What is Decision Making? What Do Secondary School Students' Mental Images Say?

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Article Info	ABSTRACT
	This research was carried out to determine the mental images of secondary school students regarding decision making, which is one of the skills included in the social studies curriculum. In this study, which was carried out in accordance with the qualitative research method, the metaphors developed by the students for the concept of decision making were examined. The study group of the research consists of 288 students studying in the 7th and 8th grades in two public schools of Kırşehir in the fall semester of the 2022-2023 academic year, who were selected according to the convenient sampling method. Content analysis was used in the analysis and interpretation of the data obtained from the participants in the study. As a result of the research, it was seen that secondary school students generally perceive decision making as "forced decision making", "realistic and alternative decision making", "emotional and anxious decision making", "avoidant decision making", "instant decision making", "connected decision making" and "risky decision making".

INTRODUCTION

In today's World, the economic, social and technological developments and the changes brought with them create diversity in the facts and situations that people will encounter. This range of diversity that people are faced with makes them hesitate about which fact and situation they will tend towards. The fact that people nowadays are more likely to encounter such a situation compared to previous generations and that they get in a bind, make them think in the face of situations where they have to make important decisions in various ways (human relations, family life, health, education and career) and make the decision that is the basis of the modern life (Crozier & Ranyard, 2002, p. 5).

Many definitions of decision making are known in daily life extending from what we will eat for breakfast, what clothes we want to wear during the day (Brynes, 1998; 2003), what technological device and what kind of car we will buy, how the colors in our rooms should be, and moreover, what kind of person we want to marry to how many children we want to have, which has an effect almost everywhere in our lives. The reason for the difference in definitions is that studies on decision making and its various aspects have been put forward by scientists working in different disciplines in terms of educational and social requirement (Öncül, 2013, p. 5). When examining the literature on decision making, which is known as a humanistic function (Zeleny, 2011), Drummond (2002, p. 35) mentions that making a decision is generally about making a choice, while Adair (2017) states that it is also about deciding on an action to be taken. Shahsavarani and Abadi (2015) define decision making as a process that has begun continued and express this running process as the chance to have something else at the expense of losing something/things in different environments. In addition, Baron (2004; 2008) considers decision making as a smaller activity within the thinking activity of human beings and considers it as an action that people do to reach their goal on what to do or what not to do. On the other hand, besides being seen as an important cognitive activity that ends with the selection of one of the different options (Summerfield & Koechlin, 2009), decision making is also known as a structure that informs and shapes the decision-making process, which includes rationality in a broad sense (O'Sullivan, 2011). it is also known as gathering the information needed about any subject, evaluating the positive and negative aspects of what may be alternative to the decision to be made based on these, and stating that additional information is necessary if needed (Presseisen, 1984). On the other hand, Gärling, Karlsson, Romanus, and Selart (2002, p. 167) expressed decision-making as the necessity of making choices from the way of action that has future consequences and orientation to the future in terms of the decision-maker. Considering the definitions above, it is seen how important decision making is in human life both at the time of decision and in the later process. Since the ability to choose the right one from the alternatives in order to be happy in one's life is at the center of the concept of making the right decision, there is a close relationship between making the right decision and the personal success of the individual (Byrnes, 2003).

When we look at the decision-making process of people in general, this process starts with the decision-maker's awareness of what needs to be decided. Then, the individual who is the decision maker determines his decision by choosing one of the available options regarding the decision and applies the choice by transforming it into his behavior (Ersever, 1996). It is known that this mentioned process is very important for individuals to be successful, healthy and responsible. Therefore, the more accurate and effective the decision taken by the individual, the easier it is for the individual to reach the desired goals. Because there is a close relationship between decision-making competence and personal success of individuals. Due to this relationship, individuals who step into life should be taught decision-making skills from an early age. It is known that the productive period in which this skill can be acquired by individuals, like almost any other skill that can be useful in their lives, is when they start to learn and go to school (Ersever, 1996; Goloğlu, 2009). The adolescence process, which covers a certain period in this time period, covers an extremely critical time period in gaining decision-making skills by individuals. In this time period, the peer group has a strong influence on individuals' personal styles and forming habits (Mann, Harmon, & Power, 1989). Considering that individuals spend a lot of time which is difficult to be supervised with their peers during this period, the fact that decision-making skills of young people improve may prevent possible undesired decisions that may arise in this period (Byrnes, 2003).

It is known that decision-making skills can be gained with the help of teachers in the secondary school years, which coincide with the adolescence period. While doing this, teachers should make the skill a direct target and give students the opportunity to generate, evaluate and practice ideas regularly (Ruggiero, 2009). While doing this, teachers can benefit from social studies education, which is thought to be directly related to the reasons for decision-making, consequences, individual and social response (Presseisen, 1984). Because, according to Gelen (1999), social studies course will enable students to acquire knowledge rather than transferring information, raising active and productive individuals, which is a requirement of the democratic system, who can overcome the problems that they may encounter throughout their lives, who can look at facts from a different perspective and it is a course that supports them to become individuals equipped with character and values education and citizenship education (Akdaş, 2013; Torun, 2015).

In this context, the current study was carried out to determine the mental images of secondary school students in adolescence period regarding decision making, which is one of the skills included in the social studies curriculum. It is thought that the results obtained will be beneficial both in determining the mental images of the students in the critical secondary school period and developing their decision-making skills accordingly, as well as preparing and revising the information about the decision-making skills in the textbooks revealed in accordance with the social studies curriculum. With this thought, answers to the following questions were sought in the study:

1. What are the mental images that secondary school students develop about decision making?

2. Are there common categories of mental images that middle school students have developed about decision making?

METHOD

This study, which aims to determine the mental images of secondary school students regarding decision making, one of the skills included in the social studies curriculum, was carried out in accordance with the qualitative research paradigm.

Study Group

The study group of the research consists of 288 students (151 seventh grade students, 137 eighth grade students) studying in two public secondary schools located in the central district of Kırşehir province in the academic year of 2022-2023. These were chosen through convenient sampling. The suitability in determining the schools in which the study group is located can be explained by the fact that the first researcher is already working in these educational institutions and has worked there before. Appropriate sampling is defined as a preferred sampling selection method because it provides researchers with economic advantage in terms of speed, time and practicality (Yıldırım & Şimşek, 2006).

Data Collection Tool

The metaphor form used by various researchers (Ablak & Aksoy, 2018; 2021; Aydın, 2010; Güven & Güven, 2009; Saban, 2004; 2008; 2009) in their studies was used to determine the mental images of secondary school students regarding the meanings they attribute to decision making. In this form, besides personal information, decision making is ………. like. Because .... part is included.

Data Collection

The researchers went to the educational institutions they had previously determined and informed the school administration about the purpose of the study. Afterwards, the researchers entered the classrooms during the time periods deemed appropriate by the school administrations and informed both the teachers of the course and the secondary school students of the scope, purpose of the study and where the possible results would be used. Afterwards, the teachers of the course were reminded that they could stay in the classroom if they wanted to, and then the practice started. During the application, firstly a data collection form was distributed to the students. Afterwards, a short explanation was given to the students about the metaphor, examples of developing

metaphors from different subjects were given without mentioning the concept of decision making (the Earth is like a watermelon because they are both round, the Sun is like an orange, because they are both yellow, etc.). After students were reminded that they should not forget the reason of why they developed the metaphor they developed as in the metaphors given examples for, and that they should not provide information such as name, surname and class number on the relevant forms. There was no evaluation criterion such as right or wrong in the created metaphors, and the metaphors to be formed can be anything such as animate-inanimate, positive-negative, concrete-abstract. Although there was no time limit in the application, data collection took an average of 20 minutes in each class. Then, after the researchers collected the data, they gave 5 minutes to ask questions about the application, However, since the participants did not ask any questions about the application, the researchers left the application environments.

Analysis and Interpretation of Data

Content analysis, which is frequently used in the research based on the qualitative paradigm, was used in the analysis of the data obtained. Content analysis is defined by Büyüköztürk, Kılıç-Çakmak, Akgün, Karadeniz, and Demirel (2010) as a technique that allows to study indirectly about various behaviors exhibited by individuals. In the study, the analysis and interpretation of the data was carried out in five stages, using Saban (2009) in addition to the content analysis. The forms obtained from the participants during the coding and sorting phase, which is the first stage of these stages, were numbered starting from 1. During application, among 288 students, the forms in which the reason for the metaphor was not explained, only its definition was included (Decision making is like a thought. Because…… [left blank by the student-S,138], Forms in which only the definition is included in the metaphor created for the concept of decision [Decision making is like a family. Because the family is the smallest element of the society-S,175]) and 98 forms that were left blank were not included in the analysis, and the remaining 190 forms (97 students from seventh grade, 93 students from eighth grade) formed the data set. In the second stage, the sample metaphor compilation stage, each metaphor produced by the participants was reviewed by using the "metaphor analysis" by Saban (2009) and "content analysis" by Yıldırım and Şimşek (2006) and the connection between the resembling ones was evaluated. As a result of this evaluation, metaphors consisting of weak structural images were removed. In the third stage, the category creation stage, the metaphors produced by the participants about decision making were categorized according to their justifications. In the validity and reliability phase, two researchers independently re-matched the connections between the metaphor and the category in order to determine whether the metaphors included in the conceptual categories reached as a result of the analysis could represent the relevant category. At this stage, as a result of the agreement of the two researchers, the conceptual categories of seven metaphors were changed. At the stage of transferring the data to the computer, which is the last stage, the findings section was created by calculating the metaphors divided into categories, reporting the exact quotations of the metaphor justifications, and with coding of the participants (*S103, S62*). While creating the findings part, the metaphors developed by the participants were presented modally with the help of the word cloud program.

Ethic

We think that the study is a study that can contribute to the field. We confirm that we act in accordance with scientific ethical principles and rules at all stages of the study. We also state that we refer to all data and information that were not obtained within the scope of the study and that these sources are included in the bibliography. In addition, we accept all the terms and conditions of the Publication Ethics Committee (COPE) and declare that we have not made any changes and that we comply with ethical duties and responsibilities.

FINDINGS

The mental images developed by the participants regarding decision making are presented in the word clouds below according to the frequency of repetition by the participants.
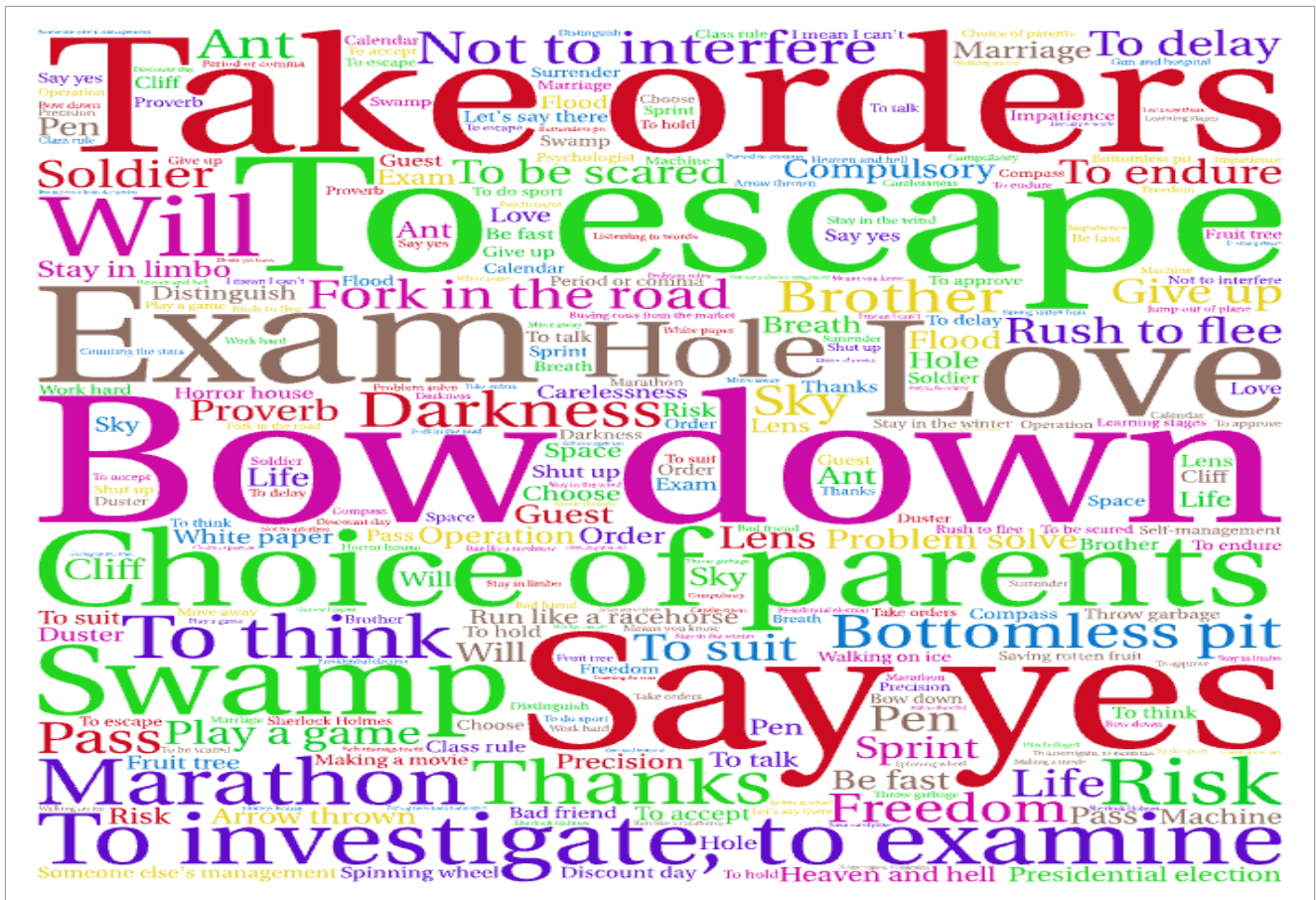

Figure 1. *Mental images developed by participants regarding decision making*

In the word cloud shown in figure 1 above, the metaphors created by the students participating in the research for decision making are shown by considering their frequencies. Accordingly, it is seen that the students participating in the research developed a total of 98 metaphors for decision-making. Among these developed metaphors, it was seen that the most frequent were "giving up the fight", "taking orders" and "research-examination". Apart from these metaphors, "escaping", "saying yes", "exam", "crossroads", "parent choice" are among the metaphors were developed. In addition to these, it was determined that each of the 66 metaphors were developed only by one student.

In Figure 2 below, metaphor categories created based on the metaphors developed by the participants for decision-making are shown.
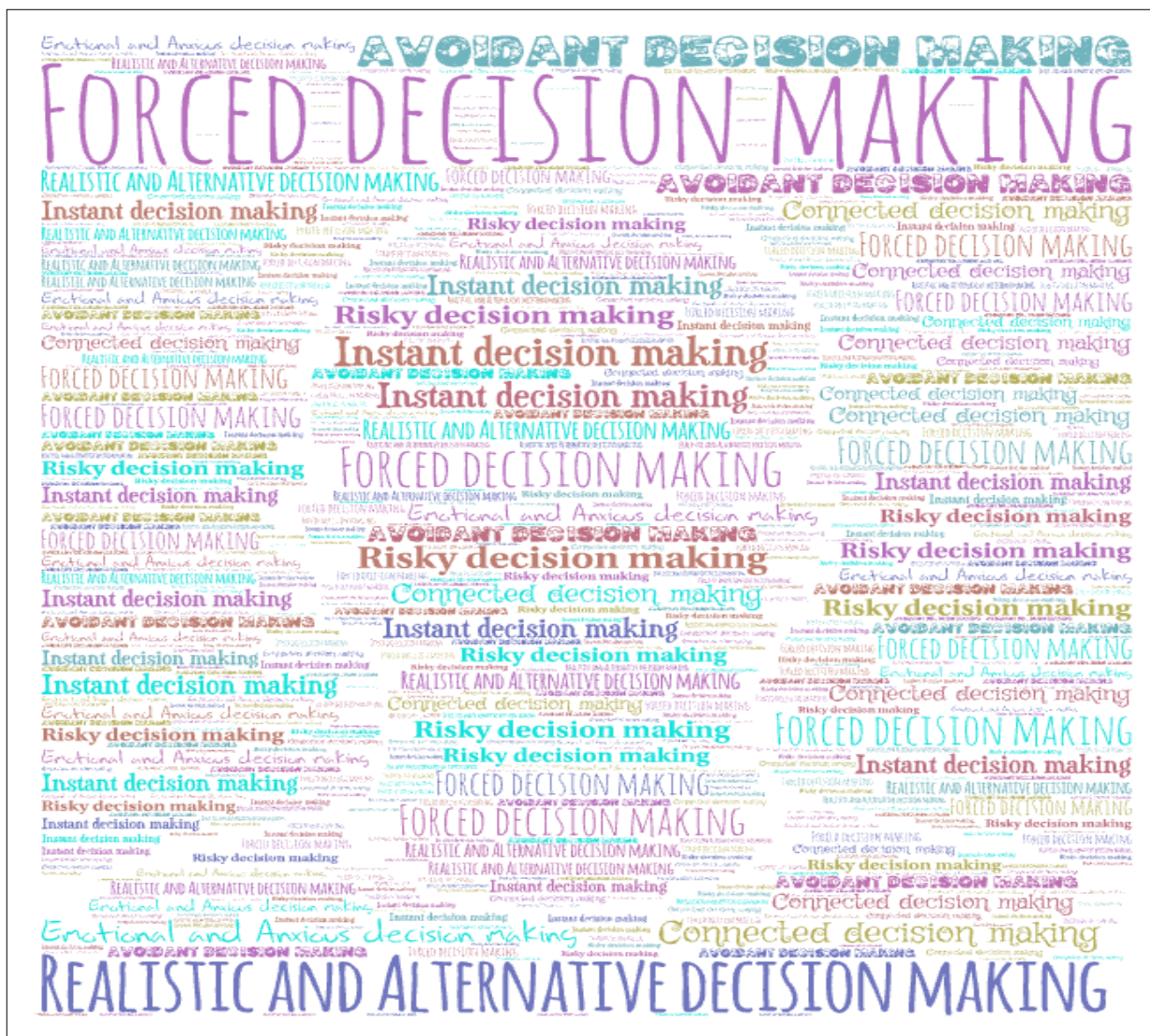
Figure 2. *Metaphor categories created based on the metaphors developed by the participants about decision making*

In the word cloud given in figure 2 above, metaphor categories created based on the metaphors developed by the students participating in the research for decision making are seen. Accordingly, the conceptual categories developed by the participants regarding decision-making are grouped under seven titles in terms of their common characteristics. Here, each metaphor developed by the participants was grouped within the scope of the thought that constitutes the reason for the metaphor in line with the explanations made by the participants. In this context, it is the "forced decision making" category that contains the highest number of metaphors. This is followed by the categories of "realistic and alternative decision making", "emotional and anxious decision making", "avoidant decision making", "instant decision making", "connected decision making" and "risky decision making".

Forced decision making. When the figure above is examined, it is understood that the category of forced decision making is the category that contains the highest number of metaphors. When we look at the metaphors in this category, it is seen that the metaphors of "giving up the fight" and "taking orders" are the most common. When we look at the metaphors and justifications developed by the participants under this category; *"Decision making is like taking orders. Because you always say yes to what your family says in both." (S 143),* *"Decision making is like giving up the fight. Because both of them do what the elders say." (S 103), "Decision making is like a brother. Because both are none of your business. Your brother is older than you, you can't interfere, your family decides, and you can't interfere with that." (S 41), "Decision making is like a proverb.*

Because in both you listen to your elders. Nothing belongs to you." (S 82) and *"Decision making is like choosing parents. Because they both do what they say." (S 104)* is in the form.

Realistic and alternative decision making. When the above figure of the metaphor category is examined, it is understood that the category of realistic and alternative decision making is the second largest category in terms of number of metaphors. When the metaphors under this category were examined, it was seen that the metaphors of "research-examining" and "crossroads" took place more in the category. The metaphors developed by the participants and their reasons are: *"Decision making is like a crossroads. Because in both you choose one of the options and try to reach the right path." (S 117)*, *"Decision making is like willpower. Because both make choices patiently and systematically." (S 62)*, *"Decision making is like self-management. Because both are important in that whether you stop or move forward, that is, whether you make the decision or not." (S 13)* and *"Decision making is like a compass. Because both help to find the way." (S 87)* is in the form.

Emotional and anxious decision making. When Figure 2 is examined, it is seen that the category of emotional and anxious decision making is the third category in terms of containing the highest number of metaphors. When the metaphors in this category are examined, the most frequently used metaphors are "exam" and "love" metaphors. Considering the metaphor reasons of the participants who developed the metaphors under this category: *"Decision making is like an exam. Because both are ways with no return." (S 53)*. *"Decision making is like a hole. Because both are bottomless, vast, dark places." (S 107)*. *"Decision making is like throwing garbage. Because in the end of both, you'll be relieved." (S 57)* and *"Decision making is like love. Because in both of them, emotion outweighs." (S 14)* expressions were found to be similar.

Avoidant decision making: Looking at Figure 2 for this category, it is seen that the category of avoidant decision making is the fourth largest category in terms of incorporating the highest number of metaphors. When the frequencies of the metaphors in the category are examined, it is seen that the metaphors of "escape" and "thank you" are mostly used. When we look at the participants' reasons for the creation of the mentioned metaphors: *"Decision making is like procrastination. Because in both, you let things take their course." (S 89)*, *"Decision making is like running away. Because you don't want a headache for either of them. It is best not to decide." (S 95)*, *"It is like saying I can't make a decision. Because you can live comfortably in both" (S 98)* and *"Decision making is like being silent. Because if we don't get involved in both, nothing will happen." (S 146)* expressions are used.

Instant decision making. When the figure of the word cloud created for the metaphor categories is examined, it has been determined that the instant decision-making category is the fifth category that contains the highest number of metaphors. When we look at the metaphors in this category with a higher frequency, it is seen that the metaphor of "marathon" stands out the most. When we look at the reason for the development of this metaphor, it is as follows: *"Decision making is like hurrying up. Because in neither of you, want to miss the opportunity." (S 110)*. *"Decision making is like impatience. Because both mean not stopping." (S 33)*, *"Decision making is like a marathon. Because in both, the one who moves quickly will come out ahead." (S 140)* and *"Decision making is like a discount day. Because in both you have to act quickly." (S 122)*.

Connected decision making. When we look at the word cloud of metaphor categories, it is seen that the connected decision-making category is the sixth category that contains the highest number of metaphors. When we look at the more repeated metaphors in this category, it is seen that the metaphors of "saying yes" and "obeying" are mostly repeated by the participants. When we look at the reasons for the development of these metaphors in the category, it is as follows: *"Decision making is like not getting involved. Because both of them burn your mouth. Let's not get involved and have headaches." (S 83)*, *"Decision making is like obeying. Because in both, our elders decide. It works for us, we obey. It will be fine." (S 94)*, *"Decision making is like obedience. Because in both, it is necessary to consult our elders." (S 85)* and *"Decision making is like the word of parents. Because it is them to make important decisions in both, it works for me." (S 131)*.

Risky decision making. Considering the reasons of metaphor in the word cloud, it was determined that the category containing the least number of metaphors was risky decision making. Considering the frequency

of the metaphors in this category, the most frequently used metaphor is the "risk" metaphor. When we look at the reasons for the creation of this metaphor by the participants, it is as follows: *"Decision making is like risk. Because they both have a winning and losing situation." (S 73), "Decision making is like a bad friend. Because both can lure you into bad behavior." (S 21)* and *"Decision making is like picking rotten fruit. Because you never know what will happen in either of them." (S 43)*.

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

In the results of this study, which was put forward to determine the mental images of secondary school students regarding decision making, it was found that the metaphors formed by the participants about decision making were generally grouped under the categories of "forced decision making", "realistic and alternative decision making", "emotional and anxious decision making", "avoidant decision making", "instant decision making", "connected decision making" and "risky decision making". Considering the literature of these emerging categories, it was found to be similar to the decision-making styles put forward by Scott and Bruce (1995). In their study, the authors classified decision-making styles in five different ways and defined these styles as rational, intuitive, dependent, avoidant, and spontaneous decision-making styles. In this context, it can be accepted that all categories emerging in the available study (except for forced decision making and risky decision making) overlap with the literature.

Considering the results of the research, it is seen that the forced decision-making category contains the highest number of metaphors. This situation can be considered as an indication that the majority of the participants are actually in a mood that makes decisions compulsorily and that they have to comply with the decisions taken against their will. Such expressions stated by the participants as: *"Decision making is like enduring. Because in both you indispensably say yes to whatever your family asks for." (S 12)* also support this situation. On the other hand, the students who participated in the study conducted by Yalın (2021), stated that they had difficulty in making decisions in their daily lives. While this situation overlaps with the results of the available study, it can be considered as a proof that decision making should not be seen as an easy behavior.

In the category of realistic and alternative decision making, which is another result of the research, it was determined that most of the participants of the research made their decision after researching the decision to be made and evaluating the alternatives of the decision. The participants who support this situation express their opinions as follows: *"Decision making is like investigating. Because in both you have to be meticulous." (S 34)* This situation coincides with the results of the study conducted by Öncül (2013), stating that the students benefit from their previous knowledge while making decisions, and that they benefit from their past experiences while determining positive or negative alternatives. On the other hand, while the fact that Anderson (2002) stated in his study that various facts are evaluated in making logical, that is, realistic decisions, and that in the study conducted by Yalın (2021), the participants stated that they thought, acted gradually and consulted the people around while making a decision are line with the results of the current study, it can also be considered as an indicator of the importance of research-examination in realistic and alternative decision making.

In the category of emotional decision making, which is another result of the study, the fact that some of the participants moved away from reality and decided in accordance with their feelings is understood by following expressions: *"Decision making is like love. Because the emotion predominates in both of them" (S 14)*. This situation coincides with the research conducted by Öncül (2013), in which the participants stated that they tend towards the first option they encounter and that they decide by relying on their feelings. On the other hand, Johnson and Kruse (2012) stated in their research that individuals generally use their intuition in uncertain situations and think about what kind of results and reactions they will encounter. In fact, this is an indication that intuitions, senses and feelings are sought after when there is no way out for the thing to be decided, and thus the result that may emerge after the decision is expected.

On the other hand, some of the answers given by the participants are aimed at avoiding decision-making, such as avoiding the decision, not being included in the decision, postponing the decision. They

consist of such metaphors as: "Decision making is like walking away. Because there is no headache in either of them." (*S 38*). This situation coincides with Russell-Jones' (2000) articulation of avoidant decision making as a way of not taking responsibility because individuals generally have self-doubt and are reluctant to be held responsible for the consequences. In fact, making decisions in this way can lead to different reactions such as regret, anxiety or changing the previous decision as stated by Svenson and Hill (2002), and decision makers choose to relax for a short time by not taking responsibility.

It is understood from following similar expressions of participants who are considered to hasten and act without thinking while making decisions: "Decision making is like sprinting. Because the fastest in both wins." (*S 60*), that some participants prefer to make instant decisions even a little; and that this can be considered as proof that this is due to the participants' lack of knowledge and their reluctance to explore alternatives. This situation is in parallel with the results of the research conducted by Öncül (2013). In his study, the researcher stated that students prefer to make reactive and hasty decisions instead of getting access to the information. In this context, the results of the present study are in line with the information presented by Eckel and Kezar (2006). He noted that the lack of information, the uncertainty of emergencies, the speed required in decision making and the large number of decisions can cause decision makers to rush.

It is understood from following similar metaphors of some participants in the study: "Decision making is like an ant. Because in both the universe is not that effective. They cannot live without getting help from others." (*S 48*). that they constantly felt the support of others at the time of decision making and they could not implement the decision without support from anyone, that is, they were dependent decision makers. In the study conducted by Öncül (2013), it is seen that the students stated that they tend to act together with their friends at the time of decision and that they are influenced by their friends during the decision process. On the other hand, in the study conducted by Yalın (2021), it is stated that the participating students tend to ask the family at the time of decision. The results of these studies are consistent with the results of the present study.

Finally, the fact that some participants see the decisions they take as the risk of winning or losing or using the difficulty limits of a situation can be considered as evidence of their tendency to make risky decisions. This situation is also reflected to their following expressions: "Decision making is like risk. Because both have a winning and losing situation." (*S 73*) This situation coincides with Kallet's (2014) opinion on "decision criteria always involve risk" which is included in his study and with expressions of Fox and Poldrack's (2009) studies that whether you are willing or not, when people are faced with risks at certain times in their lives, what will be the consequences of prior decisions can be left unresolved and thus decisions can be made.

Based on all these results, it has been determined that the mental images of secondary school students about decision making vary and this situation is similar to the information given in the literature and some previous studies. Based on these, the implementation of the necessary educational activities to improve the decision-making skills of the students should be applied, and such partners as family and people around who present arguments that can directly affect the students should also support this process. In the study, students' mental images of decision making were determined within the framework of the qualitative research paradigm. It may be recommended to carry out similar studies in different study groups and to conduct experimental studies to improve decision-making skills.

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