

Motivation Resources and Decision Making Strategies of High School Students*

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Abstract. The aim of this study was to determine the extrinsic motivation resources and decision making strategies of high school students. At the same time, the relationship between these two variables and demographic variables were examined. The study was carried out with 488 students. Motivation Resources Questionnaire and Adolescents Decision Making Strategies Scale were used in the study. As a result of the research, it was understood that Science High School students used external motivational sources, family support and classroom environment conditions more than Anatolian Vocational High School and Anatolian High School. It has been observed that high school students who use preschool education use extrinsic motivation resources more than the ones who do not and that the higher the income levels of the families of the high school students, the more they use the extrinsic motivation resources. In addition, the extrinsic motivation resources of the high school students who have found good academic success were higher. High school students, decision-making processes, self-esteem and prudent selectivity strategies, the frequency of use, high-level students observed in Anatolian High School. While male students' self-esteem and indifference levels were higher than females, female students' panic levels were higher than males; and the level of indifference was high. A negative relationship was observed with the negative dimensions of high school students, external motivation resources and decision-making strategies with positive sub-dimensions.

Keywords: Extrinsic motivation, motivation resources, decision making strategies, high school students.

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1. INTRODUCTION

There are many variables that determine school success and at the beginning of these variables, motivation (motive) with high formal value turns into behavior as a result of interaction with real experiences. Since motivation is a need or desire (Seifert, 1991) that activates the learner for a specific purpose, motivation is thought to be very effective gaining and lasting desired behaviors. Depending on the type of stimulus, motivation is addressed under the titles "behavioral, social learning theory, humanistic and cognitive approach". In the behavioral approach, the individual tends to act for the reward, which points to the external motivational processes. In this approach, following the careful analysis of incentives and awards in the classroom, conscious behavior patterns and habits are developed at the end of consistent reinforcements regarding certain behaviors (Woolfolk, 2010). In the cognitive approach, the goals are an important factor in the motivation of individuals, whereas in the humanistic approach, it meets the individual's intrinsic motivational needs such as self-realization in order of importance (Maslow, 1970). Thus, considering the cognitive development process, motivation sources should evolve from the behavioral approach to the humanistic approach. In other words, while the mental development of individuals develops in the first years of their life depending on the sources of external motivation, mental development should evolve towards intrinsic motivation skills with the transition to the abstract process period (Yalın Uçar & Kızıldağ, 2014). While it is possible for individuals with intrinsic motivation to continue their behavior with the satisfaction they get from understanding, discovering or learning something new, individuals who use the source of external motivation are more concerned with the gain they will achieve at the end of that behavior. Such students are willing to learn in order to gain appreciation, reward or avoid negative criticism (Ryan and Deci, 2000). On the other hand, non-motivation is defined as the individual's reluctance to behave. Thus, it arises from not valuing behavior or activity, feeling insufficient to perform the behavior or believing that it cannot achieve what it wants (Vallerand et al. 1992).

It is thought that the academic achievements, creativity and metacognitive behaviors of the students who are motivated, not determined by this study or who determine the learning process according to their internal or external motivation sources may differ from each other in terms of quality and quantity. Behaviors and achievements of students can be revealed through researches covering all the mentioned types of motivation and related subtitles. Because considering the fact that internally motivated students strive to conduct the behavior, are willing to spend time, provide attention to continuity, focus, concentrate, are interested, are willing and determined to go to the result, they also exhibit their indispensable behavior, it will vary according to the motivation source considered. For this reason, the results of this study are considered to be important. In this study, on the contrary, while high school students are required to use intrinsic motivation sources in accordance with the cognitive development period feature they are in, the measurement tool based on "extrinsic motivation" was applied to the participants of the study. Thus, it will be tried to understand whether high school students use their motivation processes according to their external resources. Again, in this research, the decision-making strategies of the participants were tried to be described. While decision-making is defined as deciding and deciding on a problem (TDK, 2018), Klaczynski et al (2001) are also expressed as a process that begins with the awareness of the contradiction

between the current situation and the targeted situation. Kuzgun (1992) defines a need as a tendency to eliminate the problem when there is more than one way to an object that is thought to be eliminated. Even if the definitions made are process or result oriented, individuals can make very simple decisions in their daily lives, as well as make educational, economic, social, professional and political decisions that can change the course of their lives. Considering that the satisfaction obtained from life has increased in the same proportion (Çolakkadıođlu & Guçray, 2007) in terms of the effectiveness of the decisions made, it is underlined that the decision-making process should be managed effectively. Gordon (1996) examined the decision-making process in adolescents under three headings: 'cognitive ability', 'social and psychological development', and 'cultural and social effects'. Also, Piaget (1976) distinguished the concrete process period of a child between the ages of eight and ten years and the abstract process period, which is the cognitive feature of adolescence. He classified this as abstract thinking against concrete, future orientation towards now, and taking into account all options against just considering some options. The measurement tool used in this study process took into account the future orientation with cognitive and abstract thinking. Because decisions made during adolescence have implications for individuals' health, psychological adaptation, profession and social acceptance throughout their life (Ersever, 1996). It is thought that the decisions made in this period can both create suitable living conditions in the future and limit these conditions. When the studies on motivation sources are examined, there are results that show that adolescents are higher in academic success and better in their decisions when they use internal motivation sources (Goodman et al., 2011; Yerdelen et al., 2014; Çolak & Cırık, 2015; Ali,2016). Similarly, individuals who have self-perception and internal locus of control have high intrinsic motivation (Silvester et al.2002), (Fazey and Fazey 2001). Individuals using the internal control focus know that the product resulting from their behavior is the result of their own behavior and is responsible for their own lives in this context. Briefly, it has been stated that individuals focused on internal control act with intrinsic motivation and have successful, aggressive, entrepreneurial and independent personality characteristics (Silvester et al. 2002). Again, it was observed that students with an internal control focus made more rational decisions and less indecision compared to students with an external control focus (Çoban & Hamamcı, 2006), so that they had a tendency to make dependent decisions (Kaplan et al., 2001) compared to individuals with an internal control focus. For this reason, this study was conducted to understand to what extent high school students who are expected to use intrinsic motivation resources and still in their adolescence period use extrinsic motivation sources and whether these sources vary according to demographic characteristics. At the same time, this study tries to understand how high school students 'decision making strategies differ, whether they differ according to demographic variables and whether there is a significant relationship between high school students' external motivation sources (family and classroom environment) and decision making strategies. Thus, in the light of the findings of the research, it is thought that objective information was obtained to improve the relationship between the two variables by developing the internal motivation sources and decision-making strategies of high school students.

2. METHOD

The research was carried out with a quantitative descriptive approach and the observed variables and their relationships were presented as they existed. The dependent variables of this research, which is carried out in the screening model, are "extrinsic motivation sources" (family support and classroom environment) and "decision making strategies", while the independent variables are "the source of the desire to succeed, the monthly income level of the family, pre-school education status, school type, gender and the person who is effective in their decisions".

Participant

The universe of this research is 11th grade students studying in public schools in Konak and Buca districts of İzmir Province. The sample of the research was determined by the "maximum diversity method", which is one of the sampling methods, in order to ensure the selection of information-rich situations to be obtained in line with the purpose of the study. Buca Science High School, Ataturk Anatolian High School, Fatih Sultan Mehmet Anatolian High School and Cumhuriyet Anatolian Vocational High School, (which located in Konak and Buca districts) 11th grade students (488 students) have been reached in order to ensure that the sample consists of different similar situations in relation to the problem. The participants of the research are Science High School with 15.8%, Anatolian High School with 50.2% and Anatolian Vocational High School with 34.0%.

Data collection tools and instruments

Adolescent Decision-Making Scale: The tool developed by Mann, Harmoni and Power (1989) was adapted to Turkish by Çolakkadıoğlu (2003). The 'four-point Likert-type' measuring instrument consists of Thirty (30) items and includes the sub-dimensions of "self-esteem in decision making", "prudent selectivity", "panic", "avoiding responsibility". The highest score obtained from each sub-dimension of the measuring tool is 18 and the lowest score is zero (0). High scores indicate that the relevant decision-making style was used. Test-retest safety coefficients of the measuring instrument; self-esteem subscale, 0.80; conservative selectivity, 0.81; panic sub-dimension, 0.82; avoidance of responsibility subscale, 0.80; indifference sub-dimension is 0.86 (Çolakkadıoğlu, 2003). In this study, the said measurement tool was applied to 181 students and the reliability coefficient was 0.92 and the KMO value was 0.90.

Motivation Source Questionnaire for Students : The validity and reliability of the questionnaire created by Ali (2016) for this study was realized with 181 students. Accordingly, Cronbach Alpha, 0.81; KMO value was also obtained as 0.84.

3. RESULTS

The distribution of the scores obtained from the sample group consisting of Science High School, Anatolian High School and Anatolian Vocational High School 11th grade students and the findings obtained as a result of the non-parametric statistics were tried to be explained through the following tables. It was observed that the scores obtained from four hundred and eighty-eight (488) students did not show normal distribution as a result of Shapiro-Wilk

normality analysis and there were no extreme values from Q-Q graphs. For this reason, in the study, the students were asked for 'Self-Respect in Decision Making', 'Prudent Selectivity', 'Panic', 'Avoiding Responsibility', 'Carelessness', 'Motivation Source for Students', 'Classroom Average Scores', 'Family Support'. ; Mann-Whitney U, Kruskal Walls-H tests and Sperman correlation test, which are among the comparison tests between groups, were used.

Table 1

Normal Distribution Test

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	N	P	Statistics	n	p
Self Respect in Decision Making	,102	488	,000	,979	488	,000
Prudent Selectivity	,108	488	,000	,974	488	,000
Panic	,094	488	,000	,970	488	,000
Avoiding Responsibility	,145	488	,000	,938	488	,000
Indifference	,186	488	,000	,890	488	,000
Motivation Source for Students	,061	488	,000	,990	488	,002
Family Support	,114	488	,000	,946	488	,000
Classroom Environment	,079	488	,000	,982	488	,000

As can be seen from the normality test above, since the "Sig" values are less than 0.05, it is observed that the distribution is not normal for all groups with H1: 95% confidence (Table 1).

Table 2

Frequency Analysis of Demographic Variables Of Participants

Demographic Feature		N	%
School Type	Science High School	77	15,8%
	Anatolian High School	245	50,2%
	Anatolian Vocational High School	166	34,0%
Gender	Female	284	58,2%
	Male	204	41,8%
Pre-School Education Status	Yes	290	59,4%
	No	198	40,6%

Monthly Income Level	1000-2000	137	28,1%
	2001-3000	119	24,4%
	3001-4000	94	19,3%
	4001 and Higher	138	28,3%
Description of Academic Success	Very Good	76	15,6%
	Good	226	46,3%
	Medium	165	33,8%
	Low	21	4,3%
My mother is influential in my life's decisions.	Agree	110	22,5%
	Disagree	378	77,5%
My father is instrumental in making decisions in my life.	Agree	79	16,3%
	Disagree	407	83,7%
My teacher is effective at making decisions in my life	Agree	7	1,4%
	Disagree	479	98,6%
I'm effective at making decisions in my life.	Agree	341	70,0%
	Disagree	146	30,0%
I am the source of my desire to succeed.	Agree	374	76,8%
	Disagree	113	23,2%
My friends are the source of my desire to succeed.	Agree	28	5,7%
	Disagree	460	94,3%
My family is the source of my desire to succeed.	Agree	98	20,1%
	Disagree	390	79,9%
The media is the source of my desire to succeed.	Agree	14	2,9%
	Disagree	474	97,1%
My teachers are the source of my desire to succeed.	Agree	8	1,6%
	Disagree	480	98,4%

The sample of the study consists of 11th grade students from Science High School with 16%, Anatolian High School with 50% and Anatolian Vocational High School with 34% (Table 2). In the gender distribution of the sample group, the rate of female students is 58% and that of male students is 41.8%. Among the participants, the rate of those receiving pre-school education is 59%, and the rate of those who do not receive pre-school education is 41%.

Considering the monthly income levels of the families of the participants, the ratio of those between 1000-2000 TL is 28%, the ratio of 2001-3000 TL is 24%, the ratio of 3001-4000 TL is 19% and the ratio of 4001 TL and above is 28% (Table 2). The percentage of students who described themselves as 'very good' in terms of academic achievement was 16%, the rate of those who described themselves as 'good' was 46%, the rate of those who described themselves as 'medium' was 34%, and the rate of students who described themselves as 'poor' was 4%. The proportion of students who said that 'their own' was effective in their decisions in their lives was 70%, the rate of students who said their 'mother' was effective was 23%, the rate of students who said their 'father' was effective was 16%, and the rate of those who said their 'teacher' was effective was 1% (Table 2). In addition, the rate of those who see 'themselves' as 'the source of the desire to succeed' is 77%, the rate of those who see 'circle of friends' as 'the source of the desire to succeed' is 6%, the rate of those who see 'family' as 'the source of desire to succeed' is 20%, as 'the source of desire to succeed' The rate of those who see 'the media' is 3%, and the rate of those who see their 'teachers' as the 'source of desire to succeed' is 1.6%.

Table 3

High School Students ' Decision-Making Strategies And External Motivational Sources Score Averages

	<i>N</i>	<i>Min.</i>	<i>Mak.</i>	<i>Ort.</i>	<i>Ss</i>
Self-Respect In Decision Making	488	8,00	24,00	17,80	3,23
Prudent Selectivity	488	9,00	24,00	18,32	3,00
Panic	488	6,00	24,00	12,46	3,97
Avoidance Of Liability	488	6,00	21,00	10,89	3,16
Indifference	488	6,00	21,00	9,37	2,91
<i>Motivation For Students</i>	<i>488</i>	<i>24,00</i>	<i>80,00</i>	<i>49,39</i>	<i>7,35</i>
Family Support	488	13,00	45,00	32,57	4,92
Classroom Environment	488	7,00	35,00	16,82	4,53

In Table 3, the average score of 'self-esteem' in decision-making processes of the participants of the study is 17.80, 'prudent selectivity' 18.32, 'panic' 12.46, 'avoiding responsibility' 10.89, and 'regardlessness' score average is 9, 37, was obtained. The "Source of Motivation" score average of 11th grade students is 49.39 (Table 3). Among the sources of motivation, the average 'Family Support' was 32.57, and the 'Classroom Environment' mean score was 16.82. Thus, it is observed that the participants make more prudent choices in their decision-making processes and use the family factor as one of the extrinsic motivation sources.

Table 4

Motivational Resources Score Averages of High School Students By School Type

	School	N	Rank average	X ²	P	Binary Comparison
Level Of Use Of External Motivation	1. Science High School	77	343,69	50,331	0,000	1-2 1-3
	2. Anatolian high school	245	238,7			
	3. Anatolian Vocational High School	166	207,05			
Family Support	1. Science High School	77	332,79	39,950	0,000	1-2 1-3
	2 Anatolian high school	245	239,26			
	3. Anatolian Vocational High School	166	211,29			
Classroom Environment	1. Science High School	77	312,92	23,703	0,000	1-2 1-3
	2. Anatolian high school	245	239,89			
	3. Anatolian Vocational High School	166	219,56			

According to Table 4, there is a statistically significant difference in terms of "Motivation Source for Students" score. ($p < 0,05$). When the scores are compared in terms of school type (Table 4), the average of Science High School students is 343.69, the average of Anatolian High School students is 238.70 and the average of Anatolian Vocational High School students is 207.05. Accordingly, it was observed that the level of being affected by the extrinsic motivation source of the Science High School students was the highest, while the Anatolian Vocational High School students were at the lowest level of being affected by the external motivation source. Again, there is a statistically significant difference between student groups with different school types in terms of "Family Support" score (Table 4). The average score rank of Science High School students is 332,79, the average score rank of Anatolian High School students is 239,26, and the average score rank of Anatolian Vocational High School students is 211,29. Accordingly, it was observed that students whose school type was 'Science High School' used their family support motivation sources more, while the students who used the

family support motivation sources the least were Anatolian Vocational High School. When Table 3 is examined, there is a statistically significant difference between the groups of students whose school type is different in terms of "Classroom Environment" score from external sources of motivation ($p < 0.05$). The average score rank of students with school type 'Science High School' is 312.92, the average of students with 'Anatolian High School' is 239.89, and the average of students with Anatolian Vocational High School is 219.56. Accordingly, it is seen that students whose school type is Science High School use 'classroom environment extrinsic motivation sources' more.

Table 5

Motivation Sources of High School Students Gender Variable Distribution

	Gender	n	Rank Average	U	p
Level Of Use Of External Motivation	Female	284	236,84	26792,5	0,15
	Male	204	255,16	00	6
Family Support	Female	284	240,37	27794,0	0,44
	Male	204	250,25	00	4
<i>Classroom Environment</i>	Female	284	236,13	26591,5	0,12
	Male	204	256,15	00	1

In Table 5, a statistically significant difference was not obtained between the male and female student groups in terms of the "Motivation Source for Students" score and its sub-dimensions ($p > 0.05$).

Table 6

Distribution of Motivation Resources of High School Students By Pre-School Education Variable

	Pre-school education status	N	Rank Average	U	P
Level Of Use Of External Motivation	Yes	290	258,77	24571,5	0,007
	No	198	223,6		
Family Support	Yes	290	260,95	23940	0,002
	No	198	220,41		
<i>Classroom Environment</i>	Yes	290	249,14	27364,5	0 378
	No	198	237,7		

According to Table 6, there is a statistically significant difference between the participants of the study in terms of "Motivation Source for Students" score between the students who have "received pre-school education" and "have not received pre-school education" ($p < 0.05$). The average point rank of students with 'pre-school education' is 258,77, while the average of students with 'no pre-school education' is 223,60. According to this, it was concluded that high school students who had 'pre-school education' used their extrinsic motivation resources more than high school students who did not have 'pre-school education'. There is a statistically significant difference between the groups of 'pre-school education' and 'no pre-school education' in terms of 'Family Support' score ($p < 0.05$). The mean score of the students 'who have received pre-school education' is 260.95, and the average of students who have not received pre-school education is 220.41 (Table 6). Accordingly, it was determined that the students who had "pre-school education" received more support from their families than the students who had "no pre-school education". There is no statistically significant difference between 'pre-school education' and 'non-preschool education' student groups in terms of 'Classroom Environment' score ($p > 0.05$). In other words, it was revealed that the high school students' 'pre-school education' and 'non-pre-school education' did not affect the 'classroom environment external motivation' sources.

Table 7

Distribution of Motivation Resources of High School Students By Family's Monthly Income Variable

	Monthly Income level	N	Rank Average	X^2	P	Binary Comparison
Level Of Use Of External Motivation	1000-2000	137	186,34	33,40 2	0,00 0	1-3
	2001-3000	119	257,04			1-4
	3001-4000	94	272,78			
	4001 and Higher	138	272,16			
Family Support	1000-2000	137	182,7	38,69 8	0,00 0	1-3
	2001-3000	119	257,79			1-4
	3001-4000	94	263,9			
	4001 and Higher	138	281,18			
Classroom Environment	1000-2000	137	212,79	10,73 6	0,01 3	1-3
	2001-3000	119	249,14			1-4
	3001-4000	94	268,84			

4001 and Higher	138	255,4
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According to Table 7, there is a statistically significant difference between the groups of students whose families have different monthly income in terms of "Motivation Source for Students" score ($p < 0.05$). The average point average of those whose family income is 'between 1000 - 2000 TL' is 186.34, the average point rank of those who have 'between 2001 and 3000 TL' is 257.04, the average point average of those who have 'between 3001 - 4000 TL' is 272.78, The average score of those with 4001 TL and above is 272.16.

Accordingly, it is seen that high school students whose families have a monthly income of '3001-4000 TL' use 'extrinsic motivation sources' most, whereas students whose families' monthly income is 'between 1000-2000 TL' use extrinsic motivation resources the least. In other words, it was concluded that high school students whose families have low income level are not affected by external motivation sources, however, students whose families' income level is '3000 TL and above' are more affected by external motivation sources.

There is a statistically significant difference between the groups of students whose families have different monthly income in terms of "Family Support" score ($p < 0.05$). The average point rank of those whose family's monthly income is between '1000-2000 TL' is 182.70, the average of those whose family's monthly income is between '2001-3000 TL' is 257.79, and the average of those whose family's monthly income is between 3001-4000 TL' is 263.90 The average of those whose family's monthly income is '4001 TL and above' is 281.18 (Table 7). Accordingly, it was concluded that as the monthly income level of the families of high school students increased, the support received from their families increased, and as the family income level of the students decreased, the support they received from their families also decreased.

Again, there is a statistically significant difference between student groups with different monthly income of the family in terms of "Classroom Environment" score ($p < 0.05$). The average point rank of those whose family's monthly income is 'between 1000-2000 TL' is 212.79, the average point rank of those with 'between 2001-3000 TL' is 249.14, the point average of the '3001-4000 TL' is 268.84, the average score rank of those with a monthly income of '4001 and above' is 255.50. Accordingly, it was concluded that high school students with a monthly income of '3001-4000 TL' in their families use 'Extrinsic Motivation Sources of the Classroom Environment' more, while students with a monthly income of 'between 1000 and 2000 TL' use the external motivation resources of the classroom environment at the lowest level.

Table 8

Distribution of Motivation Sources By Academic Achievement Variable

	Academic Success	N	Rank Average	X ²	P	Binary Comparison
Level Of Use Of External Motivation	Very Good	76	262,3	10,197	0,017	1-4
	Good	226	258,86			
	Medium	165	223,28			
	Low	21	192,24			
Family Support	Very Good	76	262,59	6,694	0,082	
	Good	226	250,66			
	Medium	165	235,92			
	Low	21	180,21			
Classroom Environment	Very Good	76	239,41	10,489	0,015	2-3
	Good	226	265,42			
	Medium	165	219,27			
	Low	21	235,95			

When Table 8 is examined, there is a statistically significant difference between the student groups who find their academic achievement different in terms of the "Motivation Source for Students" score ($p < 0.05$). The mean score of the students who find their academic success as 'very good' is 262.30, the average of the students who describe them as 'good' is 258.86, while the average of the students who describe themselves as 'medium' is 223.28, while the average of the students who describe themselves as 'poor' is 192.24. Accordingly, it is understood that as the rate of high school students finding their own academic achievement high increases, their level of using extrinsic motivation sources also increases. There is no statistically significant difference between the groups of students who find their academic success different in terms of "Family Support" score ($p > 0.05$). In other words, it is observed that there is no relationship between the academic achievement of high school students and the support received from the family.

There is a statistically significant difference between the groups of students who find their academic achievement different in terms of "Classroom Environment" score ($p < 0.05$). The average score of those who find their academic success 'very good' is 239.41, the average of those who find it 'good' is 265.42, the average of those who find it 'medium' is 219.27, and the

average of those who find it 'poor' is 235.95 (Table 8). Accordingly, it was observed that high school students who found their academic achievement at a good level were at the highest level using 'external sources of motivation in the classroom environment', while the students who found their academic achievement at a medium level used 'classroom environment extrinsic motivation sources' were at the lowest level.

Table 9

Distribution of Decision-Making Strategies By School Type Variable

	Decision-making str. Type of School	N	Rank average.	X ²	P	Binary Comparison
Self-Respect In Decision Making	1.Science High School	77	218,16	6,343	0,042	1-2
	2.Anatolian High School	245	259,51			
	3.Anatolian Vocational High School	166	234,57			
Prudent Selectivity	1.Science High School	77	212,07	6,140	0,046	1-2
	2.Anatolian High School	245	256,96			
	3.Anatolian Vocational High School	166	241,16			
Panic	1.Science High School	77	251,22	1,758	0,415	
	2.Anatolian High School	245	236,14			

	3.Anatolian Vocational High School	166	253,73		
Avoidance Of Liability	1.Science High School	77	275,53	5,743	0,057
	2.Anatolian High School	245	245,08		
	3.Anatolian Vocational High School	166	229,26		
Indifference	1.Science High School	77	248,58	2,174	0,337
	2.Anatolian High School	245	235,52		
	3.Anatolian Vocational High School	166	255,86		

There is a statistically significant difference between student groups with different school types (Table 9) in terms of "Self-Esteem" in decision-making ($p < 0.05$). The mean point average of Science High School students is 218.16, Anatolian High School students' point average is 259.51, Anatolian Vocational High School students' mean point average is 234.57. According to this, it is seen that the level of "self-esteem" is the highest in the decision-making process of the students whose school type is Anatolian High School, while the average scores of the Science High School students are at the lowest level (Table 9). Again, in terms of the "Prudent Selectivity" sub-dimension, the average of Science High School students is 212.07, the average of Anatolian High School students is 256.96, and the average of Anatolian Vocational High School students is 241.16. According to this, it is seen that the mean rank of the students whose school type is Anatolian High School for "Prudent Selectivity" is the highest, while the average of those with Science High School is at the lowest level (Table 9). There was no statistically significant difference in terms of "Panic", "Avoiding Responsibility" and "regardlessness" scores in decision making among student groups with different school types ($p > 0.05$). That is, it was concluded that the school type variable had no effect on the

undesirable styles of decision making such as "panic", "carelessness" and "avoiding responsibility" (Table 9).

Table 10

Gender Variable Distribution of Decision-Making Strategies Score Averages

Decision Making str.	Gender	N	Rank avr.	U	P
Self-Respect In Decision Making	Female	284	224,45	23273,500	0,000
	Male	204	272,41		
Prudent Selectivity	Female	284	243,02	28546,500	0,783
	Male	204	246,57		
Panic	Female	284	263,13	23677,500	0,001
	Male	204	218,57		
Avoidance Of Liability	Female	284	234,85	26227,000	0,073
	Male	204	257,94		
Indifference	Female	284	228,84	24521,000	0,003
	Male	204	266,3		

While there is a statistically significant difference between the male and female student groups in terms of the "Self Respect" score, which is one of the decision making processes, there is no statistically significant difference in terms of the "Prudent Selectivity" score ($p > 0.05$). The mean rank of "Self-esteem" scores of girls is 224.45, and the mean score of boys is 272.41 (Table 10). Accordingly, it is concluded that male students' self-esteem is higher in decision making processes than female students. Again, a statistically significant difference was found between the male and female student groups in terms of "Panic" score ($p < 0.05$). While the mean "Panic" rank of girls is 263.13, the average of boys is 218.57 (Table 10). Thus, it has been determined that female students have more 'panic' in decision-making processes than male students.

There is no statistically significant difference between female and male student groups in terms of "Avoiding Responsibility" scores in decision making ($p > 0.05$). In other words, in terms of gender variable, no relation was found between 'avoiding responsibility' in students' decision making processes. There is a statistically significant difference between the male and female student groups in terms of the "regardlessness" score in decision making ($p < 0.05$). The average score of girls 'carelessness' is 228.84, while the average of boys is 266.30. Accordingly, it has been determined that male students have more 'indifference' in decision-making processes than female students (Table 10).

Table 11

Distribution of Decision-Making Strategies By Pre-School Education Variable

Decision Making Str.	Pre-school education status	N	Rank Average.	U	p
Self Respect in Decision Making	Yes	290	250,99	26827	0,216
	No	198	234,99		
Prudent Selectivity	Yes	290	244,71	28649,5	0,968
	No	198	244,19		
Panic	Yes	290	243,07	28296	0,786
	No	198	246,59		
Avoiding Responsibility	Yes	290	250,02	27110,5	0,293
	No	198	236,42		
Indifference	Yes	290	252,8	26302,5	0,112
	No	198	232,34		

There is no statistically significant difference between the student groups in terms of "Prudent Selectivity", "Panic", "Avoiding Responsibility" and "Carelessness" scores between the student groups according to the variable of whether the participants receive preschool education ($p > 0.05$). Thus, it was concluded that whether high school students receive preschool education or not has no effect on decision-making processes (Table 11).

Table 12

Decision-making strategies distribution of score averages by monthly income

Decision Making Str.	Monthly income Level of the family	N	Rank Average.	X ²	P	Binary Comparison
Self Respect in Decision Making	1000-2000	137	226,05	6,206	0,102	
	2001-3000	119	240,37			
	3001-4000	94	242,75			

	4001- Higher	138	267,56		
Prudent Selectivity	1000- 2000	137	240,12	2,555	0,465
	2001- 3000	119	253,24		
	3001- 4000	94	227,15		
	4001- Higher	138	253,13		
Panic	1000- 2000	137	253,91	7,280	0,063
	2001- 3000	119	267,33		
	3001- 4000	94	225,3		
	4001- Higher	138	228,55		
Avoiding Responsibility	1000- 2000	137	228,21	3,914	0,271
	2001- 3000	119	262,61		
	3001- 4000	94	247,86		
	4001- Higher	138	242,77		
Indifference	1000- 2000	137	243,43	0,375	0,945
	2001- 3000	119	251,05		
	3001- 4000	94	243,22		
	4001- Higher	138	240,78		

According to Table 12, there is no statistically significant difference between groups of students whose families have different monthly income in terms of decision-making scale and

sub-dimensions ($p > 0.05$). Thus, it was determined that there was no relationship between the decision making processes of the participants and their monthly income.

Table 13

Decision-Making Strategies Academic Achievement Distribution of Score Averages

	Academic success	N	Rank Avg.	X^2	P	Dual comparison
Self Respect in Decision Making	Very good	76	310.6	39.162	0,000	1-3 1-4
	Good	226	259.65			
	Medium	165	200.77			
	Low	21	185.76			
Prudent Selectivity	Very good	76	286.59	22.466	0,000	1-3 1-4
	Good	226	259.75			
	Medium	165	212.26			
	Low	21	181.43			
Panic	Very good	76	217.51	8.272	0,041	1-3
	Good	226	235.75			
	Medium	165	267.74			
	Low	21	253.69			
Avoiding Responsibility	Very good	76	226.54	13,296	0,004	1-4
	Good	226	229.1			
	Medium	165	264.33			
	Low	21	319.48			
Indifference	Very good	76	251.28	12.137	0,007	2-4
	Good	226	223.85			
	Medium	165	261.3			
	Low	21	310.19			

There is a statistically significant difference ($p < 0.05$) between the groups of students who find their academic achievement different in terms of their "Self-Esteem" score in decision making (Table 13). The average score of the students who find their academic success "very good" is 310.60, the average of the students who find "good" is 259.65, the average of the students who find "medium" is 200.77, and the average of the students who find it "weak" is 185.76. Accordingly, it is understood that students who find their academic achievement "very good" have the highest self-esteem in the decision-making process, while students who find their academic achievement "weak" have low self-esteem levels. In short, the lower the academic success of high school students, the lower their self-esteem levels in decision-making processes. There is also a statistically significant difference in terms of the 'Prudent Selectivity' sub-dimension ($p < 0.05$). The average score rank of the students who find their academic success as "very good" is 286,59, the average of the students who find "good" is 259,75, the average of the students who find the "middle level" is 212,26 and the average of the students who find the "weak" is 181,43. Thus, it has been observed that students who describe their academic achievement as 'very good' have the highest level of 'prudent selectivity' in their decision-making process, while students who find their academic achievement weak have low 'prudent selectivity' levels (Table 13). There is a statistically significant difference between the groups of students who find their academic achievement different in terms of the "Panic" score in decision-making ($p < 0.05$). The average score of the students who found their academic achievement 'very good' was 217.51, the average of the students who found 'good' was 235.75, the average of the students who found 'intermediate' was 267.74, and the average of the students who found 'weak' was 253.69 (Table 13). According to this, it is understood that high school students who find their academic achievement 'medium level' have the highest 'panic' level in the decision-making process, while the 'panic' average of the students who find their academic success 'very good' is also at the lowest level. There is a statistically significant difference in terms of participants' "Avoiding Responsibility" score ($p < 0.05$). The averages of students who find their academic achievement "very good" are 226.54, those who describe them as "good" 229.1, 264.33 for those who describe them as "medium level" and 319.48 for those who describe them as "poor" (Table 13). According to this, while the level of 'panic' is the highest in the decision-making processes of high school students who define their academic achievement as 'middle level', it is understood that the average 'panic' levels of high school students who describe their academic success as 'very good' are at the lowest level. There is a statistically significant difference in terms of participants' "Avoiding Responsibility" score ($p < 0.05$). The averages of students who describe their academic achievement as "very good" are 226.54, the average of those who describe them as "good" is 229.1, for those who qualify as "medium" is 264.33, and the average of those who describe them as "poor" is 319.48 (Table 13). Thus, as the academic success of high school students increases, their 'avoidance of responsibility' behaviors in the decision-making process decrease. In the decision-making process, there is a statistically significant difference in terms of the "regardlessness" score ($p < 0.05$). The average score of the students who found their academic achievement "very good" was 251.28, the average of the students who found "good" was 223.85, the average of the students who found "medium" was 261.30, and the average of the students who found it "poor" was 310.19 (Table 13). In

other words, as the academic success levels of high school students increase, their level of 'regardlessness' decreases in their decision making.

Table 14.

Relationship Between Decision Making Strategies And Motivation Sources

		Self Respect	Prudent Selectivity	Panic	Avoiding Responsibility	Indifference	Motivation Source	Family Support	Classroom Environment
Self Respect in Decision Making	Rho	1,000	,514**	-,524**	-,464**	-,320**	,125**	,097*	,095*
	P		,000	,000	,000	,000	,006	,033	,037
	N	488	488	488	488	488	488	488	488
Prudent Selectivity	Rho		1,000	-,291**	-,356**	-,333**	,092*	,082	,049
	P			,000	,000	,000	,042	,072	,284
	N		488	488	488	488	488	488	488
Panic	Rho			1,000	,495**	,326**	,001	-,027	-,003
	P				,000	,000	,988	,557	,951
	N			488	488	488	488	488	488
Avoiding Responsibility	Rho				1,000	,462**	-,054	-,120**	,025
	P					,000	,232	,008	,581
	N				488	488	488	488	488
Indifference	Rho					1,000	-,069	-,107*	-,020
	P						,129	,018	,666
	N					488	488	488	488
Motivation Source for Students	Rho						1,000	,771**	,754**
	P							,000	,000
	N						488	488	488
Family Support	Rho							1,000	,223**
	P								,000
	N							488	488
Classroom Environment	Rho								1,000
	P								
	N								488

According to Table 14, it is observed that there is a moderate positive correlation between 'Self-Esteem in Decision Making' and 'Prudent Selectivity' of the research participants ($p < 0.05$ rho = ,514). While it was observed that there was a moderate negative relationship between 'Self-Esteem' and 'Panic' ($p < 0.05$ rho = -.524), it was determined that there was a moderate negative correlation between 'Self-Esteem' and 'Avoiding Responsibility' ($p < 0.05$ rho = -,464). There is a moderate negative correlation between 'Self-Esteem' and 'Carelessness' ($p < 0.05$ rho = -,320). Thus, it has been observed that there is an inverse relationship between self-esteem and undesirable situations such as panic, indifference and avoidance of responsibility styles in high school students' decision-making processes. It was determined that there is a weak and positive relationship between Self-Esteem and Motivation Source for Students ($p < 0.05$ rho = ,125). While a weak positive correlation was observed between Self-Esteem and Family Support ($p < 0.05$ rho = ,097), it was determined that there was a positive weak correlation between Self-Esteem and Classroom Environment ($p < 0.05$ rho = ,095). In other words, even if a weak relationship was observed between high school students' self-esteem style and their motivational sources (family support and classroom environment), it can be concluded that self-esteem style positively affected motivation (Table 14). There is a weak negative relationship between Prudent Selectivity in Decision Making and Panic ($p < 0.05$ rho = -,291). There is a moderate negative correlation between Prudent Selectivity and Avoiding Responsibility ($p < 0.05$ rho = -.356). There is a moderate negative correlation between Prudent Selectivity and Regardlessness ($p < 0.05$ rho = -,333). There is a weak positive correlation between Prudent Selectivity and the Motivation Source for Students ($p < 0.05$ rho = ,092). Accordingly, there is a negative relationship between cautious selectivity and 'panic', 'avoiding responsibility' and 'recklessness' styles in high school students' decision making. In addition, there is a weakly positive relationship between prudent selectivity and motivation (Table 14). While there is a moderate positive correlation between 'Panic' and 'Avoiding Responsibility' in Decision Making ($p < 0.05$ rho = ,495), there is a moderate positive relationship between 'Panic' and 'Carelessness' ($p < 0.05$ rho = ,326). There is a moderate positive correlation between Avoiding Responsibility and Carelessness ($p < 0.05$ rho = ,462). Accordingly, it is seen that there is a moderate positive correlation between panic, avoidance of responsibility and regardlessness which are undesirable styles in the decision-making process (Table 14). There is a weak negative correlation between Avoiding Responsibility and Family Support ($p < 0.05$ rho = -,120), and again a weak negative relationship between negligence and Family Support ($p < 0.05$ rho = -,107). In other words, it has been concluded that students with weak family support from extrinsic motivation sources have high levels of avoidance of responsibility and regardlessness (Table 14). There is a strong positive correlation between Motivation Source and Family Support ($p < 0.05$ rho = ,771). It is also observed that there is a strong positive correlation between the Motivation Source and the Classroom Environment ($p < 0.05$ rho = ,754) and a weak positive relationship between Family Support and Classroom Environment ($p < 0.05$ rho = ,223).

4. DISCUSSION

The result of the research shows that Anatolian High School students manage their own processes more qualified. Again, it was understood that Science High School students used

their extrinsic motivation resources more intensively than the students studying at Anatolian High School and Anatolian Vocational High School. While the group of students who used family support and classroom environment at a high level was Science High School students, the group that used it at a low level was Anatolian Vocational High School students. It was also concluded that the gender variable did not differ in using extrinsic motivation sources. The fact that science high school students, the group with the highest academic success, use their external motivation resources at a higher level compared to other high school types makes the result of this study surprising. Because it is thought that as the success increases, the awareness will increase, so internal processes will be put to work. However, it is thought that the socio-economic opportunities of families that have high expectations of success (as the income level increases, the use of external motivation sources also increases) creates a high status expectation in students and causes students to identify with, thus success is achieved depending on external variables. It is also thought that one of the negative important variables of this process is the result evaluation tools. Because, assessment tools, which focus the learner on the result and thus develop memorizing behaviors (test, etc.), improve knowledge, cognition, and behaviors at the most application level. The ongoing learning experiences at these stages require the use of extrinsic motivation sources as a result of the learning experiences realized in the stimulus-response and reinforcement triangle, in the result evaluation mechanism, based on the behavioral learning theory, and does not make the result of this study surprising. Similar internal processes that individuals want, or are problem-solving-oriented, or that they need to achieve their goals, can only be achieved through the development of high-level behaviors at the analysis, synthesis and evaluation stage, so process evaluation tools should be used. Thus, in the formal learning processes, the internal motivation resources are used by improving the thinking skills of individuals. This is possible by realizing process-oriented, learner-centered active learning experiences in the classroom. Otherwise, a learning environment in which rote-based behaviors are developed will not go beyond reinforcing the extrinsic motivation processes of individuals. The result of this study shows that Anatolian high school students, who are after science high schools but ahead of vocational high schools, use their external motivation resources at the lowest level in terms of academic achievement. This situation causes the students in question to be considered as a group whose individual awareness is relatively well developed, that they are a little more eliminated from the result-oriented racing environment. In literature reviews that support the result of this study, high school students generally use extrinsic motivation sources (Yazıcı, 2009; Unal-Karagüven, 2015; Çolak & Cırık, 2015; Ali, 2016), especially the family's income level has a significant effect on motivation. (Yazıcı, 2009) is highlighted. It is also emphasized that family support and classroom environment variables, which are among the sources of extrinsic motivation, positively affect students' academic achievement (Ali, 2016) and academic success increases as classroom environment satisfaction increases (Yenice et al., 2012) (Goodman, Thania, Mira, Fahrin, Dolly, Mazvita, Joao & Anton, 2011) stated that extrinsic motivation does not have a determining effect on academic achievement. This situation reveals that within the scope of culture-specific studies, it is a subject that needs to be investigated in depth with process and result observation tools depending on the nature of the training program.

The reason why students with pre-school education use extrinsic motivation resources at a higher rate than those who do not may be due to the fact that in formal and informal learning environments, the behavioral learning process is still employed and desired behaviors are constantly reinforced. Another result supporting the stated inferences is that high school students who find their academic achievement "very good" have high levels of using their extrinsic motivation resources, while those who find it "weak" are low. At first glance, this may seem like a contradiction, but the products of expected outcome-oriented learning experiences will be high marks and education in a better school, which are related to exhibiting desired behaviors dependent on external variables. On the other hand, as the academic success of high school students declines, the observation of their use of extrinsic motivation sources at a low level will be a separate study. Because, how are high school students who cannot qualify as strong academically or economically motivated? Do they have goals? How do they make their learning experiences happen? Considering that motivation sources are an important variable of personality development, it is necessary to create educational experiences that will employ motivational sources based on behavioral, social learning theory, humanistic and cognitive approach according to the characteristics of the developmental period (concrete / abstract operations period). It should be noted that eclectic approaches can also be used when necessary.

Regarding the "decision-making strategies" discussed in the study, it was observed that the levels of "self-esteem" and "indifference" of male students were higher than that of female students, while the "panic" levels of female students were higher than that of boys. The study conducted by Bacanlı and Surucu (2006) in terms of gender variable also supports the result of this study. In the aforementioned study, it was understood that the level of use of maladjustment and avoidance of responsibility styles of male students was higher than female students. It is also significant that male students have higher self-esteem levels and female students have higher panic levels compared to boys. It should be investigated whether this situation is related to the way of upbringing, taking into account the gender difference specific to the society. It was concluded that Anatolian High School students, who use less extrinsic motivation resources, have the highest levels of "self-esteem" and "prudent selectivity" when compared to the other two school types. Another result that supports the results and criticisms obtained above is that Science High School students have the lowest level of "self-esteem" and "prudent selectivity" in decision-making processes. This shows that as a result of learning experiences that make them dependent on external variables, students do not develop their self-esteem and confidence. However, another result of the study is that there is a weak positive relationship between students' self-esteem style and their extrinsic motivation sources (family support and classroom environment). In the decision-making process, it was concluded that while there was a positive relationship, albeit weak, between cautious selectivity and extrinsic motivation levels, those with low level of family support among the extrinsic motivation sources had high levels of avoidance of responsibility an regardlessness. Thus, the importance of family support in the development of decision-making strategies, which is an important variable in the personality development processes of individuals, has been revealed. Regarding academic achievement, which is one of the variables whose personal and internal processes also work, high school students who qualified themselves at a very good level had the highest level of "self-esteem" and "prudent

selectivity" in decision-making, while the average of the students who described their academic achievement as weak was at the lowest level. That is, it can be concluded that as the effect of internal processes increases, the quality of variables related to personality development also increases. At the same time, while the "panic" levels of the students who found their academic achievement at a moderate level were the highest, the "panic" levels of those who found them very good were low. Thus, it can be concluded that students who maintain balance with academic success have less panic or stress conditions, otherwise stress factors increase. Again, the students who found their academic success very well had low levels of avoidance of responsibility and regardlessness. On the other hand, students who found themselves academically weak had a high level of avoidance of responsibility and regardlessness. In short, as the academic success of high school students declines, their avoidance of responsibility in the decision-making process increases, and their level of self-esteem and prudent selectivity decrease. Thus, by demonstrating the contribution of academic achievement to personality development, the use of educational guidance (academic) as a locomotive force in formal learning environments will result in personal and professional development that complements the self-realization process. This research is limited to the findings obtained depending on the sample size reached. In addition to studies investigating the reasons for the results obtained, it may be suggested to work with larger sample groups.

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In the writing process of the study titled “Motivation Resources and Decision Making Strategies of High School Students”, the rules of scientific, ethical and citation were followed; it was undertaken by the authors of this study that no falsification was made on the collected data. “Sakarya University Journal of Education Journal and Editor” had no responsibility for all ethical violations to be encountered, and all responsibility belongs to the authors and that the study was not submitted for evaluation to any other academic publishing environment.