented in the following diagram:

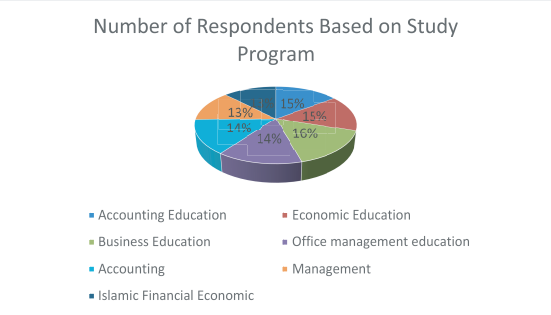

Figure 1: Number of respondents based on study program.

4.1.2. Overview of respondents by age

Characteristics of respondents based on age are needed in this study because it can describe the level of maturity and maturity of students at a certain level. In this study the age range ranging from 19-21 years can be seen in the following diagram:

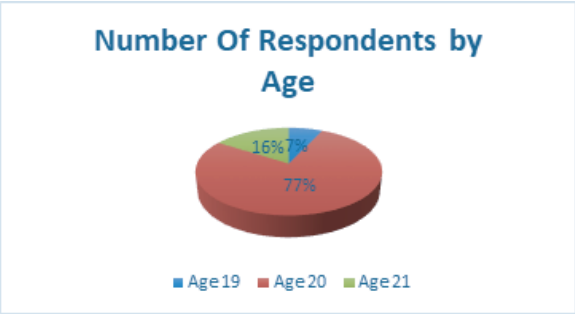

Figure 2: Number of respondents by age.

4.1.3. Overview Of Respondents By Gender

In this study, the characteristics of respondents based on gender are needed as a supporting variable. Because in this study the respondents involved were male and female. This is intended because there are no differences in the sampling of both men and women. Based on the research that has been done, the number of male and female student samples is obtained in the following diagram:

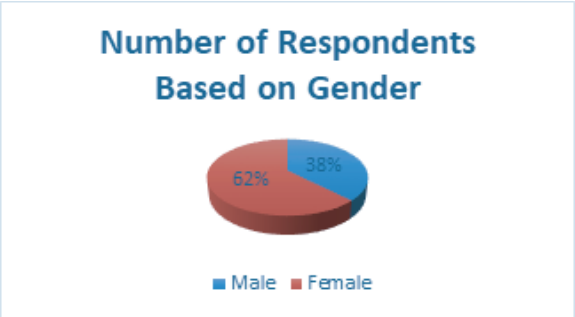

Figure 3: Number of respondents based on gender.

4.2. Variable Overview

4.2.1. Learning Outcomes Variables, Academic Hardiness, and Learning Motivation

A complete overview of each variable can be seen in Table 4.1. Learning outcomes in this study were obtained from the Student Achievement Index for the Faculty of Economics and Business Education 2018 in semester 5. Academic hardiness and learning motivation are seen from several indicators consisting of 19 items and 20 statement items.

TABLE 2: Variable overview.

Variable	Category	Range	F	Percentage (%)
Learning outcomes	High	GPA> 3.30	188	76.7
	Low	GPA <3.30	57	26.3
Academic Hardiness	High		132	53.8
	Moderate		102	42.6
	Low		11	4.6
Motivation to learn	High		120	48.9
	Moderate		77	31.5
	Low		48	19.6

Source: Research Data

Based on table 2, it explains that the description of learning outcomes, academic hardiness and learning motivation for students of the 2018 Faculty of Economics and Business Education in the high category. This shows that learning outcomes, academic hardiness and student learning motivation are good.

4.3. Result Of Data Analysis

4.3.1. Causal Step Strategy: Baron & Kenny

At this stage, the regression analysis is divided into 3 regression equations, namely:

4.3.2. Testing the Regression Equation 1: The Effect of Academic Hardiness (X) on Learning Outcomes (Y)

The regression equation is:

$Y = I_1 + cX + e$ (1)

Based on the results of data processing, the variable regression coefficient model X to Y is obtained as follows:

Table 3: Results of regression equation analysis 1.

Model	R	R2	B	Std. Error	Beta	F (t)	Sig.
(Constant)	.726	0.521	45,992	2,295	.471	17,098	.000
Academic hardiness (X)			.254	.025		(26,679)	.000
						(10,501)	.000

Source: Research Data

Based on Table 4.2, it can be seen that the regression equation obtained in this study is as follows:

$$Y = i_1 + cX (2)$$

$Y = 45,992 + 0.254X$ (3)

From the regression equation above it can be seen that:

1. The coefficient of determination (R2) of the effect of academic hardiness on learning outcomes is 0.521. This means that in this research model the academic hardiness variable affects learning outcomes by 52.1% and the rest is influenced by other variables outside of this study.

2. Hypothesis testing partially in this study has an error rate of 0.05 at a significant level of 95% with (df = nk = 245-3 = 242) then the t table is 1.96. Based on the calculation results in the table, it can be seen that the tcount value is 10.501> ttable is 1.96 with a significance value of 0.000 <0.05, then H0 is rejected and Ha is accepted, meaning that the coefficient of academic hardiness (X) on learning outcomes (Y) can be declared significant.

After the regression equation model 1 is tested, then a diagram can be made explaining the analysis of the regression equation model 1 which can be seen in the following figure.

Y = 45.992 + 0.254X (4)

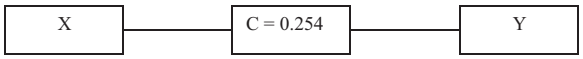

Figure 4: Regression equation analysis diagram 1.

Based on Figure 4, it can be seen that the coefficient c = 0.254 which means significant (p = 0.000 <0.05).

Testing Regression Equation 2: The Effect Of Academic Hardiness (X) on Learning Motivation (M)

The regression equation is:

$$Y = i3 + bM + c'M$$

Based on the results of data processing, the variable regression coefficient model X on M is obtained as follows:

Table 4: Results of regression equation analysis 2.

Model	R	R2	B	Std. Error	Beta	F (t)	Sig.
(Constant) *Academic hardiness*	.588	.451	35,783 1,248	2,788 .072	.788	115,860 (9,472) (14,137)	.000 .000 .000

Source: Research Data

Based on Table 4.3, it can be seen that the regression equation obtained in this study is as follows:

$$M = i_2 + aX(5)$$

M = 35,783 + 1,248 X (6)

From the regression equation above it can be seen that:

1. The coefficient of determination (R2) of the effect of academic hardiness on learning motivation is 0.451. This means that in this research model the academic hardiness variable affects learning motivation by 45.1% and the rest is influenced by other variables outside of this study.
2. Hypothesis testing partially in this study has an error rate of 0.05 at a significant level of 95% percent with (df = nk = 245-3 = 242), then the t table is 1.96. Based on

the calculation results in the table, it can be seen that the tcount value is 14,137> ttable is 1.96 with a significance value of 0.000 <0.05, then H0 is rejected and Ha is accepted, meaning that the coefficient of academic hardiness (X) on learning motivation (M) can be declared significant .

After the regression equation model 2 is tested, then a diagram can be made explaining the analysis of the regression equation model 2 which can be seen in Figure 4.5 below.

$$M = i_2 + aX(7)$$

M = 35,783 + 1,248 X (8)

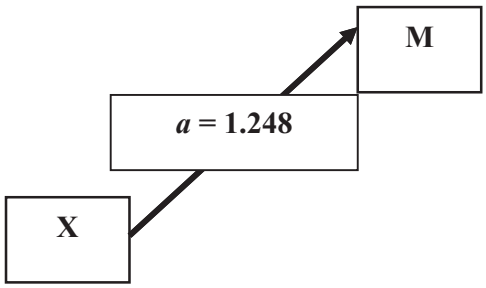

Figure 5: Regression equation analysis diagram 2.

Based on the Figure, it is known that the coefficient a = 1.248 is significant (ρ = 0.00 <0.05).

1. (a) i. A. *Testing Regression Equation 3 : Effect Of Academic Hardiness (X) and Learning Motivation (M) On Learning Outcomes (Y)*

The regression equation is:

$Y = i3 + bM + c'M$ (9)

Based on the results of data processing, the regression coefficient model for variables X and M against Y is obtained as follows:

TABLE 5: Results of regression equation analysis 3.

Model	R	R2	B	Std. Error	Beta	F (t)	Sig.
(Constant) *Academic hardiness* (X) Learning Motivation (M)	.781	.628	37,157 .075 .287	2,651 .067 .070	.150 .550	142,521 (28,021) (3,527) (10,218)	.000 .000 .025 .000

Source: Research Data

Based on Table 4.4, it can be seen that the regression equation obtained in this study is as follows:

$Y = i3 + bM + c'M$ (10)

Y = 37.157 + 0.287 M + 0.075 X (11)

From the regression equation above it can be seen that:

1. The coefficient of determination (R2) of the effect of academic hardiness on learning outcomes with learning motivation as the mediating variable has a determination coefficient of 0.628. This means that in this research model the variables of academic hardiness and learning motivation have an effect on the learning outcome variable by 62.8% and the rest is influenced by other variables that are not explained in this research model.
2. Hypothesis testing F test count in this research model amounted to 142.521 greater than F table which amounted to 3.032 with a significant value of 0.00. The conclusion is rejecting H0 and accepting Ha, meaning that the academic hardiness and learning motivation variables together have an effect on learning outcomes.
3. Based on the results of calculations with an error rate of 0.05 at the 95% significance level, it explains that the academic hardiness variable has a tcount of 3,527> t table of 1.96 with a significance value of 0.025 <0.05, so Ho is rejected and Ha is accepted, meaning the coefficient of academic hardiness variables on learning outcomes can be declared significant. So there is a direct influence of the academic hardiness variable on learning outcomes, and there is also the influence of the learning motivation variable on learning outcomes with a tcount of 10.218> t table of 1.96 with a significance value of 0.000 <0.05 then Ho is rejected and Ha is accepted, meaning that the coefficient of the Learning Motivation variable was significant towards learning outcomes.

After the regression equation model 3 is tested, then a diagram can be made explaining the analysis of the regression equation model 3 which can be seen in the following figure.

$Y = i3 + bM + c'M$ (12)

Y = 37.157 + 0.287 M + 0.075 X (13)

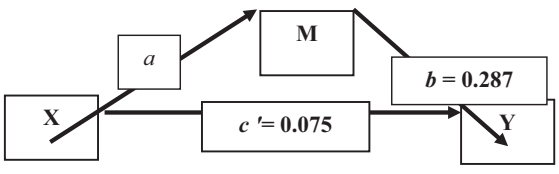

Figure 6: Equation analysis diagram 3.

Based on Figure 4.6 it is known that:

1. The coefficient b = 0.287 with significant (ρ = 0.000 <0.05)
2. The coefficient c '= 0.075 with significance (ρ = 0.025 <0.05)

After all the regression equation tests have been calculated, then a summary analysis diagram can be made as described in Figure 7:

TABLE 6

X		C = 0.254		Y

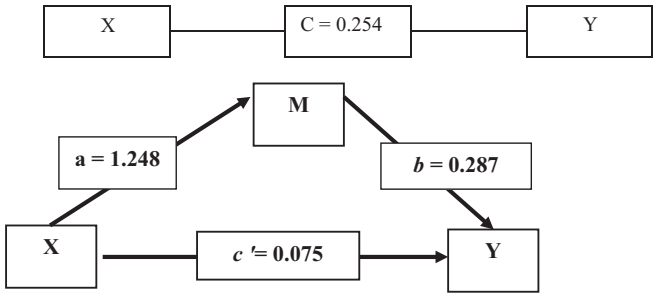

Figure 7: Partial Mediation Model.

Based on Figure 7 it can be concluded that:

1. Because the value of c 'is significant, but the value decreases (c' = 0.075 <c = 0.254), or the value of c '= 0.075 <a = 1.248 and b = 0.287 (indirect effect) indicates partial mediation. This means that learning motivation partially mediates the influence of academic hardiness and learning outcomes.
2. The amount of indirect effect X (academic hardiness) on Y (learning outcomes) = ab = (1.248) (0.287) = 0.3581 with a significance of 0.00 (ρ <0.05). This means that learning motivation partially mediates the effect of academic hardiness on learning outcomes.

4.4. Normal Theory Approach

Another mediation test is the product of coefficient strategy. The mediation test calculations are presented in Table 4.5

Based on table 6 it is known that all statistical tests> 1.96 and P value <0.05, then H0 is rejected and Ha is accepted, meaning that ab (indirect effect) or the indirect effect of academic hardiness on learning outcomes through learning motivation as a mediating variable is declared significant.

Table 7: Normal theory test.

	Input		Statistical Test	Std. Error	P-Value
A B	1,248	Sobel test:	3.98990071	0.08977065	0.0000661
Sa	0.287	Aroian test:	3.98362736	0.08991202	0.00006787
Sb	0.072	Goodman test:	3.99620379	0.08962906	0.00006437
	0.070				

Source: Research Data

4.5. Discussion

The results of this study found that academic hardiness had a positive effect on student learning outcomes with the contribution of academic hardiness to learning outcomes of 52.1% and the remaining 42.8% was influenced by other variables outside of this study. This means that when a person has high academic hardiness, he is able to overcome the academic problems that occur in him, so that it will affect the high learning outcomes. In academic hardiness there are three indicators, namely commitment, control, and challenge.

In this research, it shows that the academic hardiness of students is included in the high category, meaning that someone has good commitment, control and challenge. This means that students are good at commitment, which is related to academic seriousness, hard work in academics, and making academics a priority. Students are good in control, which is related to the ability of students to recognize their own capacity and emotional control in dealing with academic pressure. As well as good students have challenges in this regard with the ability of students to face challenges and the ability of students to face risks and academic problems.

The results of hypothesis testing indicate a positive influence between academic hardiness on learning outcomes. This is evidenced by the results of the t-count greater than the t-table, which means that H0 is rejected and Ha is accepted. In other words, the academic hardiness variable has a positive effect on learning outcomes. So that the higher the academic hardiness, the higher the learning outcomes obtained by students. This means that when the student's commitment, control, and challenge to academics is higher, the student's learning outcomes will be high. Based on this explanation, academic hardiness affects student learning outcomes, because in this case academic hardiness is one of the internal factors that affect learning outcomes.

This also strengthens the results of previous research from [38] regarding The influence of personality on three aspects of cognitive performance: processing speed, intelligence and school performance showing that school performance is assumed to be strongly influenced by cultural factors. and one's personality like toughness. The

results of this study are related to academic hardiness which consists of commitment, control, and challenge in line with [25] regarding The Relationship of Hardiness and Some Other Relevant Variables to College Performance stated that there is a positive relationship between Hardiness personality and student learning outcomes, namely the Grade Point Average. In line with the theory, Benishek et al explain that someone with high academic hardiness shows a high willingness to engage in challenging academic work, is committed to academic activities and pursuits, and considers them to have control over their academic performance and results. [13]

Furthermore in research This also explains the effect of academic hardiness on learning motivation of 0.451. This means that in this research model the academic hardiness variable affects learning motivation by 45.1% and the remaining 54.9% is influenced by other variables outside of this study. Academic hardiness and learning motivation in this study are in the high category.

This is in line with the results of hypothesis testing showing a positive influence between academic hardiness on learning motivation. This is evidenced by the result of t-count greater than t-table, which means that H0 is rejected and Ha is accepted. In other words, the academic hardiness variable has a positive effect on learning motivation. So that the higher the academic hardiness, the higher the learning motivation of students.

Based on the theory described by [31], hardiness personality reflects a healthy personality so that it provides courage and existential motivation to do hard work to turn pressure into profit. Learning motivation can be an internal factor as well as an external factor that affects learning outcomes because motivation is also divided into two, namely intrinsic motivation (originating from within the individual) and extrinsic motivation (originating from outside the individual). In this case academic hardiness is included in intrinsic motivation because it comes from within the individual.

This supports the research conducted by [39] regarding Student Learning Motivation and Psychological Hardiness: Interactive Effects on Students' Reactions to a Management Class showing that learning interactions that show hardiness strengthen the basic positive effect of high initial motivation to learn. It is in line with research conducted by [40] which states that there is a positive relationship between hardiness and learning motivation.

Furthermore, the effect of academic hardiness on learning outcomes with learning motivation as a mediating variable has a determination coefficient of 0.628. This means that in this research model the variables of academic hardiness and learning motivation have an effect on the learning outcome variable by 62.8% and the remaining 37.2% are influenced by other variables that are not explained in this research model.

Based on the research results and hypothesis testing in this study, it is known that partial mediation occurs. This is evidenced by the value of c 'less than the coefficient c and significant, meaning that learning motivation (M) partially mediates the effect of academic hardiness (X) on learning outcomes (Y). In addition, ab (indirect effect) or the indirect effect of the academic hardiness variable on learning outcomes through learning motivation as a mediating variable is significant. So it can be concluded that learning motivation and academic hardiness affect learning outcomes, meaning that the higher the academic hardiness of students, the higher the learning outcomes along with the increase in learning motivation. Good motivation to learn will give birth to a good learning process and results. The higher the intensity of student learning motivation, the higher the quality and learning outcomes achieved by these students.

Motivation as a driving force that encourages learning activities, if someone is motivated to learn, they will carry out learning activities and direct learning behavior to achieve the best possible learning outcomes. This is in accordance with Gagne's learning theory that in learning there is an interaction between internal and external conditions, where learning motivation is included in internal conditions that affect learning outcomes.

Motivation to learn can be said to be the overall driving force within students that raises, ensures continuity, and provides direction for learning activities, so that it is hoped that the existing goals can be achieved, namely obtaining optimal learning outcomes. Besides being supported by Gagne's theory, motivation is also supported by Wiegfield & Eccless, arguing that this theory has three motivational approaches that describe the relationship between learning motivation and the learning process, including the value expectation model, the goal orientation model and the attribution theory. The expected value model is about the expectation of success and the value of individual success is an important determinant of motivation that determines achievement-related behavior. The goal orientation model is about individual reasons or goals for doing a particular task. Meanwhile, attribution theory explains the causes of success and failure (attribution), as well as emotions and expectations that will influence subsequent behavior. It is strengthened by Carol Dweck's theory of goal orientation regarding academic motivation. Dweck explains that the two theories are oriented towards constructing and providing an understanding of how learners react to academic challenges. This means that if a person has the urge to learn and faces various challenges and academic problems he or she faces with an optimistic cognitive assessment and views academic challenges as opportunities to improve expected achievement, achievement in this case is a good learning result. Meanwhile, attribution theory explains

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This is in line with research conducted by [41] regarding the motivation of classroom climate and motivation have a positive and significant effect on academic success. [22] stated that learning motivation is significantly related to student learning outcomes. [42] also states that there is a positive and significant relationship between learning motivation and learning outcomes. Learning motivation has a positive direction towards student learning outcomes. [21] [22] [23] high learning motivation can affect high learning outcomes as well.

5. Conclusions

Based on the results and discussion, it can be concluded the level of academic hardiness, learning motivation and student learning outcomes are in the high category. Academic hardinesspositive effect on learning outcomes. The meaningThe higher the academic hardiness of the students, the higher the learning outcomes achieved by students. other than that academic hardiness has a positive effect on learning motivation The higher the student academic hardiness, the higher the student's motivation to learn. Learning motivation partially mediates the effect of academic hardiness on learning outcomes That is, learning motivation is influenced in part by academic hardiness and affects learning outcomes. The higher the academic hardiness, the higher the student learning outcomes in line with the increasing learning motivation of students.

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