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DETERMINING THE VARIABLES EXPLAINING ACADEMIC AMOTIVATION

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ABSTRACT

Student achievement is one of the most studied variables in the education system. In many studies, the relationship between success and motivation has been examined and it has been revealed that motivation is one of the variables that most affect student success and amotivation is among the reasons for failure. Answer-copy tendency, academic self-efficacy and self-esteem can also be characterized as variables highly related to academic amotivation and thus success. In this context, in this study, it was aimed to examine academic motivation in terms of answer-copy tendency, self-esteem and academic self-efficacy variables. The study group of this research, which is in the screening model, consists of 578 university students. Academic amotivation scale, answer-copy tendency scale, Rosenberg self-esteem scale, academic self-efficacy scale were used and a validity and reliability study was conducted for university students within the scope of the academic amotivation scale research. Answers were sought for the sub-objectives of the research by using the CHAID analysis. The variable that best explains the amotivation of university students in terms of each sub-dimension (value of task, ability beliefs, task characteristics, efford beliefs) is negative perception of exams and grades, which is a sub-dimension of the answer-copy tendency, especially based on students' disbelief in their abilities. On the other hand, it can be stated that the self-esteem variable comes to the fore in academic amotivation. It is also noted that students with relatively high self-esteem have higher academic self-efficacy and less answer-copy tendency and academic amotivation. Finally, it was determined that the variable that least explained each sub-dimension of academic amotivation was ethical values, which is the sub-dimension of the answer-copy tendency scale, which expresses students' ethical feelings. The most important suggestion of the research is that academic motivation should be increased in order to decrease the tendency of students to cheat.

Keywords: Academic amotivation, answer-copy tendency, academic self-efficacy, self-esteem, CHAID analysis

INTRODUCTION

Student achievement is a variable that has been and continues to be the most studied variable in the education system. In many studies, the relationship between achievement and motivation has been examined, and it has been revealed that motivation is one of the variables that affect student achievement the most; also, it has been stated that lack of motivation is among the reasons for failure (Diseth, Mathisen & Samdal, 2020; Francis et al, 2004; Goodman et al., 2011; Green-Demers & Pelletier, 2003; Hidi & Harackiewicz, 2000; Karataş & Erden, 2012; Komarraju, Karau & Schmeck, 2009; Ntoumanis et al., 2004; Ryan & Deci, 2000; Scheel et al., 2009; Shen, Wingert, Sun & Rukavina, 2010; Turner, Chandler & Heffer, 2009; Wigfield et al., 2005). Therefore, every educator who aims to increase academic achievement should also be interested in students' motivation (Karagüven, 2012; Legault, Green-Demers & Pelletier, 2006). Considering this important effect of motivation on student achievement, it is important to determine the variables that explain the motivation variable.

It is observed that there is no single definition of the concept of motivation. Kleinginna & Kleinginna (1981) stated that there are 102 different definitions of the concept of motivation, and Murphy & Alexender (2000) stated that there are 20 different definitions. Motivation has been defined as the following: the internal and external factors that affect the occurrence of a particular behavior and the continuity of this behavior (Martin & Briggs, 1986), a process that expresses the intensity of an individual's effort to achieve a goal (Robbins, 2003), a driving force that activates and directs the individual and maintains the continuity of his/her behavior (Woolfolk, 2004), individuals' voluntarily engaging in various behaviors in order to achieve a certain goal (Baumeister & Vohs, 2007), the internal desires they exhibit or have in acquiring new knowledge (Lin, 2012), and a force that helps an individual to perform and maintain a behavior (Ormrod, 2013).

Academic motivation, on the other hand, is defined as the power that enables an individual to continue his/her behaviors in the academic field and motivates the individual (Vallerand et al., 1992). Academic motivation is a type of motivation that includes how much effort students make and how effectively they organize their studies (Usher & Morris, 2012). It is also defined as students' willingness to achieve certain academic goals (Wilkesmann, Fischer & Virgilito, 2012). Low academic motivation emerges as a concept that negatively affects students' success (Grunschel et al., 2016).

Amotivation is based on self-determination theory, which suggests that motivation can be classified as intrinsic, extrinsic, or amotivation (Deci & Ryan, 1985). In self-determination theory, intrinsic motivation is defined as satisfaction motives, extrinsic motivation as instrumental motives and amotivation as lack of motivation (Ryan & Deci, 2002). Amotivation is a lack of motivation in which there is no connection between the actions taken and the results obtained and there is no purpose or goal to participate in an action (Perlman, 2010). When the sources of academic amotivation are examined, the following can be observed: the belief that one lacks ability (to do a certain thing), the target being too challenging for the individual, the lack of driving force to sustain the behavior, and the belief that one will be inadequate even if one shows high performance (Barkoukis, Tsorbatzoudis, Grouios & Sideridis, 2008; Karataş & Erden, 2012; Markland & Tobin, 2004). Although there are many other

reasons for academic amotivation, in this study, academic self-efficacy was examined in relation to cheating and self-esteem variables.

Researchers (Akyürek, 2020; Aktaş, 2017; Alemdağ, Öncü & Yılmaz, 2014; Fulgencio et al., 2021; Makhabbat et al., 2018; Özgül & Diker, 2017; Sıvacı & Çöplü, 2020) have stated that academic self-efficacy is one of the variables associated with academic motivation. Academic self-efficacy is a concept that emerged from the self-efficacy theory and is therefore quite similar to the concept of self-efficacy. Academic self-efficacy is defined as students' perceptions of their own capacity to deliver a certain academic performance (Zimmerman, 1995). It is also defined as students' beliefs about whether they can accomplish an academic task (Bandura, 1997; Bong & Skaalvik, 2003; Pajares, 2008). Schunk (1989) defines academic self-efficacy as an individual's individual perception of his/her capacity to create and implement an action plan in order to achieve academic success in a specified field. Students with high academic self-efficacy perception do not give up in the face of difficulties and continue to strive to solve problems (Millburg, 2009).

There are studies examining academic self-efficacy and self-esteem (Aydoğan & Özbay, 2012; Giunta et al., 2013) and motivation and self-esteem (Direktör & Nuri, 2017; Leeson, Ciarrochi, & Heaven, 2008; Topçu & Leana-Taşçılar, 2016), determining the relationship between these variables. Therefore, it was deemed important to examine self-esteem together with these variables. Self-esteem is one of the oldest concepts in the literature on psychology. According to Rosenberg & Simmons (1973), self-esteem refers to an individual's feelings and positive and negative attitudes towards his/her own self. Self-esteem is used to express how much a person accepts or is satisfied with himself/herself (Baumeister, 2001). Self-esteem is also defined as an individual's general perception of and attitude (positive and negative) toward himself/herself (McDonald, 2007; Santrock, 2012), and it includes subjective evaluations of one's own worth (Hewitt, 2009). In another definition, it is expressed as an individual's evaluation of the differences between his/her imaginary self and ideal self (Pişkin, 2003). Individuals with high self-esteem have a positive attitude when comparing themselves with others and have feelings of self-worth while maintaining their performance. Low self-esteem results in negative situations, such as self-harm, helplessness, powerlessness and depression (Smelser, 1989). While people with high self-esteem tend to improve themselves, people with low self-esteem focus on protecting their self-esteem and not making mistakes (Tolga & Dilmaç, 2020).

The tendency to cheat is another variable that has been studied with academic motivation (Babanejad Nigjeh et al., 2021; Krou, Fong & Hoff, 2021; Murdock, Hale & Weber, 2001; Mih & Mih, 2016), academic self-efficacy (Finn & Frone, 2004; Murdock & Anderman, 2006; Murdock, Hale & Weber, 2001; Miller & Iszak, 2017; Sadeghi et al, 2022; Saylık, Altay & Gezici-Yalçın, 2021), and self-esteem (Polat, 2017; Soytürk et al., 2015; Tümkaya, 2019). In some of the studies that examined these (Gerdeman, 2000; Hughes & McCabe, 2006), it was stated that one needs to consider the relevant factors to be able to understand the nature of cheating behavior. Although cheating is a type of academic dishonesty, the concepts of cheating and academic dishonesty are often used in the same sense (Harding et al., 2004; Carpenter et al., 2006). Cheating can be defined as using unauthorized

resources in exams or other academic assignments and having other people take the exam or do the assignment (Evans, Craig & Mietzel, 1993; O'Rourke et al., 2010). The reasons for the tendency to cheat can be defined as problems arising from the education system (Alkan, 2008; Küçüktepe & Eminoğlu Küçüktepe, 2014; Mert, 2012; McCabe & Trevino, 1996; Wajda-Johnston et al, 2001); problems arising from the instructor (Eminoğlu, 2008; Mert, 2012; Seven & Engin, 2008) and problems arising from the student (Bacon, McDaid, Williams & Corr, 2020; Kayiş, 2013; Lemons & Seaton, 2011; Murdock & Anderman, 2006; Polat, 2017).

As can be seen from the explanations above, academic amotivation, academic self-efficacy, self-esteem, and cheating tendency are variables that have been studied in relation to one another. However, no study has been found to investigate which variable best explains academic amotivation, which is known to have a significant effect on academic achievement. In this study, it was aimed to examine academic amotivation in terms of answer-copy tendency, self-esteem and academic self-efficacy variables. In order to achieve this aim, answers were sought for the following sub-objectives.

What is the variable that explains value of task dimension of academic amotivation scores the best and what are the variables that explain respectively?
What is the variable that explains ability beliefs dimension of academic amotivation scores the best and what are the variables that explain respectively?
What is the variable that explains task characteristics dimension of academic amotivation scores the best and what are the variables that explain respectively?
What is the variable that explains efford beliefs dimension of academic amotivation scores the best and what are the variables that explain respectively?

METHOD

Research Model

In the study, academic amotivation was examined in terms of answer-copy tendency, self-esteem and academic self-efficacy variables; The existing situation has been tried to be revealed as it exists without any change. In this regard, the research has the characteristics of a screening model.

Study Group

In line with the aim of the research and the accessibility of the participants, the study group of the research consists of 578 university students studying at Marmara University Atatürk Faculty of Education. The data of the research were collected through an online data collection platform. In the data collection process, we sought diversity at the highest possible level and took care to ensure that the subjects participated in the study of their own free will. Ethical approval was obtained from Marmara University Social and Human Sciences Research and Publication Ethics Committee (Dated: 23.05.2023, Decision number: 553003) before the research data were collected.

Data Collection Tools

A total of four different measurement tools, including *Academic Amotivation Scale*, *Answer-Copy Tendency Scale, Rosenberg Self-Esteem Scale*, *Academic Self-Efficacy Scale* were used in this research. Explanations of these scales are given below.

Academic Amotivation Scale (İlter, 2019):

Academic amotivation can be defined as students' desire not to study and not to do homework, boredom in the classroom, poor concentration, and perceived high stress while studying. In order to determine the amotivation of high school students in the academic field, the academic amotivation scale was developed by Legault, Green-Demers, Pelletier in 2006. In line with the theoretical framework on which it is based, the scale has a four-dimensional structure consisting of a total of 16 items, with 4 items in each dimension. These dimensions are; task characteristics, ability beliefs, value of task and efford beliefs. The Cronbach alpha reliability value of the sub-dimensions of the scale ranged from .81 to .86. The study of adapting the academic amotivation scale to Turkish on secondary school students was carried out by İlter in 2019. Similar to its original form, this study consists of 16 items and four dimensions. The Cronbach alpha reliability value of the sub-dimensions of the scale ranged from .68 to .87. The internal consistency coefficient of the scale as a whole was calculated as .84 and the test-retest coefficient as .80. As a result of confirmatory factor analysis, the model for the scale was found to fit well [$\chi2$ = 127.54, df = 98, RMSEA=.041, SRMR=.044, GFI=.92, AGFI=.89, CFI=.97, NFI=.90]. In line with the general purpose of this research, it was necessary to determine the academic amotivation of university students. For this reason, first of all, the applicability of the scale to university students was determined by conducting reliability and validity studies. Detailed information is given in the data analysis section.

Answer-Copy Tendency Scale (Demir, 2018):

The Answer-Copy Tendency Scale for University Students is a scale developed to reveal the potential of students to detect questionable response patterns. The total scores and item score distributions of the two-factor scale consisting of 20 items are normal. The first factor of the scale consists of 12 items and is defined as " negative perception of exams and grades ". The second factor consists of eight items and is defined as “ethical values”. The sub-dimensions of the scale were used separately and the total score was not obtained, therefore, the sub-dimension of ethics was not reverse coded within the scope of the research. The item discrimination index was 0.40 and above. The α inconsistency coefficient was 0.88 and above, and the test-retest reliability coefficient was 0.80. No significant and serious differential function was detected in the items. The results show that the validity and reliability levels of the scale are quite high and can be used to understand the nature of response amplification. Cronbach's alpha reliability coefficient was .95 based on the data of this study, Chi-square value of the scale ($\chi2$= 541.55, sd = 169, $\chi2$/sd = 3.20, p = .00) and fit indices, RMSEA= .07, according to the CFA result, RMR= .09, SRMR= .051, GFI= .89, AGFI= .86, CFI= .94, NFI= .92, and NNFI= .93.

Rosenberg Self-Esteem Scale (Çuhadaroğlu, 1986):

This scale, which is accepted as a reference in the measurement of self-esteem, was developed by Rosenberg in 1963. The reliability and validity studies of the scale, which focused on a holistic attitude in self-evaluation, were carried out on 5024 high school students. There are ten sub-categories in the original form of the scale, and the first sub-category measures self-esteem. This scale consists of 10 items, five of which are positive and five of which are negative, and is a 4-point Likert type. This scale was used within the scope of the research. The adaptation of the scale to Turkish was completed by Çuhardaroğlu in 1986 by collecting data on 205 high school students. The scoring of the scale is as follows; In item 1, which includes the first 3 statements, 1 point is taken if two items are marked with a point-receiving response (2/3=1 point). In other words, if any two of the first 3 statements are scored, 1 point is given in this section. If a point is scored in one of the 4th and 5th items, 1 point is given in this section as well (1/2= 1 point). Items 9 and 10 are calculated in the same way. Items 3, 4, 5 (6th, 7th and 8th statements) contain one question each and each item is worth 1 point. Therefore, minimum=0, maximum=6 points can be obtained from the scale. 0-1 points: high self-esteem, 2-4 points: moderate self-esteem, 5-6 points: low self-esteem. The Cronbach alpha reliability coefficient was calculated as .76, and the reliability coefficient was calculated as .71 by the test-retest method. The Cronbach's alpha reliability coefficient based on the data of this study was .88, the Chi-square value of the scale ($\chi2$= 337.62, sd = 72, $\chi2$/sd = 4.69, p = .00) and fit indices, RMSEA= .08, according to the CFA result, RMR= .04, SRMR= .05, GFI= .90, AGFI= .87, CFI= .91, NFI= .91, and NNFI= .90.

Academic Self-Efficacy Scale (Yılmaz et al., 2007):

Perceived academic self-efficacy can be expressed as the individual's belief that he or she can successfully complete the academic task. The original language of the “Academic Self-Efficacy Scale”, developed by Jerusalem and Schwarzer in 1981, is German and its Cronbach alpha reliability value is .87. The translation of the scale into Turkish was done by language experts, and its suitability for Turkish was evaluated by experts in terms of content and evaluation. In line with the analyzes made, it was revealed that the scale, which was adapted into Turkish, was one-dimensional like the original scale and consisted of a total of seven items. The Cronbach's alpha reliability coefficient based on the data of this study was .88, the Chi-square value of the scale ($\chi2$= 98.82, sd = 33, $\chi2$/sd = 2.99, p = .00) and fit indices, RMSEA= .07, according to the CFA result, RMR= .05, SRMR= .06, GFI= .91, AGFI= .88, CFI= .91, NFI= .90, and NNFI= .90.

Data Analysis

In this study, it was aimed to examine university students' academic amotivation in terms of answer-copy tendency, self-esteem and academic self-efficacy variables. For this purpose, the Academic Amotivation Scale, which was developed by Legault, Green-Demers and Pelletier (2006) and adapted to Turkish by İlter (2019) within the scope of secondary school students, was adapted for university students.

As part of the adaptation study, Confirmatory Factor Analysis (CFA) was performed for construct validity. The four-dimensional structure, which was put forward in the original and adaptation of the scale, was tried to be verified for university students. In this context, the compatibility of the data with the model and the significance of the t values were tested. Cronbach Alpha and McDonald's Omega (ω) coefficients were used for the reliability of the scale and the contribution of each item to the reliability was examined.

Construct Validity

Confirmatory Factor Analysis (CFA)

Within the scope of the adaptation study of the scale for university students, CFA was carried out for the study group consisting of 578 students. The four-dimensional structure of the scale was confirmed by the fit indices indicated in the Table 1 to obtain better fit indices, error covariances were defined between items under the same dimension and modifications were made between 1-4, 10-12, 14-16 items.

Table 1. Perfect and Acceptable Fit Values for Fit Indices and Fit Index Values Obtained from CFA

Examined Fit Indexes	Perfect Fit Values	Acceptable Fit Values	Obtained Fit Indexes	Result
χ2/sd	0 ≤ χ2/sd ≤ 2	2 ≤ χ2/sd ≤ 5	4.01	Acceptable
GFI	.95 ≤ GFI ≤ 1.00	.90 ≤ GFI ≤ 95	0.92	Acceptable
AGFI	.90 ≤ AGFI ≤ 1.00	.85 ≤ AGFI ≤ .90	0.89	Acceptable
CFI	.95 ≤ CFI ≤ 1.00	.90 ≤ CFI ≤ .95	0.95	Acceptable
NFI	.95 ≤ NFI ≤ 1.00	.90 ≤ NFI ≤ .95	0.95	Acceptable
NNFI	.95 ≤ NNFI ≤ 1.00	.90 ≤ NNFI ≤ .95	0.95	Acceptable
IFI	.95 ≤ IFI ≤ 1.00	.90 ≤ IFI ≤ .95	0.95	Acceptable
RMSEA	.00 ≤ RMSEA ≤ .05	.05 ≤ RMSEA ≤ .08	0.072	Acceptable
SRMR	.00 ≤ SRMR ≤ .05	.05 ≤ SRMR ≤ .10	0.050	Acceptable
PNFI	.95 ≤ PNFI ≤ 1.00	.50 ≤ PNFI ≤ .95	0.74	Acceptable

χ2= 377.39, *sd*= 94, 90% Probability Confidence Interval for RMSEA = (0.065 - 0.080)

As seen in the table, it was determined that the fit indices were acceptable. It was determined that the t values for the items were between 14.78 and 27.68 and were significant. The factor loads of the four-dimensional model are shown in Figure 1 and the factor loads vary between 0.58 and 0.91.

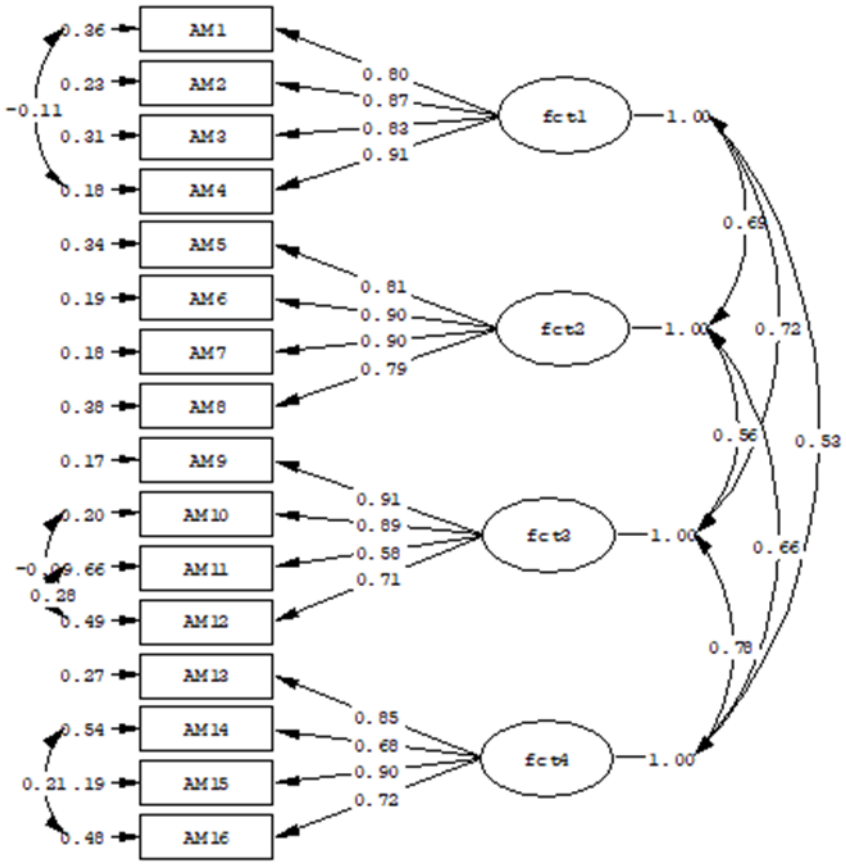

Figure 1. Factor loads for the four-dimensional model

fct1: Value of task, fct2: Ability beliefs, fct3: Task characteristics, fct4: Efford beliefs

Reliability

The reliability of the scale results was calculated with Cronbach Alpha and McDonald's Omega (ω) and is given in the Table 2. It is seen that the reliability results are quite similar to each other and the reliability of the results obtained from the measurement tool is high.

Table 2. Reliability Results

	Cronbach Alfa	**McDonald's Omega (ω)**
Total	0.936	0.938
Value of task	0.897	0.904
Ability beliefs	0.906	0.909
Task characteristics	0.863	0.865
Efford beliefs	0.876	0.876

Table 3. Item Statistics

Item Number	**Mean**	**Standard Deviation**	**Adjusted Item Total Correlation**	**When Item Is Removed Scale Cronbach Alpha**	**When Item Is Removed Scale McDonald's Omega (ω)**
M1	2.71	1.82	.683	0.932	0.934
M2	2.08	1.46	.663	0.932	0.934
M3	2.38	1.64	.681	0.932	0.934
M4	2.11	1.45	.680	0.932	0.934
M5	2.51	1.73	.697	0.931	0.934
M6	2.25	1.57	.676	0.932	0.934

M7	2.19	1.60	.696	0.931	0.933
M8	2.18	1.46	.637	0.933	0.935
M9	3.18	1.93	.742	0.930	0.933
M10	2.81	1.82	.714	0.931	0.934
M11	3.25	1.95	.593	0.934	0.936
M12	3.51	2.02	.669	0.932	0.935
M13	3.25	1.99	.677	0.932	0.935
M14	3.22	1.93	.598	0.934	0.936
M15	3.17	1.99	.707	0.931	0.934
M16	3.58	2.03	.649	0.933	0.935

As seen in the Table 3, item-total score correlations vary between 0.59 and 0.74. Items with an item-total score correlation above 0.30 are considered distinctive. All of these findings reveal that the items in the adapted scale are distinctive.

Within the scope of the sub-objectives of the research, CHAID (CHi-squared Automatic Interaction Detection) analysis, one of the decision tree algorithms, was used in the analysis of the data. CHAID analysis has an algorithm developed by Kass in 1980 and can be easily calculated with statistical package programs (Galguera, Luna, & Mendez, 2006; Hoare, 2004; Van Diepen & Franses, 2006). CHAID Analysis is an analysis that recursively divides the change in the dependent variable into different subgroups in a way that captures the within-segment minimum and inter-segment maximum (Hsu & Kang, 2007; Kayri & Boysan, 2007). Thus, it finds the best groupings for each independent variable, compares these groupings until the best one is selected, and regroups according to the best selected independent variable (Pehlivan, 2006). In these groupings, the Chi-square test uses importance ratios and cross tables (Hoare, 2004). CHAID Analysis does not need any assumptions (McCarty & Patient, 2007); not being affected by lost data (Horner, Fireman & Wang, 2010) can be counted among its many advantages. In CHAID analysis, analyzes can be performed with different data types. But if the independent variable is a continuous variable, the independent variable converts into segments/deciles before performing. In CHAID analysis, scale-independent variables are always banded into discrete groups before analysis. There are two options, fixed number (all scale independent variables are initially banded into the same number of groups) or custom (each scale independent variable is initially banded into the number of groups specified for that variable), while performing this operation through the statistical package program (Hoare, 2004). In this study, fixed number was preferred considering the variables (Answer-copy tendency (negative perception of exams and grades -ethical values), academic self-efficacy).

FINDINGS

In line with the first sub-objective of the study, the variable that best explains the value of task sub-dimension scores and what the variables that explain it, respectively, are shown in Figure 2.

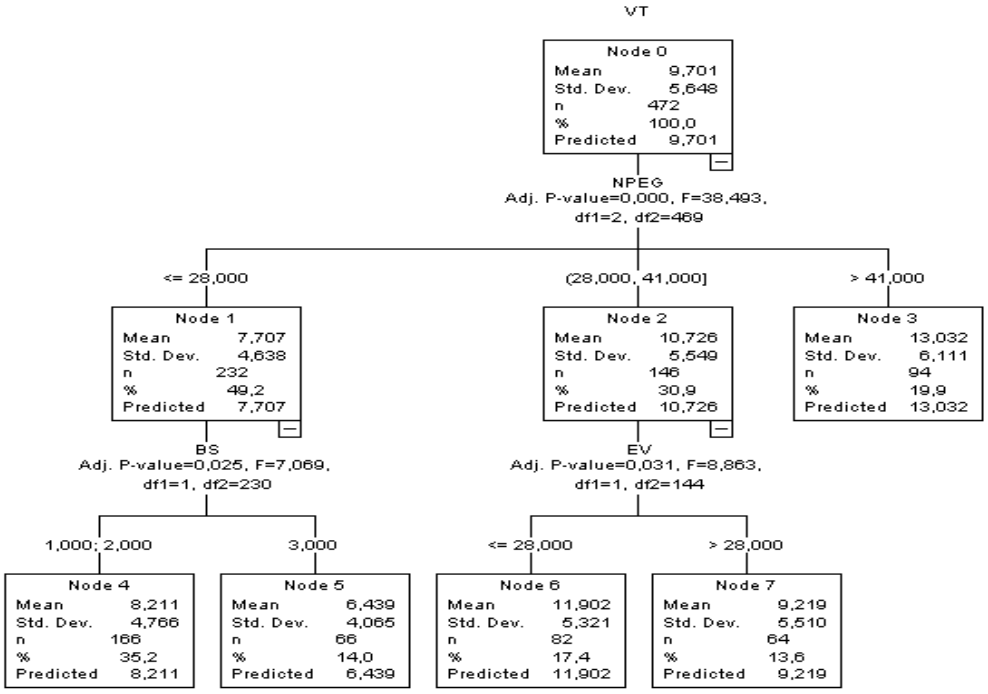

Figure 2. Decision Tree for the Classification of value of task

When Figure 2 is examined, the findings showed that negative perception of exams and grades (NPEG) which is sub-dimension of answer-copy tendency was the best predictor of value of task variable (F=38.493, df1=2, df2=469, p<.05). According to the results of the research, it is seen that university students with a NPEG score above 41 have the highest value of task mean scores ($\bar{x}$=13.032). It can be stated that university students with a NPEG score of 28 and below have the lowest value of task mean scores ($\bar{x}$=7.707). According to these findings, as the NPEG scores increase, the value of task scores also increase. The variable that best explains the value of task scores of students whose NPEG scores are 28 and below is the self-esteem variable (F=7.069, df1=1, df2=230, p<.05). Students with low and medium levels self-esteem have created a cluster, and the value of task mean score averages of this cluster ($\bar{x}$=8.211) are higher than those with high self-esteem ($\bar{x}$=6.439). The variable that best explains the value of task scores of students whose NPEG scores are between 28 and 41 is the ethical values variable (F=8.863, df1=1, df2=144, p<.05). The value of task mean score of the students with a total score of 28 and below obtained from the ethical values variable ($\bar{x}$=11.902) is higher than those with a score above 28 ($\bar{x}$=9.219). The statistical effect of academic self-efficacy independent variable on value of task scores was not found significant by the analysis and was not included in the tree plot.

In line with the second sub-objective of the study, the variable that best explains the ability beliefs sub-dimension scores and what the variables that explain it, respectively, are shown in Figure 3.

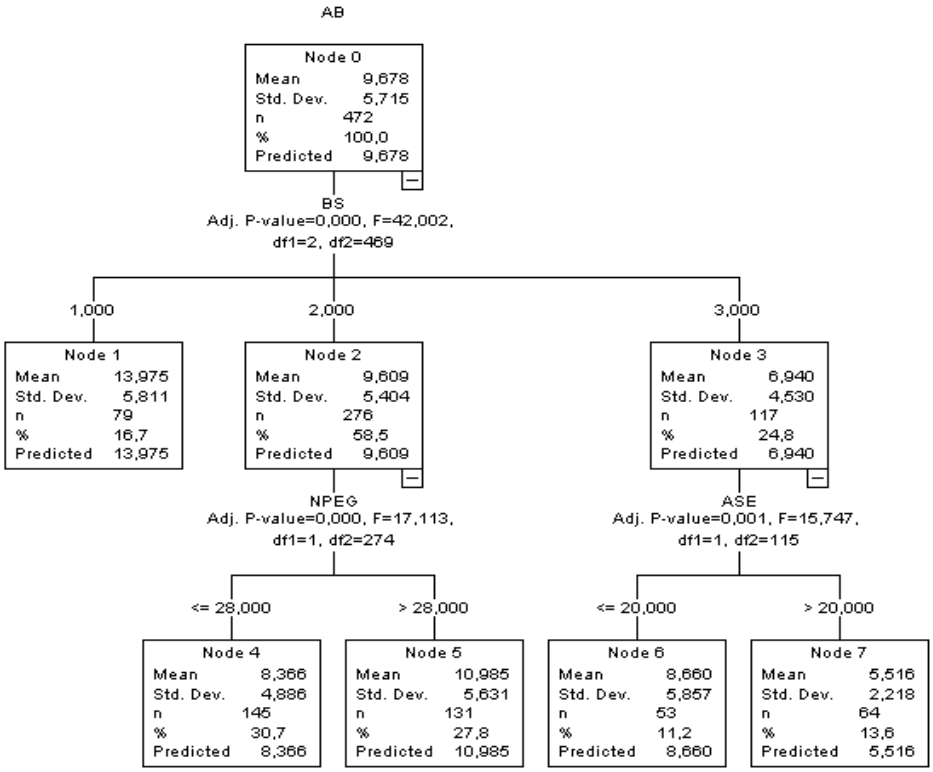

Figure 3. Decision Tree for the Classification of ability beliefs

Considering the results in Figure 3, it is seen that the most important variable statistically affecting the students' responses to ability beliefs is the self-esteem variable (F=42.002, df1=2, df2=469, p<.05). It can be stated that students with high ($\bar{x}$=6.940), medium ($\bar{x}$=9.609) and low ($\bar{x}$=13.975) self-esteem have different ability beliefs means. However, as the students' self-esteem dicrease, their ability beliefs means increase significantly. The variable that best explains the ability beliefs scores of students with moderate self-esteem is the NPEG variable (F=17.113, df1=2, df2=274, p<.05). The students whose NPEG scores are above 28 ($\bar{x}$=10.985) are higher than those whose mean score is 28 and below ($\bar{x}$=8.366). The variable that best explains the ability beliefs scores of students with high self-esteem is academic self-efficacy (F=17.113, df1=2, df2=274, p<.05). Students with an academic self-efficacy score of 20 and below ($\bar{x}$=5.957) have a higher mean score than students with a mean score of 20 ($\bar{x}$=5.516). Based on this finding, it can be interpreted that students with low academic self-efficacy have higher academic amotivation stemming from their ability beliefs. The statistical effect of the ethical values independent variable on ability beliefs scores was not found significant by the analysis and was not included in the tree plot.

In line with the third sub-objective of the study, the variable that best explains the task characteristics sub-dimension scores and what the variables that explain it, respectively, are shown in Figure 4.

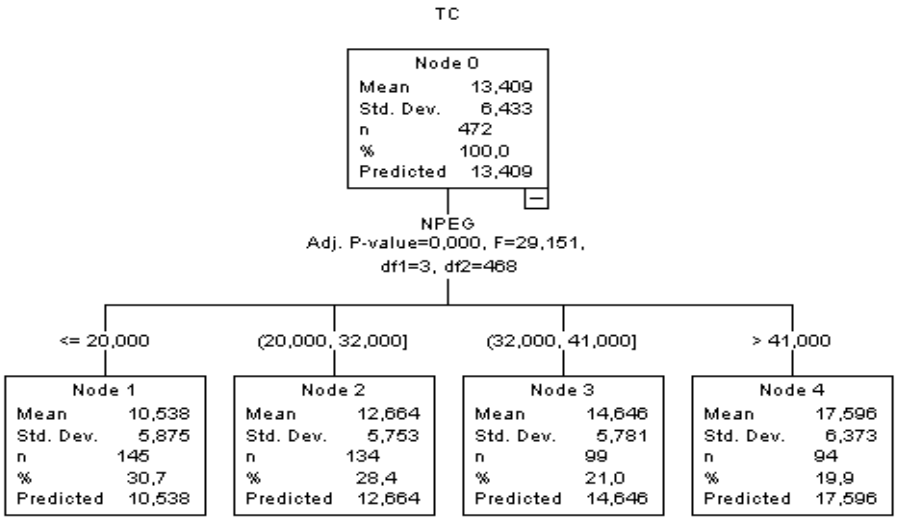

Figure 4. Decision Tree for the Classification of task characteristics

When Figure 4 is examined, the findings showed that NPEG which is sub-dimension of answer-copy tendency was the best predictor of task characteristics (F=29.151, df1=3, df2=468, p<.05). In other words, university students' task characteristics variable scores show a significant difference according to their NPEG variable scores. However, it was determined that they were clustered in a total of four groups as 20 and below; 20 to 32; 32 to 41 and above 41. According to the findings, it is seen that university students with a NPEG score above 41 have the highest task characteristics score means ($\bar{x}$=17.596). It can be said that university students with a NPEG score of 20 and below have the lowest mean scores ($\bar{x}$=10.538). Accordingly, as the NPEG variable scores of university students increase, their academic amotivation scores also increase within the scope of the sub-dimension. The statistical effect of ethical values, self-esteem and academic self-efficacy independent variables on task characteristics scores was not found significant by the analysis and was not included in the tree plot.

In line with the last sub-objective of the study, the variable that best explains the efford beliefs sub-dimension scores and what the variables that explain it, respectively, are shown in Figure 5.

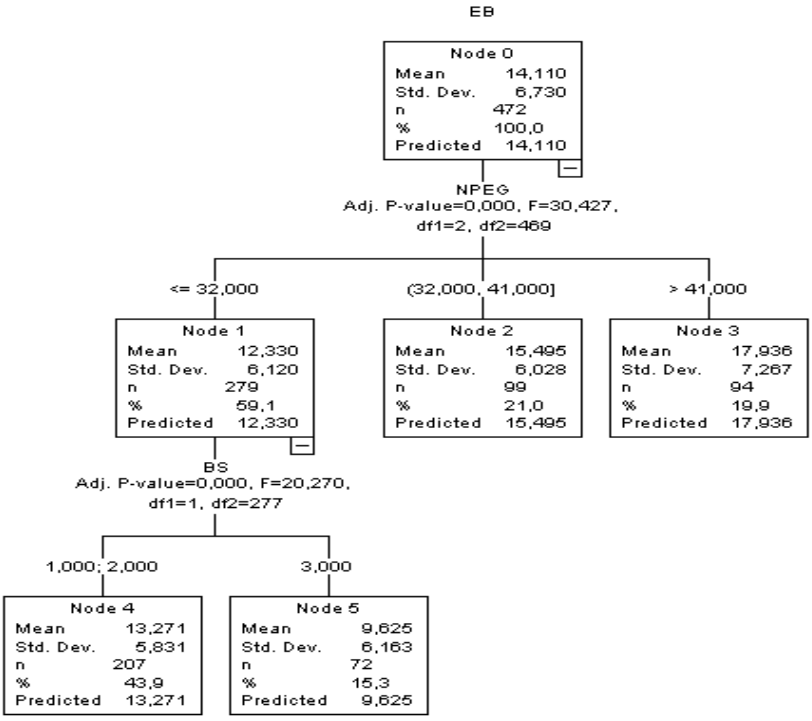

Figure 5. Decision Tree for the Classification of efford beliefs

When the results in Figure 5 are examined, it is seen that the variable that best explains the students' efford beliefs scores is the NPEG variable in this sub- objective as well as in the first and third sub- objectives (F=30.427, df1=2, df2=469, p<.05). According to the NPEG variable, efford beliefs scores were clustered in three groups as 32 and below, between 32 and 41 and above 41. As in the first and third sub-objectives, as the tendency to cheat in the NPEG sub-dimension of university students increases for this sub-goal, so does the mean score of efford beliefs. The university students who scored above 41 from the NPEG variable had the highest efford beliefs mean score ($\bar{x}$=17.936); It can be stated that those who score 32 and below from the NPEG variable ($\bar{x}$=12.330) have the lowest efford beliefs score mean. The variable that best explains the efford beliefs scores of students whose NPEG scores are 32 and below is the variable self-esteem (F=20.270, df1=1, df2=277, p<.05). On the other hand, according to the self-esteem variable, students were clustered in two groups as those with low and medium self-esteem in one group and those with high self-esteem in a separate group. It can be said that the mean score of those with low and medium self-esteem ($\bar{x}$=13.271) is higher than those with high self-esteem ($\bar{x}$=9.625). The statistical effect of ethical values and academic self-efficacy independent variables on efford beliefs scores was not found significant by the analysis and was not included in the tree plot.

CONCLUSION and DISCUSSION

According to the findings of the study, it is noteworthy and significant that the variable that best explains the scores of university students on three of the sub-dimensions of academic amotivation is the variable called the

negative perception of exams and grades (NPEG), which is a sub-dimension of cheating tendency. The NPEG variable provides information about students' tendency to cheat, and high scores are considered as indicators of high cheating tendency. In this respect, cheating tendencies can be shown as one of the sources of academic amotivation, which has the following sub-dimensions: value of task (this provides information about whether school or work is interesting and important); task characteristics (these provide information about whether school or work is boring or exciting) and finally effort beliefs (this provides information about whether students have the energy to work or make an effort for school). Researchers (Anderman & Midgley, 2004; Babanejad Nigjeh et al., 2021; Krou, Fong & Hoff, 2021; Murdock, Hale & Weber, 2001; Mih & Mih, 2016) have also stated that cheating tendencies are higher in educational environments where learning focus and motivation are low.

In line with the first sub-objective, students' responses to the "value of task" dimension of academic amotivation were analyzed, and the NPEG variable, which is the sub-dimension of cheating tendency, was found as the best explanatory variable. In this direction, the fact that school or studying is not interesting or important for students can be explained by their tendency to cheat. In other words, it can be stated that if students have a higher tendency to cheat, they care less about school or study. In a context where caring more about school or studying is associated with academic achievement, Duran (2020) stated that academic achievement is a significant predictor of students' tendency to cheat, and Sabbagh (2021) stated in his study that there is a negative relationship between achievement perception and cheating behavior. It has been determined that students with low academic achievement have higher cheating tendencies and cheating frequency (Akdağ & Güneş, 2002; Olafson, Schraw, Nadelson, Nadelson & Kehrwald, 2013; Ömür, Aydın & Argon, 2014; Whitley & Keith-Spiegel, 2001). However, among the students who have relatively less tendency to cheat, those with low and medium self-esteem find school or studying less interesting than those with high self-esteem. If finding school or studying less interesting is associated with academic failure, studies examining the relationship between self-esteem and academic failure (Balkıs & Duru, 2010; Leary, 1999; Topçu & Leana-Taşçılar, 2016) have revealed a negative relationship between the two variables. Soytetir (2005) states that individuals with high self-esteem are open to improvement in areas where they do not feel strong enough or feel deficient, and adds that when these individuals fail, they seek methods and see failure not as a mistake but as an opportunity to improve themselves. Therefore, the fact that individuals with high self-esteem have a low tendency to cheat confirms this finding. Soytürk et al. (2015) also stated that those who stated that they had never cheated had higher self-esteem. The variable that best explained the responses of students with NPEG variable scores between 28-41 was found to be the ethical values variable. The ethical values variable is related to the ethical values that students have, and high scores indicate a low tendency to cheat. In the light of this, it can be asserted that students who have higher ethical values and tend to cheat less have less academic amotivation and that they find school or studying relatively more interesting and care more about it. It can also be stated that students' academic self-efficacy scores do not make a significant difference on whether they care about school or studying. If caring more about school or studying is to be associated with academic success, in parallel with this result, Alemdağ (2015) found a positive and weak relationship between students' academic self-efficacy levels and academic achievement;

Miller & Iszak (2017) found a positive and weak relationship between academic self-efficacy perception and negative attitudes towards cheating, and a negative and weak relationship between academic self-efficacy perception and cheating behavior. Finn & Frone (2004) obtained a different result: they found that the tendency to cheat decreased as a result of the interaction between high academic self-efficacy perception and high academic performance, and that high achievers with low academic self-efficacy had a higher tendency to cheat. Blake & Lesser (2006) and Byrne, Flood, and Griffin (2014) found a moderate relationship between students' academic achievement and academic self-efficacy. There are many studies in which direct relationships were examined and significant relationships were found between students' academic self-efficacy beliefs and their academic performance (Adeyamo, 2007; Afari, Ward & Khine, 2012; Breso et al., 2011; Chemers, Hu & Garcia, 2001; Feldman & Kubota, 2015; Ferla, Valcke & Schuyten, 2010; Zajacova, Lynch & Espenshade, 2005).

Within the scope of the second sub-objective, students' ability beliefs responses were analyzed. The ability beliefs sub-dimension can be defined as the students' belief that studying or fulfilling what is expected of them is beyond their abilities or very hard for them. Unlike the other sub-objectives, self-esteem variable was found to be the variable that best explained students' ability beliefs responses. It is quite significant that within the scope of academic amotivation students' beliefs in their own abilities can be explained by their self-esteem. Komarraju & Dial (2014) reported that self-esteem predicts motivation; and Leeson, Ciarrochi, & Heaven (2008) stated that individuals with high self-esteem have higher intrinsic motivation scores than those with low self-esteem do. At the same time, it was also observed that amotivation was associated with negative automatic thoughts and self-esteem (Direktör & Nuri, 2017). As students' self-esteem increases, their belief in studying or fulfilling what is expected of them increases and thus their academic amotivation decreases. The responses of students with moderate self-esteem can be best explained by the NPEG variable. Students who have a relatively high tendency to cheat have stronger beliefs about not being able to study or fulfill what is expected of them than those who do not. On the other hand, among students with high self-esteem, those with lower academic self-efficacy had lower self-confidence in studying and fulfilling expectations than those with higher academic self-efficacy. Similar to these findings, Giunta et al. (2013) reported a relationship between academic self-efficacy and self-esteem in their study. Akyürek (2020), Alemdağ, Öncü & Yılmaz (2014), Fulgencio et al. 2021, Makhabbat et al. (2018); Sıvacı & Çöplü (2020), Şad & Gürbüztürk (2009) found a positive relationship between university students' academic motivation and academic self-efficacy perception levels. Aktaş (2017) also stated that there is a significant positive relationship between students' academic self-efficacy and academic intrinsic and extrinsic motivation. Thomas et al. (2009) stated that self-efficacy beliefs predict motivation. It was also found that ethical values related to the tendency to cheat did not have a statistically significant effect on students' beliefs that studying or fulfilling what is expected of them exceeds their capacities or challenges them too much.

When the task characteristics sub-dimension of academic amotivation is analyzed, it is observed that the NPEG variable is the best explanatory variable, and this variable is also the only significant variable. Based on this finding, whether school or work is boring, exciting or not for the students, and whether they like it or not can be explained by their tendency to cheat. On the other hand, it can be stated that those with relatively high cheating

tendencies find school or studying boring and do not like them. When the problems arising from the education system (Alkan, 2008; Küçüktepe & Eminoğlu Küçüktepe, 2014; Mert, 2012; McCabe & Trevino, 1996; Wajda-Johnston et al., 2001) and the instructor (Eminoğlu, 2008; Mert, 2012; Seven & Engin, 2008) are examined, it can be seen that the tendency to cheat is related to this dimension. Among the prominent results of the study, the following can be cited: ethical values, self-esteem, and academic self-efficacy, which are the other variables examined within the scope of the research, did not create a significant difference in the task characteristics scores of the students.

Finally, considering the findings of the effort beliefs (one of the sub-dimensions of academic amotivation), which represent whether the students have enough energy to study and whether the effort can be made or not, it can be concluded that the best explanatory variable is NPEG, which is an indicator of cheating tendency. Accordingly, if students have a high tendency to cheat, it can be concluded that they do not have enough energy and that they cannot make an effort to study. Similarly, Miller et al., (2007) stated that students tend to cheat because they do not want to spend their time learning. However, it is seen that the variable that best explains the responses of the group with relatively more energy and effort to study is self-esteem, and those with low and medium self-esteem scored higher on the relevant sub-dimension than those with high self-esteem. Accordingly, it can be concluded that students who have less tendency to cheat and who have high self-esteem have more energy for studying and make more effort to study. Ming, Ling & Jaafar (2011) stated that it is easier to achieve success for students with high intrinsic motivation. Liu & Zhang (2013) found that extrinsic and intrinsic motivation together have a significant impact on students' academic achievement. Goodman et al. (2011) stated that in predicting academic achievement, intrinsic motivation is the second most important variable, coming after effort. Turner, Chandler, and Heffer (2009) found that intrinsic motivation is a significant predictor of academic performance. In another study, a positive relationship was found between students' academic performance and both intrinsic and extrinsic motivation (Diseth, Mathisen, & Samdal, 2020). It is also seen that within the scope of effort beliefs, ethical values and academic self-efficacy variables do not have a statistically significant effect on students' academic amotivation responses.

SUGGESTIONS

The results of this study should be interpreted with some limitations. The fact that the ratio of male students in the study group is lower than female students can be considered as a limitation of this study. For this reason, it is recommended to repeat the study by increasing the number of male students. This study, which was conducted with university students, can also be conducted with secondary school and high school students. In order to explain academic amotivation in the study; The variables answer-copy tendency, academic self-efficacy and self-esteem were used. In other studies, other relevant variables may be included in the study. Experimental studies can be designed to reduce academic amotivation. The most important suggestion of the research is that academic motivation should be increased in order to decrease the tendency of students to cheat. This result can be deepened by taking student opinions in other studies. At the same time, in programs designed

to increase academic motivation, the extent to which the tendency to answer-copy changes can be studied through experimental research.

ETHICAL TEXT

In this article, journal writing rules, publishing principles, research and publication ethics rules, and journal ethics rules have been followed. Responsibility for any violations that may arise regarding the article belongs to the authors. Ethics committee permission for the article was received by Marmara University / Publication Ethics Board with the decision numbered 553003 dated 23.05.2023.

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