

The Effect of Clues on Automatic Decision-Making: A Face Recognition Experiment

İpuçlarının Otomatik Karar Alma Üzerindeki Etkisi: Bir Yüz Tanıma Deneyi

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Abstract

Although a significant portion of decisions seems to be taken through a rational thought filter with a maximum gain approach among alternatives, the research results show that decisions are primarily based on the automatic evaluation of clues. The study was designed using a quasi-experimental method to test the effects of limited time pressure on choosing a partner to solve a problem by collaborating with another person in the future and the effects of facial cues on the decision to choose partners if the people to be selected as partners are unknown. For this purpose, the original facial photographs of 78 psychology students were changed using artificial intelligence and presented to the subjects in a computer environment, along with 11 photographs that the subjects did not recognize. To choose the partner they would act with, the presented facial photographs remained on the computer screen for 5 seconds, and the subjects were asked to choose during this time. A significant portion of the subjects choose their face photo. In addition, a significant portion of the subjects who chose their photo stated that the face in the picture they decided seemed trustworthy as the reason for choosing it.

Keywords: Automated decision making, decision making, face recognition, the influence of emotions in decision making, rational decision making

Öz

Kararların önemli bir kısmının alternatifler arasında maksimum kazanç yaklaşımı ile rasyonel düşünce süzgecinden geçirilerek alındığı görülse de araştırma sonuçları kararların öncelikli olarak ipuçlarının otomatik değerlendirilmesine dayandığını göstermektedir. Çalışma, gelecekte başka bir kişiyle işbirliği yaparak bir problemi çözmede ortak seçimi üzerindeki sınırlı zaman baskısının ve ortak olarak seçilecek kişiler bilinmiyorsa bu kişilerin yüzlerindeki ipuçlarının seçme kararına etkisini test etmek amacıyla yarı deneysel yöntem kullanılarak planlanmıştır. Bu amaçla 78 psikoloji öğrencisinin orijinal yüz fotoğrafları yapay zekâ kullanılarak değiştirilerek deneklere tanımadıkları 11 fotoğrafla birlikte bilgisayar ortamında sunulmuştur. Birlikte hareket edecekleri ortağı seçmeleri için sunulan yüz fotoğrafları bilgisayar ekranında 5 saniye kalmış ve deneklerden bu süre içerisinde seçim yapmaları istenmiştir. Deneklerin önemli bir kısmı yüz fotoğraflarını seçmiştir. Ayrıca fotoğrafını seçen deneklerin önemli bir kısmı, seçme nedeni olarak karar verdikleri resimdeki yüzün güvenilir görüldüğünü belirtmişlerdir.

Anahtar Kelimeler: Otomatik karar alma, karar verme, yüz tanıma, karar almada duyguların etkisi, rasyonel karar alma

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Introduction

Decision-making often occurs in uncertainty about whether one's choices will benefit or harm. The decision can be considered a result of cognitive processes that lead to selecting a course of action among various alternatives (Bandyopadhyay et al., 2013, p. 37). While decision-making is considered an intuitive and automatic process for some scientists working in this field (e.g., Bargh, 1994; Kenny, 1988; Sassenberg & Moskowitz, 2005; Shah, 2003; Sharot et al., 2009), for a significant part of the population, this process is considered a conscious, intentional and language-based process (e.g., Alter et al., 2007; Berthold et al., 2007; Kornell & Metcalfe, 2006). While it is very comforting to think that most of what we believe and do is the result of our conscious and voluntary choices, we can say that the habits that have formed as a result of our experiences and evolutionary history lie primarily outside the boundaries of conscious deliberation in our mental life, but are the results of previous life experiences and observations.

Theoretical Background

Automated decision making

Saaty (2004) defines automatic decision-making as a process driven by intuitive and subconscious cues that evolved from the organism's survival pressures. In their analysis of automatic decision-making, which aimed to identify its features rather than define them, Moors and De Houwer (2006) listed several conceptually separable criteria that characterize mental processes: implicitness, spontaneity, speed, efficiency, and precision. Unconscious thought refers to object- or task-related cognitive or emotional thought processes that occur when conscious attention is directed elsewhere (Dijksterhuis, 2004; Dijksterhuis & Nordgren, 2006). Accordingly, the automatic process is a process that is triggered directly and immediately without the need for conscious processing to respond to the need through subconscious clues of environmental stimuli. Therefore, the fundamental feature that determines the automatic process is that although the person thinks they have developed a conscious choice and/or behavior, the clues that cause it emerge spontaneously without being subjected to a conscious interpretation. In other words, when cues in the environment unconsciously trigger a response, if it is automatic, this response will be completed without interruption and benefit the perceiver in terms of mental efficiency. These steps will occur without the person's awareness, so consciousness will not come into play at any stage (Bargh, 1989, 1994, 1997).

Based on Saaty's (2004) definition, the main idea underlying many automatic decisions is that synaptic connections, which are expressed as subconscious processes aimed at meeting the needs of the organism that support its survival from an evolutionary perspective but which gradually become more assertive with experience, constitute the central pathways that form the basis of behavior. Therefore, automatic reactions are reactions given independently of intentions (Jacoby, 1991). Thus, people can view the behavioral consequences of many automatic decisions as analogous to the sudden avoidance behavior that occurs as a reflex arc to a painful stimulus and serves to ensure the survival of the organism. Still, they may not be aware of the cognitive process triggered by this process. The brain, which does not want to spend more energy, has clues that will trigger these shortcuts by creating representations and establishing their relationships with each other. A conscious analysis aimed at understanding the process of automatic behavior can provide the solution to all of these shortcuts. The results of the studies conducted on this subject show that unconscious evaluations of alternative outcomes are made shortly before conscious awareness of decision-making occurs (Bechara et al., 1997; Soon et al., 2008) (whether this is genuinely unconscious is a debatable issue because even if it seems unconscious, it is subject to certain representations and paths). These results show that all decisions, whether conscious or automatic, are subject to unconscious implementation, and the essential element underlying this situation is the analysis of clues about the extent to which the cognitive schemes revealed by the representations formed through life experiences will meet expectations. When the decision-making process is viewed in this way, as Bargh (1994) stated, even if the decision-making process seems to be the result of conscious analysis, it can be said that it is an automatic process that acts as a reference before this conscious analysis and is active before the analysis.

Facial profile in automated decision-making

Research into the impact of face perception on decisions and behavior dates back to the pioneering experimental study by Shepherd, Deregowski, and Ellis (1974), who showed that white subjects were better at recognizing white faces than black faces, and conversely, black subjects were better at recognizing black faces than white faces. Similar studies later showed that different features are taken into account in face recognition and that categorization is made based on these features (Ellis et al., 1975). Results of studies conducted over the last 60 years have revealed that people evaluate faces on many

feature dimensions (Uleman et al., 2005) and that these evaluations predict important social outcomes, from electoral success (Ballew & Todorov, 2007; Little et al., 2007; Todorov et al., 2005) to punishment decisions (Blair et al., 2004; Eberhardt et al., 2006). Additionally, research has shown that even a glance at others' facial expressions and facial features is quickly evaluated across multiple trait dimensions, such as trustworthiness and aggressiveness, which is often sufficient for impression formation (Adolphs et al., 1998; Oosterhof & Todorov, 2008; Todorov et al., 2008). Therefore, it has been observed that facial characteristic features provide sufficient information in making socially essential decisions and in planning and implementing physical reactions toward others. These results suggest that some facial features guide the formation of impressions in automatic decision-making. The most important factor underlying this is the ability of human cognition to classify people according to some of their characteristics through social categorization, which is again an evolutionary achievement for the survival of both the organism and the self. What is critical here is the ability of the face to play a role in automatic decision-making, not only as a holistic representation but also as a clue for its parts.

As Ichheiser (1943) and Tagiuri (1958) noted, inferences about the qualities of others occur without conscious intention or awareness. Zebrowitz and McDonald (1991) demonstrated the systematic effects of plaintiffs' facial physiognomy on legal decisions about defendants. Similarly, Todorov, et al., (2005) presented evidence suggesting that voting decisions are influenced by facial cues that convey competence and explicit information about candidates' positions and credentials. According to Willis and Todorov (2006), exposure to a face for as little as 100 ms is sufficient for people to make personal judgments such as trustworthiness, competence, and aggressiveness. The minimum exposure time that will enable people to discriminate between different categories of faces may be as short as 33–38 ms (Bar-Haim et al., 2006).

Theories of face memory often assume that an individual's unique physical characteristics are encoded (Smith & Nielsen, 1970; Winograd, 1981). One preferred method for investigating person-related information may be one's face, which can be considered a strong and direct cue for investigating personal information processing. In addition, people are very familiar with their faces because they often see them in the mirror and photographs (Yoon & Kircher, 2005, p. 840). Therefore, two factors that affect face recognition or facial self-recognition (familiarity and perspective dependence) have a strong relationship with daily-based experiences (Yoon & Kircher, 2005). Research results have also shown a reaction time advantage in recognizing familiar faces compared to recognizing unfamiliar faces (Ellis et al., 1979; Klatzky & Forrest, 1984; Vokey & Read, 1992). Assuming that the recognition rate reflects the memory “strength” of facial parts determined by the contributions of their various components, this finding suggests that facial parts of familiar faces are more substantial. Some distinguishing information for a familiar face in the episode is qualitatively or quantitatively superior (Klatzky & Forrest, 1984, p.60). However, some studies report no reaction time advantage when direct comparisons are made between one's face and familiar faces (Kircher et al., 2001; Troje & Kersten, 1999), indicating that face self-recognition may not be clearly distinguished from familiar face recognition.

Emotions and automatic decision-making

Affect affects many cognitive processes (Gazzaniga et al., 2002), and decision-making is one of the processes in which emotions are effective (Bechara et al., 1997; Bechara et al., 1994; Luce et al., 1997). The study of emotions in decision-making began more than two decades ago (Bell, 1982; Elster, 1985; Frank, 1988; Loomes & Sugden, 1982; Pfister & Böhm, 1992), has received increasing attention, especially in the last decade (Loewenstein & Lerner, 2003; Mellers, 2000; Naqvi et al., 2006; Peters, 2006). Decisions are largely driven by the expectation of whether positive or negative emotions will arise going forward. Additionally, emotional responses typically have many characteristics of automaticity, such as rapidity, spontaneity, and effectiveness (Bodenhausen & Todd, 2010).

The somatic marker hypothesis, which refers to all emotional signals occurring in the body that may or may not be consciously accessible, suggests that effective decision-making is primarily based on spontaneous emotional signals and that emotional systems provide valuable implicit or explicit information to make quick and advantageous decisions (Bechara & Damasio, 2005, p. 336). Some event or goal-related cue (usually external, although internal) triggers an emotional mechanism, automatically producing a complex series of coordinated changes in the brain and body that make an emotional response (Barrett et al., 2007). For example, Lewicki (1985) showed in their study that participants chose to avoid a different person with a similar hairstyle after being exposed to a single rude person. Similarly, Lerner and Keltner (2001) showed that anger facilitates risky decision-making, while fear prevents it.

The theoretical framework emphasizes that people's automatic decision-making processes serve their survival as an evolutionary gain. In this context, the individual's future choices should be evaluated within the framework of achieving a gain. The present study will attempt to answer the question: when we have to act with someone we do not know in a future mission, how do we choose our potential partners just by looking at their faces?

Experiment

In the study, a quasi-experimental research method was used to determine the effect of facial cues on automatic decision-making in choosing a partner with whom we have to act in harmony and trust in a prospective task. Among the quasi-experimental methods, a non-equivalent group design was used, and a between-subjects design was used in which participants were not randomly assigned to conditions. Because participants were not randomly assigned to conditions in this experimental design, the resulting groups are likely to differ in some respects. Written consent was obtained from all participants who participated in the study. Approval for the study was given by the Social and Human Sciences Research and Publication Ethics Committee at Kastamonu University (Date: October 9, 2024, No: 3).

Subjects

The subjects were first- and second-year students in the Department of Psychology. They voluntarily participated in the experiment in exchange for additional credit. An announcement was made at the beginning of the training period for voluntary participation in the experiment, and volunteers who wanted to participate in the experiment to be held at the end of the period were determined. The subjects were randomly assigned to two groups: experimental and control groups. The experimental group included 67 women and 11 men, while the control group included 32 women and 10 men. Thirteen participants could not complete the experiment because they did not click on the pictures to choose a partner at the right time and were not evaluated. The experiment was carried out in the interview room of Kastamonu University's Psychology Department. Appointment times to participate in the experiment were notified to the subjects in advance, and each subject participated on the specified day and time. Before participating in the experiment, the subjects were given incorrect instructions regarding the purpose of the experiment, which they could read on the computer screen. Each subject stayed in the experimental room for 10-15 minutes and was warned by the experimenter not to give information to other subjects after the end of the experiment. After all subjects completed their participation in the study, participants who participated in the experiment were informed about the purpose of the experiment in the classroom environment.

Stimuli and Procedure

The experimental program was carried out in two stages. In the first stage, the passport photos used by the subjects participating in the study during the university registration process were changed so that some clues remained in the facial image through the artificial intelligence program used. After the first transformation of each photograph, a second transformation was applied by reusing the transformed photograph. Thus, the resulting photographs have changed significantly from the original picture. In addition, photographs of 12 women and 12 men who were studying in different departments and did not interact with the subjects were selected for the experiment.

After changing the faces was completed, the second stage was started, and a computer program was prepared for the subjects' participation. In the second stage, through a program created on the computer, instructions showing the purpose of the experiment and the application procedure were made for the subjects to read as soon as they stood in front of the computer screen to participate in the experiment. The instructions regarding this are as follows:

Dear, thank you for your participation in the study we planned to determine the effect of the ability to act together and trust on performance. The experiment you participated in consists of two stages. In the first stage of the experiment you are currently in, you will be asked to choose a partner to solve the problem that will be presented to you in the second stage. For this purpose, 12 images will appear to determine your potential partner as soon as you press the start button. You have the right to choose any of these images as a partner. We ask you to look at the pictures carefully and choose your partner with whom you will be in harmony and trust in the second stage of the experiment. Pictures will remain on the computer screen for only 5 seconds. Therefore, it will be sufficient to move the mouse over the image you have chosen within the specified time and press it. When ready, you can start the experiment by pressing the start button.

After the subjects had read the instructions, the experimenter asked whether they understood them, and if there was any

point that was not understood, the experimenter informed the subject. At this stage, the subject was given false information about the experiment. The subjects think that the experiment will take place in two stages and that they will choose a partner to solve a problem together only in the second stage. In particular, two words were emphasized in the directive: that the experiment in the second stage is a problem based on trust and that the partners must cooperate. This was to activate the subjects' thoughts and feelings towards choosing the partner they should act with in the future.

After the subject presses the start button, a screen appears with 12 pictures in three rows, four photos in each row. The row with their own picture was designated as the sixth picture for all subjects (Figure 1). The order of the other 11 pictures remained the same in all subjects. Her denek cinsiyete bağlı olarak iki gruptan birine yerleştirildi. In other words, while there were only female images on the screen where female subjects were present, all male subjects' images were composed of men. After pressing the start button, each subject selected the picture they shared by pressing one of the pictures that appeared on the screen. Subjects who could not select a picture on the screen within the specified time were stopped participating in the experiment at that point.

Figure 1.
Example screenshot



After the subject's picture selection, a second instruction appeared on the computer screen. According to this:

"Dear.....thank you for your choice. We now ask you to write in the space below why you decided to choose the partner you did for the second phase of the experiment:"

After this instruction, each subject typed into the computer a few words or sentences about why they chose the partner they chose. After the writing process was completed, the items of the 10-item self-esteem scale developed by Rosenberg (1965) appeared on the computer screen with the following instructions:

"Dear, please tick the appropriate option for you. There are no right or wrong answers to the questions. Your honest answers to the questions are essential for the research results."

Each subject marked the sentences that appeared on the screen as appropriate. After this marking, the experimenter thanked the subjects and warned them not to give any information about the procedure to their friends who would participate in the other experiment. They were informed that information about the experiment would be provided collectively by the experimenter in the classroom environment.

The participants in the control group of the experiment also went through a similar application. Their difference from the experimental group is that their pictures were not used. Instead, the subjects in this group were shown 12 photos on the computer screen and were asked to choose one in common. As in the experimental group, participants in this group filled out the self-esteem scale and why they chose the picture they chose.

Results

When the information about the partners chosen by the subjects in the experimental group and the control group for the second stage was examined (Figure 2), the following results were obtained. 24 of 67 female subjects and 5 of 11 male subjects in the experimental group preferred photo number 6 to act together in the second stage. Therefore, 29 of the 78 participants (37.2%) preferred the sixth photo, which included their picture, in the second stage. While 4 participants in the experimental group chose photo number 1, 5 subjects chose photo number 2. On the other hand, three subjects chose the photos in rows 3 and 12, while four preferred the images in rows 5, 9, and 10. While seven people chose photo number 11, six chose photo number 7 jointly. When we look at the preferences of the 49 participants in the experimental group, 4 (5.1%) chose photo number 1. In contrast, 5 (6.4%) chose photo number 2, 3 (3.8%) took photo number 3, 5 (6.4%) took photo number 4, 4 (5.1%) took photo number 5, 6 (7.7%) took photo number 7, 4 (5.1%) took photo number 8, 4 (5.1%) took photo number 9, 4 (5.1%) took photo number 10, 7 of them (9.0%) chose photo number 11 and 3 of them (3.8%) chose photo number 12 (Figure 3).

Figure 2.
Experimental group partner preference by gender

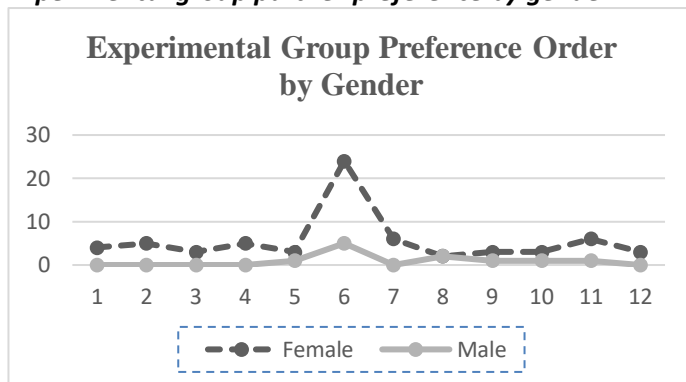
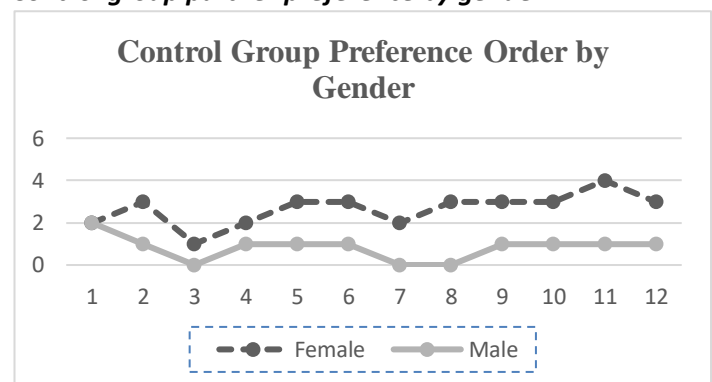


Figure 3.
Control group partner preference by gender



The self-esteem scores and picture selection times of the subjects in the experimental group were subjected to an analysis of variance (ANOVA) with the selected picture type. Picture selections were evaluated in two categories: Those who chose their picture and those who chose another picture other than theirs. ANOVA results showed that the main effect of self-esteem caused a statistically significant difference in the type of picture chosen ($F_{1,76}=13.18, p < .001$). At the same time, there was no significant difference between the groups in the picture selection time ($F_{1,76}=.739, p > .05$). According to these results, the mean self-esteem scores of the subjects who chose their pictures as partners for the second stage ($\bar{x}=29.21$) are higher than the averages of those who did not choose their pictures as partners ($\bar{x}=26.82$), and those who decided their pictures as partners had more positive self-esteem. Although the average reaction time of those who chose their pictures ($\bar{x}=2833.48$ millisecond) was lower than that of those who did not choose their pictures ($\bar{x}=3178.98$ millisecond), no significant difference was found between them.

When the participants' statements about why they chose the person they chose as a partner in the second stage were examined, the following results were obtained (Table 1). 10 of the 29 subjects (34.48%) in the experimental group who chose their picture as a partner stated that the reason for choosing was that the facial expression in the picture they decided "looked trustworthy." While 5 (17.24%) of the subjects in this group stated that the reason for choosing the picture they chose was "to make them look like themselves," 4 (13.79%) said that "the facial expression is sympathetic." 2 out of 10 participants in this group said "they think they will be in harmony"; 2 of them are due to "hot looks"; 2 subjects "had an innocent appearance"; Two subjects stated that they chose his/her because he/she was "friendly," and two indicated that they chose her because "he/she looked intelligent." 12 (24.49%) subjects who were in the experimental group but did not choose their picture as a standard picture for the second stage said "being the first person that caught my eye"; 12 (24.49%) subjects stated "the idea that we can act in harmony" as the reason. While 7 (14.28%) subjects in this group stated that the partner they chose "looked like them," 7 (14.28%) subjects indicated that they decided the partner because "it seemed trustworthy." When we look at the statements of the subjects in the control group, 9 of 42 subjects (21.42%) stated "the thought that they can act harmoniously" as the reason, while 8 (19.04%) subjects stated "the first thing that caught my eye"

as the reason. Similarly, 6 (14.28%) subjects stated "because it looks like me" as the reason for choosing, and 5 (11.9%) subjects stated, "it looks trustworthy."

Table 1
Phrases used to choose a partner

Expression	Experimental group		Control Group
	Self Picture	Not His/Her Own Picture	
looks trustworthy	10	7	5
to look honest	-	1	2
Appearing sympathetic	4	2	3
Being the first person that caught my eye	-	12	8
The idea that we can act harmoniously	2	12	9
The fact that he/she looks warmer	2	3	4
Because I think you look like me	5	7	6
Because it has an innocent facial expression	2	2	2
Because he/she is smiling	2	1	1
Because he/she seems like a smart guy	2	2	2
Total	29	49	42

Discussion

The study's results, which revealed the effect of cues and possible emotions on automatic decision-making in future decisions, show that cues and possible emotions are significantly effective in decision-making. Rational decision theory requires the decision maker to evaluate the options at hand by assessing the utility of each expected outcome for each option (Bandyopadhyay et al., 2013; Lerner et al., 2015). Although behavioral models based on theories such as expected utility theory emphasize the rationality of decisions (Briggs, 2014; Schoemaker, 1982), they highlight automatic processes based on selection decision cues among choices that are thought to provide future benefits. Implicitness, spontaneity, rapidity, effectiveness, and certainty (in the presence of triggering cues) (Bargh, 1994; Moors & De Houwer, 2006), which constitute the essential characteristics of the automatic decision-making process, cause people to develop simple strategies that minimize the mental effort spent on the decision (Payne et al., 1988). Although it has been shown that cues can shape some components of the automatic decision-making process (Glöckner & Betsch, 2008; Kircher et al., 2001; Payne & Iannuzul, 2012; Pessiglione et al., 2008; Platzer & Bröder, 2012; Söllner et al., 2013; Yoon & Kircher, 2005; Zemack-Rugar et al., 2007) within the framework of these features, the current study differs from other studies considering the necessity of choosing a partner to act with in the future.

The face recognition task was used in the experiment since the face is our most characteristic external feature. Although a significant portion of the studies on face recognition have been carried out within the framework of recognizing the faces of familiar people (Bruce & Young, 1986; Kapur et al., 1995; Sergent & Poncet, 1990), surprisingly, very little research has been conducted on identifying one's own face (e.g., Burton et al., 2005; Jenkins & Burton, 2008; Sforza et al., 2010). The current study tested whether a person would choose their face as a partner for an ambiguous task under time pressure. For this purpose, photographs containing the faces of the subjects in the experimental group were changed using an artificial intelligence program and placed in photographs containing strangers. The subjects were asked to choose a partner for a future task from 12 photographs.

The fact that 29 of the 78 participants in the experimental group (37.2%) preferred the photograph containing their picture for the task of solving a problem together in the second stage shows that although the participant's photograph has been modified, familiarity is adequate in automatic decision-making by integrating the remaining clues. According to Ambady and Skowronski (2008), when quick decision-making is required, people make seemingly instantaneous judgments about others based on minimal clues. According to Saaty (2004), elements and connections may not be complete enough to create meaning, so the individual will make them coherent by adding or removing components and connections to fill the gaps in

their perception. Bu nedenle algılar veya zihinsel modeller, gerçekliğe ilişkin gözlemleri ve verileri anlamlandırmak için yapılan varsayımları birleştirir. The results of the current study also support this view. When they had to make a quick decision, the subjects chose the person they could trust most, even though there were few clues.

The results of studies on face recognition have shown that familiar faces are recognized better than unfamiliar ones (Ellis 1975; Ellis et al., 1979) and that there is also a reaction time advantage in recognizing familiar faces compared to recognizing unfamiliar faces (Klatzky & Forrest, 1984; Tong & Nakayama, 1999; Valentine & Bruce, 1986; Young et al., 1985). When the time taken by the subjects to choose a partner in the current study was examined, although those who chose the photo with their own face reacted faster (2833.48 millisecond), no significant difference was found in the time taken by those who did not choose the photo with their own face (3178.98 millisecond). Suppose it is assumed that the recognition rate reflects the memory "strength" of facial parts determined by the contributions of their various components. This finding suggests that facial parts of familiar faces (especially one's face) are more substantial. As Klatzky and Forrest (1984) stated, some of the distinctive information for a familiar face becomes qualitatively or quantitatively superior. Therefore, familiarity and cues should be essential factors in automatic decision-making. In particular, individuals see their faces many times in daily life, and these experiences can make it easier to quickly recognize clues about their faces (Bruce & Young, 1986).

In this context, the subjects were asked, "Why did you choose your partner?" The answers given by the subjects to the question broadly indicate which emotion they emphasize for the future. When the answers of the subjects in the experimental group regarding the reasons for choosing the photo were examined, both those who decided their photo (10 subjects - 34.48%) and those who did not choose their photo (7 subjects - 14.28%) stated that the expression of the face in the picture they decided seemed reliable. When this finding was evaluated together with their self-esteem perceptions, it was found that subjects with high self-esteem chose their pictures significantly more than those with low self-esteem and described the face they chose as trustworthy. The most common reasons given by the subjects in the experimental group who did not choose their photographs were the following: Due to the idea of acting in harmony and the time constraint, the first person who caught the eye was selected. The self-esteem perception level of the subjects who chose to act in harmony with their chosen partner was found to be low. 5 (17.24%) of the subjects who chose their photo as a partner and 7 (14.28%) of the subjects who did not choose their photo stated that they chose it because it looked like them. When evaluated holistically, the results show that the clues cause the feeling of confidence to come to the fore in future choices, even under time pressure, and that people with high self-esteem perceive this feeling by highlighting it when integrating the clues on their faces. This result is consistent with previous studies showing the impact of emotional states on the decision-making process. The habitual choice in line with the expected emotion is chosen automatically (Triandis, 1977).

Conclusion and Recommendations

Although decision-making processes have recently come to the forefront as an essential field of study in both cognitive and social psychology, the fact that the mechanisms of influence and emotional outcomes related to automatic decision-making have not been sufficiently addressed in both fields of psychology indicates the need for new research in this area. The results show that clues are subject to a holistic evaluation, especially when forward-looking decision-making is required. Social cognitive learning theory has shown that the most critical resource in people's knowledge production is the ability to categorize and socially classify. Even seeing a person momentarily creates an impression about them, and depending on this impression, the encountered person is referred to and placed in a social class. Therefore, clues are decisive in making decisions regarding orientation and behavior. In other words, although our decisions are considered rational, our past life experiences regarding situations, objects, and people act as clues, causing us to make automatic choices. The cues we define as approaching or distancing based on our previous life experiences make it easier for us to survive evolutionarily while guiding us toward the emotions we will likely experience. Another issue that the study showed that needs to be researched further is the person's perception of themselves. Individuals with high self-esteem classify themselves as trustworthy and cooperative, whereas those with low self-esteem classify themselves as untrustworthy and not to be approached. Further experimental studies on these findings are essential.

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