IBN HALDUN UNIVERSITY
SCHOOL OF GRADUATE STUDIES
DEPARTMENT OF CLINICAL PSYCHOLOGY

MASTER THESIS

AN INVESTIGATION OF MENTAL HEALTH PROFESSIONALS' ABILITIES TO RECOGNIZE EMOTIONS AND COMPLEX MENTAL STATES FROM FACIAL EXPRESSIONS

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THESIS SUPERVISOR
PROF. TIMOTHY RICHARD JORDAN

ISTANBUL, 2023

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by
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A thesis submitted to the School of Graduate Studies in partial fulfillment of the requirements for the degree of Master of Arts in Clinical Psychology

THESIS SUPERVISOR
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ISTANBUL, 2023

APPROVAL PAGE

This is to certify that we have read this thesis and that in our opinion it is fully adequate, in scope and quality, as a thesis for the degree of Master of Arts in Clinical Psychology.

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This is to confirm that this thesis complies with all the standards set by the School of Graduate Studies of Ibn Haldun University.

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I hereby declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct. I also declare that, as required by these rules and conduct, I have fully cited and referenced all material and results that are not original to this work.

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ÖZ

RUH SAĞLIĞI ÇALIŞANLARININ YÜZ İFADELERİNDEN DUYGULARI VE KARMAŞIK ZİHİN DURUMLARINI TANIMA BECERİLERİ ÜZERİNE BİR ARAŞTIRMA

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Bu araştırmanın temel amacı ruh sağlığı çalışanlarının yüz ifadelerinden duygu ve karmaşık zihin durumlarını tanıma becerilerini incelemektir. Bu amaçla, psikolog ve psikolojik danışmanlardan oluşan 36 kişilik ruh sağlığı çalışanına ve ruh sağlığı çalışanı olmayan 24 kişiye ulaşılmıştır. Katılımcıların yüz ifadelerinden duygu ve karmaşık zihin durumlarını tanıma becerileri, "McGill Yüz Veri Seti" aracılığı ile değerlendirilmiştir. Veri setinin orijinal dilinin İngilizce olması nedeniyle, Türkçe diline çeviri ve pilot uygulama yapılmıştır. Veri setinin uygunluğu değerlendirildikten sonra ana çalışmaya geçilmiştir. Bu çalışmada öne sürülen ilk hipotez, ruh sağlığı çalışanlarının yüz ifadelerinden duygu ve karmaşık zihin durumlarını diğer kişilere göre daha iyi tanıdığıdır. İkinci hipotezde ise, yüz ifadelerini tanıma performansı bakımından kadın ve erkek katılımcılar arasında anlamlı bir fark olması beklenmektedir. Ruh sağlığı çalışanları ve diğer grubun yüz ifadelerini tanıma performansı Bağımsız Örneklem t-testi ile analiz edilmiş ve ruh sağlığı çalışanlarının yüz ifadelerini anlamlı şekilde daha iyi tanıdığı görülmüştür. Kadın ve erkek katılımcıların yüz tanıma performansları Bağımsız Örneklem t-testi ile analiz edilmiş ve iki grup arasında yüz ifadelerini tanıma konusunda anlamlı bir fark bulunmamıştır. Araştırmadan elde edilen bulgular, araştırmanın literatüre katkıları, araştırmanın sınırlılıkları ve gelecek çalışmalar için öneriler tartışılmıştır.

Anahtar Kelimeler: Duygular, Yüz İfadeleri, Karmaşık Zihin Durumları, Ruh Sağlığı Çalışanları.

ABSTRACT

AN INVESTIGATION OF MENTAL HEALTH PROFESSIONALS' ABILITIES TO RECOGNIZE EMOTIONS AND COMPLEX MENTAL STATES FROM FACIAL EXPRESSIONS

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The main purpose of this study is to examine the ability of mental health workers to recognize emotions and complex states from facial expressions. For this purpose, 36 mental health professionals consisting of psychologists and psychological counselors and 24 people who are not mental health professionals were reached. The participant's ability to recognize emotions and complex states from facial expressions was assessed using the McGill Face Database. Since the original language of the data set was English, translation into Turkish and a pilot study was done. The first hypothesis of this study was that mental health professionals recognize emotions and complex states from facial expressions better than other people. In the second hypothesis, it was expected that there was a significant difference between male and female participants in terms of facial expression recognition performance. The facial expression recognition performance of mental health professionals and the other group was analyzed by Independent Sample t-test, and it was found that mental health professionals recognized facial expressions significantly better. The face recognition performances of female and male participants were analyzed by Independent Sample t-test, and no significant difference was found between the two groups. The findings of the research, contributions to the literature, limitations of the study, and suggestions for future studies are discussed.

Keywords: Complex Mental States, Emotions, Facial Expressions, Mental Health Professionals.

DEDICATION

To my wife…

ACKNOWLEDGEMENT

I would like to thank my supervisor Professor Timothy Jordan for his support throughout this process. His feedback and helpful attitude helped me to complete this study. I am very happy to have worked with him.

I would also like to thank Abdülkadir Alemdar, who always helped me during my clinical internship, and Ayşenur Bayraktar, Hülya Evecek, and Taha Burak Toprak, who made great contributions to me during the supervision process at the Ibn Haldun University Psychotherapy Practice and Research Center.

I am grateful to Muhammed Emin Güre, Bahadır Sesli, Ahmet Ali Kar, Rumeysa Kahveci, Rabia Kutlu, and Kardelen Çelebi for their support during my research.

I would also like to thank my family for their support until today. It is a pleasure to celebrate every goal I have achieved with you.

And finally, I would like to thank my beloved wife, Sıla Sena Çelebi Sağan, who is with me at every moment and whose presence gives me strength. I firmly believe that every day I am with her, I can be better than the day before.

Mehmet Emin Sağan

ISTANBUL, 2023

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ADHD	Attention Deficit Hyperactivity Disorder
Eg	Example Given
et al	And Others
EQ	Empathy Quotient
Df	Degrees of Freedom
FFA	Fusiform Face Area
fMRI	functional Magnetic Resonance Imaging
N	Sample
M	Mean
p	Statistical Significance
SD	Standard Deviation
SPSS	Statistical Package for the Social Sciences
ToM	Theory of Mind

CHAPTER I

INTRODUCTION

One of the most basic and effective ways of communicating with each other is through facial expressions. Facial expressions provide a clear expression of emotions and thoughts and are the key to our social interaction. Therefore, understanding and correctly interpreting facial expressions is considered a fundamental element of human perception. To establish a social relationship with our environment and to maintain this relationship successfully and fluently, we need to have some skills. One of these skills is the ability to recognize and interpret the information contained in facial expressions (Riby & Back, 2010). Facial expressions serve as a very rich source of information in the relationship with the social environment (Haxby et al., 2000). For this reason, it is possible to carry out a rapid communication process that includes a lot of different information in a short period with facial expressions (Sawada et al., 2014).

1.1. Problem Statement

Since mental health professionals are in constant communication with people in their professional lives, and this communication is a part of their work, all kinds of communication skills are of great importance for this group. Facial expressions are considered one of the non-verbal communication channels, and the ability to recognize facial expressions can determine the quality of the relationship and communication to be established. Effective interpersonal communication is an important skill for mental health professionals. This skill can help them to establish healthy, reliable, and understanding relationships with both their colleagues and their clients. Being able to understand the feelings and thoughts expressed by the clients can contribute to a more productive therapy process (Johnsen, 2018). According to Hall et al. (2014), recognizing and understanding the client's emotions are important skills for therapists and are required for the therapeutic alliance.

Since therapy is based on interpersonal interaction, one factor that determines what the outcome will be is the therapist. Variables related to therapists can be controlled to a certain extent because people who want to become therapists are trained in this field. Establishing a relationship and understanding the client with empathy during the therapy are among the therapists' duties and responsibilities (Eells, 1999). To put it most simply, it is his/her job. Therapists should have some skills to do their job best. Therapists need to make sense of non-verbal expressions as well as what is expressed in words. Our face is a way we express changes in emotions, thoughts, and moods nonverbally (Nusseck et al., 2008). Recognizing and understanding the client's emotions are important skills for therapists and are required for the therapeutic alliance (Hall et al., 2014). However, since being able to recognize changes in the face plays an important role in determining the flow of communication (Bull, 2001), therapists should also be skilled in this regard. Therapist's skills will affect communication and relationship with their clients positively. So, these skills are important factors affecting the outcome of the therapy, and the skill level of therapists should be investigated.

1.2. Aim of the Study

The aim of this study is to understand to what extent mental health professionals are capable of recognizing emotions and complex mental states from facial expressions.

1.3. Significance of the Study

There are few studies about therapists' performance in recognizing facial expressions in the literature. This study will contribute to the literature, especially by taking the terms "emotions" and "complex mental states" together. Also, there are few studies about facial expressions in Turkey. The literature review part and results of this study can be a reference source for research in Turkey. In the current study, therapists' recognition skills of emotions and complex mental states are investigated. Studies were conducted to understand the therapists' emotion recognition level, but there is no study working on therapists' recognition skills of complex mental states.

1.4. Theoretical and Conceptual Framework

Humans carry out many cognitive processes together in the process of establishing a relationship with their environment. Understanding the social stimuli in the environment and responding to them in an appropriate manner results from the successful execution of cognitive processes such as perception, attention, memory, and motivation. All these processes are called "social cognition" (Kennedy & Adolphs, 2012). In this process, while people are aware of their thoughts and perspectives, they also have the ability to make inferences about what is happening around them and shape their behavior accordingly (Frith & Frith, 2006). Making inferences about other people's emotional and mental states is briefly defined as "Theory of Mind" (Aboulafia-Brakha et al., 2011). Although the concept of "Theory of Mind" was first used in studies with chimpanzees, it is thought that a developed "Theory of Mind" capacity is unique to humans (Devaine et al., 2017).

The concept of "mentalizing," which can be used as a synonym for the concept of "Theory of Mind," can also be expressed in the literature under the title of empathy, especially as a cognitive empathy skill. Shamay-Tsoory (2011) expressed empathy as "affective (emotional) empathy" and "cognitive empathy" in a study and obtained results that different neural mechanisms are activated in this process. While the cognitive empathy process is stated to be a mentalizing-based process, it is suggested that the mentalizing process here consists of making a basic distinction between oneself and the other and the active use of autobiographical memory (Shamay-Tsoory (2011). Here, autobiographical memory constitutes a resource for the individual by bringing together the experiences of the individual both about himself/herself and about the things going on around him/her. Both autobiographical memory and the distinction between self and others form cognitive empathy.

Although there are various studies on mental health professionals in the literature, studies on therapists come to the forefront because they are in active interaction with the other person in their work. In particular, it is seen that the variables within the therapy session and the factors affecting the results of the therapy are examined more. Considering the variables that determine therapy outcomes, Wampold and Imel (2015) suggest that therapy outcomes may depend on variables related to therapists rather than

treatment methods. Norcross and Lambert (2011) state that 30% of the therapy results can be explained by common factors as a result of their meta-analysis study. These common factors are not specific to any one therapeutic modality, such as therapeutic alliance, therapist warmth, and giving feedback (Davis et al., 2012). Through empirical evidence, it is seen that the therapeutic alliance is one of the most significant factors linked to therapeutic outcomes (Norcross & Lambert, 2011). Studies suggest that at least 12% of therapy outcomes can be explained by the therapeutic relationship alone (Lambert & Barley, 2001). The therapeutic alliance can be defined as the emotional and collaborative connection between the therapist and the client and is an essential factor in the success of the therapy process (Martin et al., 2000).

Since therapy has a structure in which high-intensity emotional changes can be experienced, and interpersonal relationship is essential, it is of great importance for a therapist to recognize both his/her own and the other person's emotions (Bar-On, 2006; Lambert & Barley, 2001). Kaplowitz et al. (2011) research on the emotional intelligence of therapists draws attention. According to the results of the study, it was observed that therapists with high emotional intelligence achieved better therapy outcomes and encountered fewer client drop-outs than therapists rated as having low emotional intelligence. This information emphasizes the importance of this skill of the therapist. Many studies have been conducted on how clinicians talk and behave during the therapy process. However, there is little research on clinicians' ability to recognize the patients' responses and the accuracy of their perceptions (Johnsen, 2018).

The studies of Curtis (2017) and Johnsen (2018) can be considered examples of studies that are few in the literature on therapists' emotion recognition skills and whether this skill develops with training. In these studies, it is seen that therapists' ability to recognize emotions can be improved with training. However, no comparison between the skills of therapists and the skills of non-therapists was found in the studies conducted on this subject. With this study, it is planned to obtain data on the gap in this field. Based on the knowledge that therapists are skilled in understanding the emotions of others (Johnsen, 2018), it is thought that mental health professionals can recognize emotions and complex states better than non-professionals. In addition, since having skills in this field is a desired characteristic for mental health

professionals in the professional field, the hypotheses of the study were shaped within the framework of this expectation.

In studies on facial expressions, it is found that facial expression recognition performance may differ according to gender. In most of the studies, it is suggested that women recognize facial expressions more accurately and consistently than men (Hoffmann et al., 2010). Meta-analyses suggest that there is a small but significant difference between the facial expression recognition performance of men and women (McClure, 2000). It is seen that women perform better than men. Based on this information in the literature, in this study, it was thought that female participants would be able to recognize emotions and complex states from facial expressions better than males.

1.5. Research Questions and Hypotheses

The first research question is how much mental health professionals (psychologists and psychological counselors) can recognize emotions and complex mental states from facial expressions. In other words, what is the accuracy rate of mental health professionals recognizing emotions and complex mental states from facial expressions? The second research question is: Do mental health professionals differentiate from the typical population in terms of recognizing emotions and complex mental states from facial expressions? The third research question is whether there is a difference between genders in the performance of recognizing emotions and complex mental states from facial expressions.

The following hypotheses were addressed for this study:
H1: Mental health professionals recognize emotions and complex mental states from facial expressions better than others (accuracy rate will be higher).
H2: There is a significant difference in the accuracy rate of recognizing facial expressions between females and males.

CHAPTER II

LITERATURE REVIEW

2.1.1. Facial Expressions

The concept of facial expressions refers to "the movements of facial mimetic muscles" (Ekman & Friesen, 2003), but facial expression is a broad concept that encompasses emotions, cognition, and physiology. The first study on facial expressions was "Anatomy and Physiology of Expression," written by Charles Bell in 1824 (Desmond & Moore, 2017). In this work, which is referred to as "Essays on the Anatomy and Physiology of Expression" in some sources, it is argued that the facial muscles reflect the emotions that describe the unique moral nature of human beings and are equipped with muscles that enable the formation of these emotions (Desmond & Moore, 2017). In 1872, "The Expression of the Emotions in Man and Animals," which is considered the main source of emotions in facial expressions in the literature, was published (Barrett, 2016). The difference between this study and Bell's was what the muscles in their facial expressions represented. Darwin argues that facial expressions reflect emotions and that these expressions are not what makes humans unique. Based on his observations, he argues that animals and humans have similar expressions of certain emotions. In other words, facial expressions in humans are not different from those of animals. With this view of Darwin, it can be said that the seeds of the idea that the emotions in facial expressions are universal. In the early 1900s, in addition to the idea that emotions in facial expressions are culture-specific, the idea that facial expressions reflect emotions was also accepted.

Studies on emotion recognition have been conducted in controlled and natural environments (Russell & Fernandez-Dols, 1997). It can be said that the modern study of emotions in facial expressions started with Tomkins (1962). Tomkins, who was influenced by Darwin's observations, thought that emotions in facial expressions occur

similarly in all humans (Tomkins, 1962). With this study, it can be argued that the view that emotions in facial expressions are universal started to come to the fore. Later, with the research conducted by Ekman et al. (1969), the first evidence was obtained for the view that the emotions in facial expressions are universal. Although studies on facial expressions focus on their relationship with emotions, it cannot be said that facial expressions only contain emotions. In general, studies on facial expressions are related to emotions. Ekman and Friesen (2003) state that facial expressions mediate the display of emotions, and the first place where emotions emerge is the facial region. Camras et al. (2016) stated that there are two reasons for the acceptance of the relationship between facial expressions and emotion. Firstly, infants do not have verbal expressions of their emotional states, so their nonverbal signs are relied on. Secondly, important theorists (e.g., Ekman, 1971; Izard, 1991; Tomkins, 1962) who address the concept of emotion have proven the link between facial expressions and emotion in their studies.

Facial expressions function as communication enhancers (Kaliouby & Robinson, 2005). These expressions can convey emotions and cognitive mental states, show empathy, and validate other people's actions (Ekman & Oster, 1979). However, databases of facial expressions in the research community seem to be mostly limited to emotional expressions and neglect conversational expressions (Kaulard et al., 2012). Faces play an important role in visual perception, and humans are quite good at recognizing facial information (Kaulard et al., 2012). Facial expressions represent information that varies in various ways on the face as well as mouth movements for visual speech (Kaulard et al., 2012). Furthermore, facial expressions serve as an important information channel in nonverbal interpersonal communication (Bull, 2001). For example, a person may raise his/her eyebrows when he/she is curious about a topic. In a dialog, facial expressions can convey that the conversation is over or that the topic should be changed. In cognitive processes involving the state of focus, some changes in facial expressions, such as frowning, can occur. In addition, facial expressions are used in speaking, eating, and pronunciation, which are integral parts of our lives (Matsumoto & Ekman, 2008). If a person's facial expression does not match what they say, it is important to understand and correctly interpret their true emotional state (Calvo & Nummenmaa, 2008). Facial expressions can also indirectly

reflect levels of trust between people, levels of empathy, and communication effectiveness (Calvo & Nummenmaa, 2008).

Face processing is a complex task for humans and involves stimulus materials used in many fields of research (Langner et al., 2010). Face processing is used for various purposes, such as recognizing facial expressions, classifying emotional expressions, mimicking facial movements, and analyzing facial movements (Calvo & Nummenmaa, 2008). Analysis of facial expressions is used to understand people's emotional states and evaluate their social interactions (Barrett et al., 2019). Face processing techniques also play an important role in applications such as the automatic detection of facial expressions used in biometric security systems and emotional analysis (Calder & Young, 2005; Rule et al., 2008). This analysis can include emotional expressions as well as facial movements, eye contact, and other facial features. In this respect, the analysis of facial expressions also plays an important part in human-robot interaction and human-computer interaction (Langner et al., 2010).

2.1.2. Recognition of Facial Expression

In order to establish a social relationship with our environment and to maintain this relationship successfully and fluently, we need to have some skills. One of these skills is the ability to recognize and interpret the information contained in facial expressions (Riby & Back, 2010). Facial expressions serve as a very rich source of information in the relationship with the social environment (Haxby et al., 2000). For this reason, it is possible to carry out a rapid communication process that includes a lot of different information in a short period with facial expressions (Sawada et al., 2014). It has been understood as an evolutionary mechanism to rapidly detect signals in facial expressions, interpret their content, and develop a prediction of future actions (Ekman, 1997). Humans are particularly specialized in processing information provided by human faces (Freiwald et al., 2016). At the time of encountering a new person, there is a very short time to comprehensively process facial expressions and produce an output. This information must be accurate/consistent as well as be available quickly (Neath & Itier, 2014). By looking at a person's face, a person can quickly determine different information about that person, such as gender, approximate age, identity, and emotional state (Smith et al., 2005). In studies on how fast the facial expression

recognition process can be, it has been concluded that even a time of fewer than 100 milliseconds is typically sufficient for the recognition of facial expressions (Neath & Itier, 2014).

Some gender differences have been found in studies on facial expressions. Many studies show that women recognize emotional facial expressions more sensitively or accurately than men (Hoffmann et al., 2010). Meta-analytic studies also suggest that women perform slightly but significantly better at recognizing emotions from facial expressions (McClure, 2000). Some studies have found that women perform better in decoding facial expressions only for some emotional expressions (Campbell et al., 2002; Goos & Silverman, 2002). Different views have been proposed to explain this difference in performance. According to one view, it has been suggested that the reason why women seem to interpret body language and facial expressions better can be explained by the fact that women emphasize interpersonal relationships more than men in their socialization experience (Gilligan, 1982). According to another view, consistent with gender roles, men tend to use physiological tools and behaviors to communicate, while women primarily use verbal expressions and facial expressions to establish and maintain communication (Brody & Hall, 1993). Furthermore, Brody and Hall (1993) found that male participants were better at recognizing anger and aggression, and female participants more accurately recognized expressions of sadness and fear. Another issue where the recognition performance of facial expressions differs is the so-called "other-race effect." Research has shown that adults are better at recognizing the faces of people of their race than the faces of people of other races (Hugenberg et al., 2010).

It is thought that humans acquire information from specific regions of the face to successfully recognize facial expressions in a short time. In particular, it is stated that the eye region and the mouth region are the primary sources used to recognize emotional expressions (Smith et al., 2005). Studies show that the eye region (upper half of the face) and the mouth region (lower half of the face) differ in recognizing emotional expressions (Kilpeläinen & Salmela, 2020). According to a study, it has been observed that the mouth region plays a primary role in the recognition of happy, surprised, and disgusted expressions, while the eye region plays a primary role in the recognition of anger (Smith et al., 2005). In another study by Calder et al. (2000), it

was found that expressions of anger, fear, and sadness were recognized faster in the eye region, while expressions of happiness and disgust were recognized faster in the mouth region. In daily life, there are different metaphorical sentences about the expressive power and emotional meanings of the eyes. Examples of these are "eyes are the window to the soul," "I can see the fear in your eyes," "your eyes were full of anger," "I can see the passion in your eyes," "you could see the love for her in your eyes" (Blais et al., 2012). These examples show how important the eyes are in recognizing expressions. Studies show that the eye region has a special place from very early in life. For example, it has been observed that infants prefer to look at the eye region compared to other parts of the face (Maurer, 1985) and prefer to look at faces that make direct eye contact (Farroni et al., 2002).

In studies on facial expression recognition, there are variables related to the participants (e.g., ethnicity/race, gender), the type of facial expression used (e.g., familiar/unfamiliar, static/dynamic), by whom the measurement is made (e.g., computer or human), and the type of test (yes/no test, multiple choice/forced choice) (Diep, 2002). In most of these studies, participants are asked to recognize the photographs shown by the researcher. Two different methods are used for this. In the first method, the participants are given an instruction as "write down the expression you see in the photograph," and the participants can give any answer they want (no forced option). In the second method, the participants are instructed to "mark the option best described to the expression you see in the photograph," and the participant has to choose one of these options (forced option). The second method is frequently used in research on facial expression recognition (Metin, 2019).

Most of the work on facial expression recognition has focused on emotional expressions that are considered "universal" (Cunningham & Wallraven, 2009). Conversational expressions that are more common and play a more central role in normal speech have been the subject of relatively little research. For example, expressions of confusion, reflection, or agreement are more likely to be shown during a conversation than expressions of anger, contempt, or fear (Cunningham & Wallraven, 2009). In addition, the absence of conversational expressions or the inability to understand them correctly in face-to-face communication can significantly affect the quality of a conversation by disrupting its flow (Cunningham & Wallraven, 2009).

2.1.3. Emotional Facial Expressions

Expressing emotions through facial expressions contributes to the correct fulfillment of social functions (Keltner & Haidt, 2001). As mentioned in the previous sections, the signals conveyed by facial expressions provide many advantages for both the sender and the receiver in the context of communication. These signals convey messages about the relationship between the expresser and the environment. Happy smiles can be perceived as cooperation with the environment, enjoyable interaction, and an invitation to others to join in, while angry looks can be perceived as warning signals about a physical or psychological threat (Scherer & Wallbott, 1994).

Emotional facial expressions are considered to be the most studied component in the field of facial expressions (Kaulard et al., 2012). Previous research suggests that there are a small number of expressions that can be defined as "general" or "universal" among emotional expressions. These "universal" expressions are generally defined as "happiness," "sadness," "disgust," "surprise," "fear," and "anger," and these expressions are well recognized and interpreted similarly across many different cultures (Ekman, 1994) Although emotional expressions represent the inner state of the individual, it is assumed that they are partially revealed through communication with others. In this respect, it is argued that emotional facial expressions have an important social function in interpersonal communication. However, the advantage of detection and recognition of different emotional expressions is still an unresolved issue. Theoretically, detecting and recognizing both negative (i.e., fear, anger) and positive (i.e., happiness) emotions in a short time and accurately provides many indirect advantages. For example, angry facial expressions signal conflict and dangerous interactions between people, and early detection of these can help avoid psychological and physical harm (Nummenmaa & Calvo, 2015). Similarly, happy expressions have the function of inviting cooperation and strengthening social interaction with other people. Therefore, accurate recognition of this positive expression in a short period provides important social benefits (Nummenmaa & Calvo, 2015).

Cognitive research shows that emotional expressions are more easily captured than neutral expressions (Nummenmaa et al., 2006) and quickly categorized in less than

200 milliseconds (Nummenmaa et al., 2010). Sato and Yoshikawa (2010) found that the reaction time to detect emotional facial expressions (anger and happiness) was shorter than the reaction time to detect neutral expressions. In the same study, the reaction time to detect an angry facial expression in a crowd of neutral facial expressions was shorter than the reaction time to detect a neutral expression in a crowd of angry faces (Sato & Yoshikawa, 2010). It has been suggested that the faster detection of angry facial expressions than neutral and other emotional expressions provides an evolutionary advantage (Sato & Yoshikawa, 2010). It is thought that detecting this expression in a short time may provide an advantage in terms of warning against potential dangers and taking precautions when necessary. On the other hand, it should be noted that some studies have stated that there is no evidence for the detection advantage of anger facial expressions (Becker et al., 2011).

In a study conducted by Paul Ekman, it was concluded that the emotional facial expression that the population (mostly young people) in the United States recognized with the highest accuracy rate was the happiness facial expression with 95%. Anger facial expression was found to be the expression with the lowest rate, 81% (Charles & Campos, 2011). It is argued that happy facial expression is recognized faster and more accurately than other emotional facial expressions (Nelson & Russell, 2013). According to the results of meta-analysis studies conducted on this subject, happy facial expression has the advantage of being recognized both faster and more accurately (Nummena & Calvo, 2015). Questions continue to be asked about why the happiness facial expression is recognized both faster and more accurately than other expressions (Charles & Campos, 2011). One of the questions asked is whether the happiness facial expression used in the studies is the only positive emotion expression compared to other emotion expressions and, therefore, easier to recognize. Another question asked is whether the happiness facial expression is the most prominent because it is associated with positive emotions and obtaining social rewards, and therefore, the happiness facial expression becomes easier and more accurately recognizable (Charles & Campos, 2011). Although these questions have not yet been answered, what is known is that the happy facial expression is recognized faster and more accurately than other expressions.

There are different factors affecting emotional facial expression recognition performance. In a study conducted by Matsumoto (1992) with Japanese participants, it was concluded that participants recognized emotional expressions more easily when the gender of the person in the photograph was female. In a similar study, it was stated that the recognition rate of emotional expressions was higher when the person in the photograph was female (Hampson et al., 2006). Another factor that can affect the performance of recognizing emotions from facial expressions is the age of the participant. Many studies have reported an age-related decline in the ability to correctly recognize basic emotional expressions on the face (Ruffman et al., 2008). The greatest age-related decline in skills occurs in the ability to recognize negative emotions (Reed et al., 2014). According to a meta-analysis of 17 studies, older adults are significantly worse than younger adults in their ability to recognize emotional facial expressions (Franklin & Zebrowitz, 2016). Isaacowitz and Stanley (2011) propose an explanation for this difference with the concept of "socioemotional selectivity theory." According to this theory, older adults focus more on emotional well-being and positive aspects of the environment than younger adults. The fact that older adults recognize positive facial expressions better than negative facial expressions may be explained by this theory (Charles & Campos, 2011).

The results of research on emotions are interpreted in the light of two different theories: the "categorical theory" proposed by Ekman et al. (1969) and the "dimensional theory" proposed by Russell & Bullock (1985). The categorical theory suggests that all emotions are assigned to a discrete set of basic emotional categories. According to the dimensional theory, on the other hand, all our emotional experiences are located on a continuum that we cannot define with sharp boundaries. Interestingly, a brain imaging study showed that some regions of the brain respond dimensionally to emotional facial expressions while others respond categorically (Matsuda et al., 2013). Recent theories suggest that there is a constant interaction between cognition and emotion and that we cannot analyze one without the influence of the other. Therefore, when we look at a person's face, we may be evaluating the state of mind of the person we are looking at, along with the process of recognizing emotions in facial expressions. One study has shown that many mental states can be expressed by the face and that they can be recognized quite similarly by humans (Schmidtmann et al., 2020).

2.1.4. Neurophysiological Basis of Facial Expression Recognition

Accurate recognition of facial expressions in a short time has motivated researchers in this field to research the neurophysiological basis of perception and recognition of facial expressions. As a result of the studies, it is seen that neural systems for face perception are concentrated in three bilateral regions in the occipitotemporal extrastriate visual cortex (Haxby et al., 1999). These regions are the lateral fusiform gyrus, the inferior occipital gyrus, and the superior temporal sulcus (Haxby et al., 2000). It is assumed that visual analysis of the face takes place in these regions, and each region participates in this process in different ways. The lateral fusiform gyrus seems to play a more active role in the detection of identity-related information when looking at the face (George et al., 1999; Hoffman & Haxby, 2000), whereas the superior temporal sulcus seems to play a more active role in the detection of facial variables (Hoffman & Haxby, 2000). Other studies suggest that the orbitofrontal cortex, amygdala, and insular cortex are also involved in the perception and recognition of facial expressions. Blood oxygenation and cerebral blood flow studies show that the inferior frontal cortex, middle temporal cortex, amygdala, fusiform gyrus, and anterior cingulate are activated during the recognition of different emotional facial expressions in healthy individuals (George et al., 1993; Sprengelmeyer et al., 1998).

Results from neurophysiological, neuropsychological, and behavioral research support the hypothesis that humans have special cognitive and neural mechanisms for perceiving faces. When face-specific activations were examined in fMRI studies, it was observed that although activation was observed in the "superior temporal sulcus" region and the "occipital face area" located in the "occipital lobe," the most consistent activation occurred in the "fusiform face area (FFA)" located in the "lateral side of mid-fusiform gyrus" (Kanwisher & Yovel, 2006).

2.2.1. Social Cognition

The ability of people to interact and communicate successfully with each other is regulated by cognitive processes such as perception, memory, attention, and motivation, which are used to understand and respond appropriately to social stimuli

(Cardi et al., 2015). All of these processes are defined as "social cognition" and include different skills, such as recognizing and interpreting the thoughts, feelings, and intentions of both oneself and others (Kennedy & Adolphs, 2012). Although people evaluate the situations they are in from their perspective and thoughts, they also have the ability to predict and understand what is going on around them and regulate their behavior accordingly (Frith & Frith, 2006). This can also be referred to as social adaptation, which occurs through the accurate analysis of complex emotions and states of mind in which we form hypotheses about the beliefs and intentions of others (Mátyássy et al., 2006). The ability to make predictions about others' reactions and to use these predictions successfully in social interactions is one of the most important factors relating to the environment.

The use of other people's cognitive and emotional expressions as a factor shaping one's reactions is called "social referencing" (Frith & Frith, 2007). The first example of this is that infants use the mother's expression as a reference when faced with a new situation. If the mother expresses fear in this new situation, infants tend to avoid it, and if the mother expresses pleasure, infants make attempts to explore that situation (Feinman et al., 1992). In this process, it is suggested that a high level of consciousness is not required to process the signals we receive from the environment (Frith & Frith, 2007). In a study by Mineka and Cook (1993), infant monkeys born in a safe laboratory environment and who had never encountered a snake before were observed to rapidly acquire a fear of snakes when they observed a snake-fearing model in a video.

What is referred to as "social cognition" is the total of the processes that enable people to communicate with each other, and cognitive abilities in this process are formed by the combination of multiple mental operations such as perception, processing, and interpretation (Frith & Frith, 2007). It is argued that high performance in this area increases people's ability to adapt to the environment and increases their chances of survival (Cerniglia et al., 2019). Therefore, communication with others is a factor that sustains survival. When interaction with others is considered, there is a mutual exchange of signals through both verbal and non-verbal expressions in human communication. Although speech is the most important verbal communication channel, there are also non-verbal communication channels, such as facial expressions and body posture (Frith & Frith, 2007). Facial expressions contain many clues for

obtaining information about other people (Frith & Frith, 2007). Research in the field of social psychology has yielded results that support this statement. For example, even after looking at a person's face for 100 milliseconds, an assessment of whether that person is trustworthy or not appears in the mind. Interestingly, even if the facial expression is shown for a longer period, the evaluation of that face does not change (Willis & Todorov, 2006). In addition, it was found that activation in the amygdala started when an untrustworthy facial expression was shown, even if the decision about whether the person was trustworthy or not was not explicitly asked to be expressed (Winston et al., 2002). The amygdala also takes part in the social cognition process and contributes to the shaping of behaviors by making positive and negative evaluations (Dolan, 2002).

Tager-Flusberg and Sullivan (2000), who refer to social cognition and this evaluation process with the concept of "complex social processing," state that this social processing consists of at least two stages. In the first stage, it is suggested that mental state decoding, which is considered the social-perceptual component, takes place. In this stage, a person makes quick inferences about other people's emotional and mental states based on information obtained through facial expressions, body language, or actions. In the second stage, it is suggested that mental state reasoning, which is considered more of a social-cognitive component, takes place (Tager-Flusberg & Sullivan, 2000). This process, commonly known as the "theory of mind," involves a capacity to understand people's minds as representations. In the next section, the concept of "theory of mind" is explained in more detail.

2.2.2. Theory of Mind

From the moment they are born, humans interact with other people and situations around them. It is argued that human social cognition is largely based on our understanding of ourselves and others in terms of internal, mental, and psychological states (Wellman, 2014). The concept of theory of mind (ToM) emerged as a result of inquiries about how to reason about the states of mind of others. Although the theory of mind has been defined in different ways by many studies and researchers, the most general definition is the ability to understand the mental states (knowledge, beliefs, emotions) of others and to recognize that their mental states may differ (Aboulafia-

Brakha et al., 2011). The concept of the theory of mind was first used in Premack and Woodruff's 1978 study with chimpanzees. In this study, chimpanzees were shown a series of videos with some problems that a human had to solve, and it was analyzed how the chimpanzees chose to solve the problem (Premack & Woodruff, 1978). A developed ToM capacity is thought to be unique to humans (Devaine et al., 2017). Theory of mind, which provides an understanding of how others can be understood in terms of internal mental states such as behaviors, desires, beliefs, emotions, and intentions, is essential for the successful conduct of everyday interactions (Wellman, 1992). It is suggested that the development of the theory of mind takes place at two levels.

The first-order theory of mind refers to the ability to understand the mental state of another person (e.g., "She thinks x") (Warrier & Baron-Cohen, 2018). Skills in this area are thought to develop between the ages of 3 and 5 (Frith & Frith, 2005). The most widely used test to measure first-order theory of mind is the "false belief" test. It is observed that children are successful in the "False Belief" test after the age of 4 (Baron-Cohen et al., 1999). Although there are various versions of this task, one of the most frequently used ones is the Sally-Ann version. In this test, Sally takes her ball and puts it in a basket while standing in the room and then leaves the room. At that moment, Ann comes into the room, takes the ball out of the basket, and puts it in the box next to her. Sally then comes back into the room. Children are asked where Sally will look to get the ball (Baron-Cohen et al., 1985). In this "false belief" task used in the measurement of ToM, it is observed that children are successful after the age of 4. Children younger than four years of age were reported to be successful by chance (Baron-Cohen et al., 1985). It is stated that the first level of ToM skill is fully developed by the age of 6 (Wellman et al., 2001).

The second-order theory of mind is the iterative application of a theory of mind by one person to understand what another person thinks about their mental state (e.g., "She thinks that he thinks x") (Warrier & Baron-Cohen, 2018). This "second-order theory of mind," which refers to more complex processes, is thought to develop slightly later, between the ages of 5 and 6 (Miller, 2009). Different tests are used to measure the "second-order theory of mind," and these tests involve having an understanding of what goes on in another person's mind and being able to predict that person's behavior

in this context (Perner & Wimmer, 1985). One of the most common tests used to measure "the second-order theory of mind" is the "Ice Cream Truck" test. In this test developed by Perner and Wimmer (1985), the heroes of the test, Mary and John, see an ice cream truck while walking in the park. Mary wants ice cream but has no money. Mary runs home to get money. The ice cream man then tells John that he is going to the church and leaves. Mary unexpectedly meets the ice cream man while John is away and learns where the ice cream man will be. John leaves the park and goes to Mary's house. He asks where Mary is. Finally, John receives news that Mary has left the house. In the light of this information, the child is asked where John thinks Mary went. (The expected correct answer should be the park, but in cases where the false belief is not understood, it can be answered that she went to church). It has been observed that children can be successful in this test from the age of 6 (Perner & Wimmer, 1985).

Although there are various tests used to measure advanced ToM skills, one of the most frequently used tests in adults is the "Reading Mind in the Eyes Test," developed by Baron-Cohen in 1985. In this test, photographs containing only the eye region of 25 men's and women's faces are included, and different mental states are written in the four corners of the pictures. After the participants were shown the photographs, they were asked to mark the most appropriate mental state (Baron-Cohen et al., 2001).

There are different views to explain the theory of mind and its development. These are categorized under three theories. These are the "Theory-Theory Perspective," "Simulation Theory of ToM," and "ToM Module Perspective." The "theory-theory perspective," supported by psychologists such as Josef Perner, Alison Gopnik, Henry Wellman, and Andrew Meltzoff, argues that children are born with a strong representational system (Meltzoff, 1999). Children have an innately rich initial state and modify their theories of the world based on the data they receive throughout the developmental process (Meltzoff, 1999). Individuals have a set of beliefs and thoughts about the situations they perceive, and these may sometimes differ from the situations they perceive (Perner, 1991). According to "Theory-Theory," children develop firstly by understanding the thoughts of others, then by understanding the intention associated with these thoughts, and finally by understanding the extent to which people's thoughts and intentions can affect behaviors (Bartsch & Wellman, 1995).

"Simulation Theory of ToM" suggests that an individual's understanding of the other person occurs only by understanding himself/herself and his/her internal states and that the person does this with the help of mirror neurons (Doherty, 2009). People try to make sense of the thoughts, wishes, and intentions of the other party by creating a simulation from their minds, and at this point, they benefit from experiences (Gallase & Goldman, 1998). The main feature that distinguishes simulation theory from "Theory-Theory" is that it adopts a social view. For the individual to understand the mind of the other person, he/she needs to make predictions about the other person, follow him/her, and adapt him/her to social life (Gordon & Cruz, 2003).

The "Tom Module" is a theory that argues that human minds function by using a specialized mind module - a cognitive mechanism - and a separate neural structure belonging to this module to understand another person's mental states (thoughts, emotions, intentions) (Scholl & Leslie, 1999). According to the theory, the mind module is an innate mechanism and plays a vital role in people's social interactions (Hughes & Leekam, 2004). This module performs many important functions, such as following other people's behaviors and gestures, predicting their intentions and beliefs, and communicating. In addition to emphasizing the importance of innate factors in the development of the theory of mind, this theory also takes into account the interactions between the mind module and other cognitive processes (Hughes & Leekam, 2004).

Since "Theory of Mind" is used to predict and make sense of another person's thoughts and behaviors, it can overlap with other terms that can cover these meanings. The concept of "Theory of Mind" can also be referred to as "mentalizing," "mind reading," and "social intelligence" and overlaps with the concept of "empathy" (Baron-Cohen et al., 2001). Shamay-Tsoory et al. (2010) propose a model for the "Theory of Mind" in which two separate systems are involved. In one of these systems, inferences about other people's thoughts and intentions are elaborated (Cognitive Theory of Mind), and in the other, inferences about other people's feelings and emotions are made (Affective Theory of Mind).

2.2.3. Empathy

The concept of "empathy" is used in different ways and meanings by philosophers, ethologists, sociologists, neuroscientists, and psychologists. The word "empathy" comes from the Greek verb "en-pathein," which means to feel sincere (Arkonac, 1999). In common usage, empathy can be defined as the ability to share other people's feelings, to see the situation from the other person's perspective, and to understand other people's evaluations of the events. Baron-Cohen (2011, p.11), in his book "Zero Degrees of Empathy" defines empathy as "the ability to understand what the other one is thinking or feeling, and to react to his/her thoughts and feelings with the appropriate feeling and-hence-deliberation." This definition involves accurately recognizing information about the emotional and mental states of others and reacting in the light of this information (Cerniglia et al., 2019). Feshbach (1983) states that empathy consists of three basic elements: distinguishing and accurately recognizing the emotions expressed by others, being able to consider the other person's point of view and infer how they might behave, and using this information to modify one's behavior based on the needs of the other person. In previous studies, the concept of "role-taking" was used to refer to understanding how a person's perspective might be in a situation (Cerniglia et al., 2019). Considered in this way, the concept of "empathy" can be evaluated as synonymous with the concepts of "perspective taking" or "assumption of role." However, feeling empathy does not mean experiencing what other people experience in the same way but rather making an effort to understand the feelings and needs of that person and sharing them in some way (Cerniglia et al., 2019).

Although empathy has been referred to as a general capacity, most cognitive neuroscientists have used the term empathy to refer to emotional responses to emotional situations (Walter, 2012). Since the 1980s, it has been thought that empathy has both emotional and cognitive components and that these components emerge together to form an empathic response (Cerniglia et al., 2019). Later studies have tried to evaluate empathy by considering it in a two-component manner: affective empathy and cognitive empathy (Cerniglia et al., 2019; Waal & Preston, 2017).

Affective empathy includes situations such as understanding the troubles experienced by people, recognizing their feelings, and sharing these feelings (Chrysikou &

Thompson, 2015). Affective empathy is defined as being emotionally affected by the situation of another person and the process of experiencing emotions despite one's own emotions, knowing that what is felt belongs to the other person (Ramlakhan, 2017). In other words, it is the state of indirectly feeling an emotion.

"Cognitive Empathy" is defined as perspective-taking, using imagination, and all other mental processes (Chrysikou & Thompson, 2015). "Cognitive Empathy" is a perception process that enables us to put ourselves in the other person's position, imagine, think, and understand what they feel by providing a perspective in relationships (Howe, 2012). In the literature, the concept of "Cognitive Empathy" is used synonymously with "Theory of Mind" (Waal & Preston, 2017). The cognitive aspect of empathy involves understanding how a situation is perceived by another person.

Different scales can be used to assess empathy. One of these measurement tools is the "Interpersonal Reactivity Index" (Davis, 1983). This scale includes four different subscales: "perspective-taking," "empathic concern," "fantasy," and "personal distress." Each subscale consists of 7 questions. The "Perspective taking" subscale measures the ability to see a situation from another person's perspective. The "Empathic concern" subscale is used to measure feelings of compassion or concern for people in distress. The "Fantasy" subscale measures the tendency to put oneself in the world of characters in movies or novels. The "Personal distress" subscale measures emotions arising from situations such as tension, fear, anxiety, and fear in environments where people do not feel safe (Kocak & Balcikanli, 2021).

Another measurement tool used to assess empathy is the "Empathy Quotient (EQ)." The EQ is a self-report questionnaire that assesses skills and experience related to the ability to empathize with others (Baron-Cohen & Wheelwright, 2004). For each item, the test taker receives two points if they rate themselves as strong and one point if they rate themselves as mild. The short version of the EQ consists of 28 items and allows for the measurement of overall empathy (total score) as well as three empathy factors: "Cognitive Empathy," "Affective Empathy," and "Social Skills."

2.2.4. Complex Mental States

Baron-Cohen et al. (2001) argue that the recognition of states of mind (e.g., "admiration," "interest," "scheming") is considered an advanced test of theory of mind by attributing a cognitive state such as thought, belief, or intention to an individual. It is also stated that the ability to recognize states of mind from facial expressions is an important skill that enables individuals to communicate with their social environment and plays a vital role in the successful continuation of social interactions (Back et al., 2009). Based on the theory of universality of emotional facial expressions, some studies have been conducted with the idea that mental states can also be universal. According to the studies, 8 of 11 states of mind ("contempt," "astonishment," "distrust," "regret," "recognition," "threat," "revenge," and "worry") were successfully recognized in 3 different cultures ("Spanish," "British," "Japanese").

The results of the study conducted by Baron-Cohen et al. (1997) supported the proposition that mental states can be perceived from facial expressions. They found that the participants were able to recognize certain mental states ("arrogant," "admiring," "bored," "guilt," "flirting," "interested," "scheming," "quizzical," "thoughtful") from facial expressions and that the participants agreed on a particular choice. In addition, in this study, it was concluded that the eye region was almost as informative as the whole face in recognizing states of mind and was more informative than the mouth region when considered alone (Baron-Cohen et al., 1997, 2001).

The datasets of facial expressions related to states of mind usually contained both a small number of expressions and expressions of emotion, typically those mentioned by Paul Ekman (Baron-Cohen et al., 1997, 2001). The "Reading the Mind in the Eyes Test" by Baron-Cohen et al. (2001) and the "Mind Reading Database" were datasets with more expressions that would improve the studies in this field (Schmidtman et al., 2020). These datasets included a small number of expressions encountered in daily life. Schmidtmann et al. (2020) developed the "McGill Face Database," which consists of 93 expressions reflecting the richness of states of mind. Schmidtman et al. (2020) use the term "complex mental state" together with the term "mental states."

2.3.1. Impairments on Recognition of Facial Expressions, ToM, and Empathy

The theory of the existence of specialized regions in the human brain related to face recognition has been strengthened as a result of research on people with local brain damage whose ability to recognize faces is partially impaired but whose ability to recognize other objects is intact (Haxby et al., 2000). This condition is called "prosopagnosia" (McNeil & Warrington, 1993). People diagnosed with prosopagnosia show a disproportionate impairment in face recognition performance compared to other object recognition performance (Haxby et al., 2000). Patients are reported to have difficulty in establishing and maintaining social interaction (Riby & Back, 2010). In addition, damage to the amygdala has been shown to have negative effects on social interactions. It is suggested that damage to the amygdala negatively affects the ability to recognize both expressions of emotion and states of mind from facial expressions. In such cases, the ability to recognize states of mind was found to be more impaired than the ability to recognize emotional expressions (Adolphs et al., 2002).

Another condition that negatively affects interpersonal interaction is schizophrenia. Many researchers have reported that patients with schizophrenia show impairments in areas of social cognition such as theory of mind (Kim et al., 2011; Popolo et al., 2016). It is observed that schizophrenia patients' performance in both decoding mental states from facial expressions and making judgments about intentions using this information is impaired (Greig et al., 2004). It is stated that individuals with autism have difficulties in performing age-appropriate tasks and theory of mind (Baron-Cohen et al., 2001). In addition, theory of mind difficulties are experienced in eating disorders (Tapajóz P. de Sampaio et al., 2013) and Attention Deficit Hyperactivity Disorder (ADHD) (Maoz et al., 2019). ToM difficulties are also seen in patients with "Unipolar" and "Bipolar" depression (Mitchell & Young, 2016). Studies have reported a decrease in the performance of recognizing emotions from facial expressions in patients with depression (Lee et al., 2005). In addition, in a study, it was observed that there was a negative correlation between the performance of recognizing the expression "happiness" and depressive symptoms, while there was a positive correlation between the performance of recognizing the expression "sadness" and depressive symptoms (Gray et al., 2006).

2.4.1. Mental Health Professionals in Turkey

In Turkey, there is no professional law on mental health in which the competence and qualification criteria of mental health professionals are determined. For this reason, the titles of professionals working in the field of mental health are determined by the "Vocational Qualifications Authority" and the "cadre statements of the relevant ministries" (Turk PDR Dernegi, 2023). These titles are shaped by the definitions made by the relevant ministries for that position, together with the undergraduate degree. Considering these criteria, the groups considered mental health professionals in Turkey are as follows: clinical psychologists, psychiatrists, psychiatric nurses, psychologists, psychological counselors, and social workers.

A clinical psychologist is a person who completes a bachelor's degree in psychology or psychological counseling and guidance, followed by a master's degree in clinical psychology or a master's degree or doctorate in clinical psychology after completing other undergraduate education. Clinical psychologist performs psychological assessment using objective and reflective measurement tools, observation and interview techniques, and psychotherapy procedures in cases that are not defined as a disease in international diagnosis and classification systems and that the Ministry of Health deems appropriate. In cases of illness, psychotherapy procedures are carried out depending on the diagnosis and referral for treatment by the relevant psychiatrists. Clinical psychologists can perform psychotherapy practices independently when they receive scientifically validated psychotherapy training (theoretical education and supervision) (Turk PDR Dernegi, 2023).

The psychiatrist is a physician who graduated from a 6-year medical faculty and completed a 4-year specialty training in mental health and diseases (psychiatry). By specializing in the field of psychiatry on top of his/her general medical knowledge, he/she is a medical doctor who provides prevention, diagnosis, differential diagnosis, treatment planning, and necessary medication treatment of mental illnesses. Psychiatrists cannot perform psychotherapy practices without psychotherapy training because psychiatry specialization does not give the title of psychotherapist. The psychiatrist provides coordination within the mental health team as a clinical decision-maker. It is within the responsibility and authority of psychiatry specialists to make

differential diagnoses of psychiatric pictures by evaluating medical processes, to make a diagnosis, to plan treatment, to apply and/or direct psychotherapy deemed appropriate in addition to medication and other treatment methods (Turk PDR Dernegi, 2023).

A psychiatric Nurse is a specialist who has a master's degree in the department of psychiatric nursing after four years of nursing undergraduate education. They work in health institutions and psychiatry units. When they receive scientifically validated psychotherapy training (theoretical education and supervision), they can perform psychotherapy practices independently (Turk PDR Dernegi, 2023).

A psychologist is a person who graduated from the 4-year psychology department of the Faculties of Arts and Sciences or the Faculties of Human and Social Sciences. Psychologists are professionals who examine individual and social attitudes, behavior, thinking, and emotional states of the individual based on scientific definitions and explanations of behavior and mental processes. After graduation, they can perform psychotherapy practices independently when they receive psychotherapy training (theoretical education and supervision) that is accepted as credited and scientifically valid (Turk PDR Dernegi, 2023).

People who graduate from the 4-year psychological counseling and guidance department of education faculties are called psychological counselors. Psychological counselors can carry out psychological counseling/therapy practices within the scope of supervision during undergraduate education. After graduation, they can perform psychotherapy practices independently when they receive psychotherapy training (theoretical education and supervision) that is accepted as credited and scientifically valid (Turk PDR Dernegi, 2023).

People who graduate from the 4-year social work program of the Faculties of Arts and Sciences, Economics and Administrative Sciences, Open Education Faculty, Human and Social Sciences, or Health Sciences are called social workers. Social work is a practice-based profession and academic discipline that supports social change and development, social integration, empowerment, and liberation of people. A social worker, on the other hand, is a professional who performs the practice with methods

and techniques specific to social work by making use of theories related to human behavior and social systems to ensure the planning and implementation of social policies and programs to meet human needs by improving the problem-solving and coping capacities of individuals, families, groups and society, ensuring, repairing, protecting and improving psycho-social functionality; supporting social change (Turk PDR Dernegi, 2023).

2.4.2. Factors Affecting Psychological Support Services

When the studies related to mental health professionals are taken into consideration, especially the studies related to therapy are seen. For example, in the therapy session, the therapist's skills affect the relationship because the therapist, who is not aware of what the client says, may miss many things while communicating. Likewise, a therapist who can understand the client's feelings and thoughts in conversation can be beneficial in therapy (Johnsen, 2018). Naturally, the client gives clues about emotional expressions during the therapy process. These emotional cues have been defined as signals, either nonverbal or verbal, that indicate an underlying emotion. These cues should be detected and may be explained by professionals (Del Piccolo et al., 2006; Del Piccolo et al., 2005).

It is argued that 30% of the therapy outcome can be explained by common factors (not specific for any treatment models), and 15% is dependent on specific techniques used in therapy (Norcross & Lambert, 2011). The basis of therapy is in a relationship, and the therapist is the person who manages the process and applies these common factors and specific techniques (Sprenkle et al., 2009; Wampold & Imel, 2015). Therefore, the therapist is an integral part of the treatment process (Blow et al., 2007). The common factors affecting the outcome of therapy can be listed as follows: empathy, the therapist's allegiance to therapy, collecting feedback from the client, sensitivity to the client's differences, cultural competence, therapist's training and skills, and contribution to the therapeutic relationship (Norcross & Wampold, 2011). Also, it is argued that the therapeutic alliance and relationship skills of therapists are the basic components of therapeutic ability (Eells, 1999). The therapeutic alliance can be defined as the emotional and collaborative connection between the therapist and the

client and is an essential factor in the success of the therapy process (Martin et al., 2000).

It has been stated that one of the difficulties therapy trainees face is to establish a close relationship (building rapport) with the client and to include them in the treatment process (Johnsen, 2018). Since the therapy is an interpersonal interaction based on high-intensity emotional change, it is crucial for the therapist to recognize both his/her own and the client's emotions (Bar-On, 2006; Lambert & Barley, 2001). Many studies have been conducted on how clinicians talk and behave during the therapy process. However, there is little research on clinicians' ability to recognize the patients' responses and the accuracy of their perceptions (Johnsen, 2018). Research should be conducted to ensure that clinicians correctly perceive clients and react appropriately because these are important factors that determine the quality of the service provided (Hall et al., 2014).

CHAPTER III

METHOD

3.1. Participants

In line with the purpose and hypotheses of the study, the participants are named as two different groups. No inclusion criteria were specified for the first group. This group was called "other" in the study. The number of participants in this group was 24. The participants in this group were determined by the convenience sampling method. The invitation link to participate in the study was shared on social media. An inclusion criterion was determined for the second group. The participants in this group, called "mental health professionals," are people who have at least a bachelor's degree in one of the departments of "psychology" or "psychological counseling and guidance". The number of participants in this group was 36. Among the participants in this group, some participants received postgraduate education. The participants in the "mental health professionals" group were determined by the purposive sampling method. Invitation links to this research were sent to those who are studying "Clinical Psychology" or "Psychological Counseling and Guidance" master program at Ibn Haldun University. At the same time, graduates of "psychology" and "psychological counseling and guidance" undergraduate programs were invited to study via social media. The native language of the participants was Turkish. Among the potential participants, those who reported having vision problems or an active/past psychiatric disorder (asked to specify) were not included in the study. Information about the participants can be seen in Table 3.1 and Figure 3.1. The participants read the information stated in the informed consent form and declared that they agreed to participate in the study. The Informed Consent Form can be found in Appendix A.

Table 3.1. Demographic Information

	Groups	
	Mental Health Professionals	**Other**
Age	*M*= 26.83 *SD*= 2.74	*M*= 26.33 *SD*=1.86
Gender		
Female (%)	80.6 (n=29)	58.3 (n=14)
Male (%)	19.4 (n=7)	41.7 (n=10)
Participants (%)	60% (n=36)	40% (n=24)

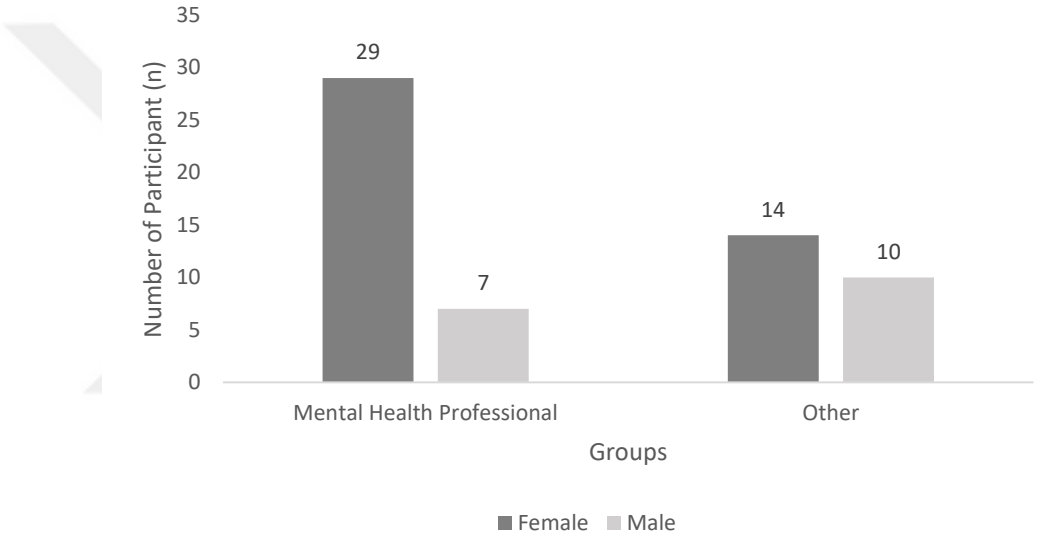

Figure 3.1. Number of Participants by Groups

3.2. Measurements

3.2.1. Demographic Information Form

Before starting the study, a "demographic information form" was given together with the informed consent form. In this form, questions about the participant's gender, age, educational status, and whether the participant was a member of the "mental health professional" group were asked. In addition, in this form, questions were asked about whether the participant had any vision problems ("Do you have any vision problems?"), whether he/she had an active or past psychiatric disorder and whether

his/her native language was Turkish. At the end of the form, a 4-digit code was asked to be entered. This 4-digit code was formed by writing the first letters of the name and surname and the date of birth (e.g., MS29). This code will be entered on the first screen that appears at the beginning of the experiment. Thus, the information given in this form and the experiment results were matched and stored confidentially. You can find the "Demographic Information Form" in the Appendix B.

3.2.2. McGill Face Database

The "McGill Face Database" developed by Schmidtmann et al. (2020) consists of 93 "mental state" facial expressions displayed by two different actors, male and female. This dataset was created from facial expressions displayed by professional actors whose native language is English. In the process of preparing the original data set, the performances of five male and five female actors were evaluated by a team consisting of two writers and an experienced drama and theatre professor in the English Department at McGill University. The statements of the two actors (female, age 23; male, age 29), which were evaluated as the best, were used in the original dataset. For the expressions in the dataset to be used in scientific studies and for non-commercial purposes, the actors have signed an agreement declaring their consent in this regard. Permission was obtained from the corresponding author, Gunnar Schmidtmann, to use this dataset in the study. For each facial expression, a label identifying that facial expression is indicated. This dataset has been translated for use in French and German. These labels were translated into Turkish so that this data set could be used in Turkish in the study. In the translation process, firstly, the original English words were translated into Turkish by three different people. The obtained Turkish words were reviewed and translated back into English by three different people. The original and translated words were analyzed by a person with a high level of English proficiency, and the final version of the Turkish version was prepared. A pilot study was conducted with a group of 10 people to evaluate the appropriateness of the translations. The data related to the pilot study are shared in the conclusion section. The words in the original dataset and the word list with Turkish translations are given in Appendix C. Sample images from the data set are shared in Appendix D.

Ten people participated in the pilot study (five male and five female). Information about the participants is given in Table 3.2. In the pilot study, 93 facial expressions

from the McGill Face Database were presented to the participants with the same method as planned to be used in the main experiment. Information about the recognition rate of the participants is given in Table 3.3. When the results were examined, it was seen that 87 of the 93 expressions shown to the participants in the study were recognized at a rate of 30 percent and above. The remaining six expressions were recognized at a rate of 20 percent. The recognition rates of facial expressions in the pilot study are shared in Appendix G.

Table 3.2. Information About Participants in Pilot Study

Age	*M*= 26,8	*SD*= 2,52
Gender		
Female (n)	n= 5 (%50)	
Male (n)	n= 5 (%50)	

Table 3.3. Recognition Rate of Participants in Pilot Study

Participants	**Accuracy Rate % (Total – 93 Expressions)**
Participant 1	72,04
Participant 2	66,66
Participant 3	61,29
Participant 4	61,29
Participant 5	62,36
Participant 6	53,76
Participant 7	63,44
Participant 8	55,91
Participant 9	65,59
Participant 10	61,29
Overall	**62,36**

3.3. Procedure

The Planning of this study and the data collection procedures in the research were carried out with the approval of the Ibn Haldun University Ethics Committee. See Appendix E.

Before starting the study, the participants were informed and warned about some issues. Firstly, it was recommended to participate in the study via a computer with at least a 13-inch screen. It was stated that it was not possible to participate with devices such as mobile phones and tablets. The participants were warned to check the internet connection quality before starting the study and to participate in the study in a quiet environment where they could focus their attention.

This research consists of two stages. In the first stage, the "Informed Consent Form" and "Demographic Information Form" were shared with the participants. After the participants declared that they approved to participate in the study, they filled in the information in the "Demographic Information Form" and created a "Participant ID" of their own. At the end of the form, a connection link to the experiment in the second phase of the study was shared with the participants. The participants who completed the first phase switched to the second phase by clicking on this connection link.

In the second stage, the content of the study was explained at the beginning, and an instruction was shared with the participants. In the instruction, it was stated that facial expressions would be shown on the screen for 1.5 seconds, and four options would appear on the screen after facial expressions. Stimuli (facial expressions) were located in the center of the screen. In the decision screen following the stimuli shown, the options were positioned in a diamond shape as up, down, right, and left. The participants were informed that they should select the option that best describes the facial expression they saw by using the directional arrow keys (up, down, right, left). Then, the participants completed a trial part consisting of 7 statements. After this trial, the main part of the study started.

In the second part, a total of 93 expressions were shown. At this stage, the order of the facial expressions was determined randomly. The position (up, down, right, left) of the

correct answer on the decision screen was also determined randomly. The other three distractor options shown on the decision screen were determined randomly from the 93 statements. Finally, the facial expressions shown as stimuli were randomly selected from male and female facial expressions. In the study, 47 female facial expressions and 46 male facial expressions were used. Information about the facial expressions used at this stage is given in Appendix F.

In the second stage, the participants were presented with 93 stimuli prepared as mentioned above and the decision screen related to them. When this phase was also completed, the participants were informed that the study was completed, and the experiment ended. It was observed that the study lasted approximately 10 - 12 minutes.

3.4. Data Collection and Data Analysis

In the first stage of the study, the "Informed Consent Form" and "Demographic Information Form" were sent to the participants via Google Forms, and the answers of the participants were collected online. In the second phase of the study, facial expressions were shown to the participants using the "PsychoPy" program (Pierce et al., 2019). Data collection was carried out online. The study prepared with the PsychoPy program was published on the pavlovia.org website, which was also designed for online data collection with PsychoPy, and the link to participate in the study was shared with the participants. Data analysis was done by using SPSS 23.0 (Statistical Package for the Social Sciences).

CHAPTER IV

RESULTS

According to the first hypothesis, the expectation was that mental health professionals would recognize emotions and complex mental states from facial expressions better than others (the accuracy rate will be higher). To test the first hypothesis with the correct method, I examined the normality values of the data. In the study, the sample consists of 60 people, and since this sample value is above 50, the "Kolmogorov-Smirnov" test was used as a normality test (Mishra et al., 2019). The Kolmogorov-Smirnov test results showed that the data related to the recognition rates of facial expressions are normally distributed for both the "mental health professionals" group D (36) = 0.142, p > .05, and the other group D (24) = 0.083, p > .05. See Table 4.1.

Table 4.1 Normality Test Results of Recognition Rates of Facial Expressions (Considering Groups)

Test of Normality				
		Kolmogorov-Smirnov		
	Group	**Statistic**	**df**	**Sig.**
Recognition rate of facial expressions (%)	**Mental health professional**	.142	36	.066
	Other	0.083	24	.200*
*This is a lower bound of the true significance				

According to the result, the data were normally distributed, and the analysis should be performed using a parametric test. An Independent Sample t-test was used to examine the difference between the facial expression recognition performances (accuracy rate) of the mental health professionals and non-professional group. It was found that there

was a significant difference in performance in recognizing facial expressions between the two groups (t (58) =2.303, p=0.025). The mean score of mental health professionals in the performance of recognizing facial expressions (M= 60.27, SD= 7.03) was significantly higher than other group (M= 56.00, SD= 7.05). See Figure 4.1 and Table 4.2.

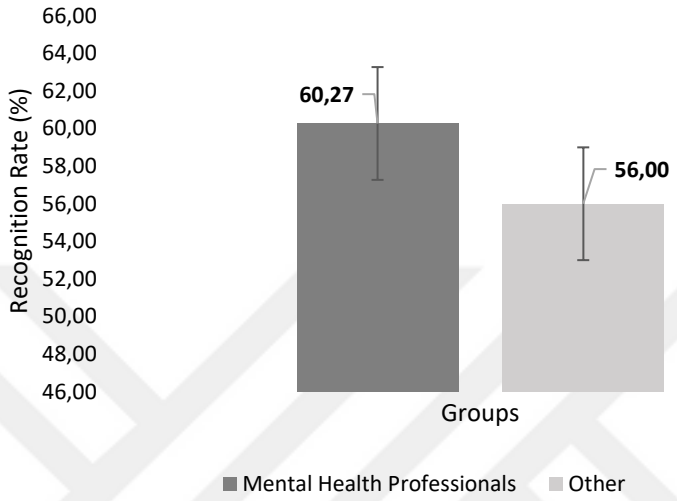

Figure 4.1. Overall Facial Recognition Rate for Mental Health Professionals and Others

Table 4.2. Independent Samples T-Test Analysis between Mental Health Professionals and Other Group

			Levene's Test for Equality of Variances		t-test for Equality of Means			
	Groups	**Statistics**	**F**	**t**	**df**	**p**	**Mean Difference**	**Std. Error Difference**
Recognition rate of facial expressions (%)	Mental Health Professionals	*M*= 60.27 *SD*= 7.03	.134	2.303	58	0.025*	4.271	1.855
	Other	*M*= 56.00 *SD*= 7.05						
*p < .05								

According to the second hypothesis, it was expected that there is a significant difference in the accuracy rate of recognizing facial expressions between females and males. Before starting the analysis, the normality value of the distribution of the data related to the recognition rates of facial expressions of female and male participants was examined. The Kolmogorov-Smirnov test results show that the data related to recognition rates of facial expressions are normally distributed for both the female group D (43) = 0.128, p > .05, and the male group D (17) = 0.105, p > .05. See Table 4.3.

Table 4.3. Normality Test Results of Recognition Rates of Facial Expressions (Considering Gender)

Test of Normality				
		Kolmogorov-Smirnov		
	Gender	**Statistic**	**df**	**Sig.**
Recognition rate of facial expressions (%)	**Female**	.128	43	.073
	Male	0.105	17	.200*
*This is a lower bound of the true significance				

According to the result, the data were normally distributed, and the analysis should be performed using a parametric test. An Independent Sample t-test was used to examine the difference between the facial expression recognition performances of the male and female groups. It was found that there was no significant difference in performance in recognizing facial expressions between the two groups (t (58) =1.536, p= 0.130). Even if the mean score of females in the performance of recognizing facial expressions (M= 59.46, SD= 7.72) was higher than that of males (M= 56.29, SD= 5.66), this difference was not found to be significant. See Figure 4.2. and Table 4.4.

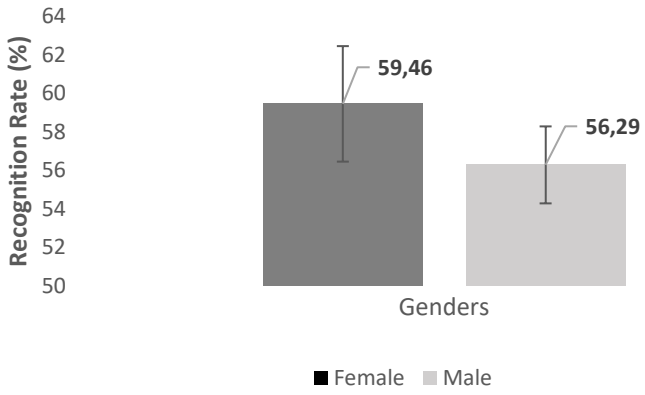

Figure 4.2. Overall Facial Recognition Rate for Females and Males

Table 4.4. Independent Samples T-Test Analysis between Females and Males

			Levene's Test for Equality of Variances		t-test for Equality of Means			
	Groups	**Statistics**	**F**	**t**	**df**	**p**	**Mean Difference**	**Std. Error Difference**
Recognition rate of facial expressions (%)	Female	*M*= 59.46 *SD*= 7.72	1.313	1.536	58	0.130	3.171	2.066
	Male	*M*= 56.29 *SD*= 5.66						

As a result of the analyses on how successfully the 93 facial expressions in the study were recognized by the participants, it was observed that 81 expressions were recognized at a rate higher than 25%. Twelve expressions were recognized at values ranging between 5% and 20%. Information about the expressions used in the research and their recognition rates are given in Table 4.5.

Table 4.5. Expression Labels, Gender of Actors, and Recognition Rates for Each Expression – Main Study

Expression Label (in English)	Expression Label (in Turkish)	Gender of Actor	Recognition Rate (%)
Reassuring	Güven verici	Male	16,67*
Horrified	Çok korkmuş	Female	11,67*
Terrified	Dehşete düşmüş	Male	91,67
Intrigued	Meraklı	Female	75
Confident	Kendine güvenen	Male	48,33
Decisive	Kararlı	Male	46,67
Serious	Ciddi	Female	93,33
Eager	İstekli	Male	51,67
Friendly	Arkadaşça	Male	81,67
Offended	Gücenmiş	Female	28,33
Concerned	Tedirgin	Male	43,33
Fascinated	Büyülenmiş	Female	75
Uneasy	Huzursuz	Female	20*
Anxious	Kaygılı	Male	50
Baffled	Şaşırıp kalmış	Female	60
Disappointed	Hayal kırıklığına uğramış	Female	66,67
Encouraging	Cesaretlendirici	Male	50
Hopeful	Umutlu	Female	33,33
Preoccupied	Kafası meşgul	Male	13,33*
Perplexed	Aklı karışmış	Female	86,67
Assertive	İddialı	Male	48,33
Imploring	Yalvaran	Female	86,67
Satisfied	Tatmin olmuş	Male	75
Despondent	Umutsuzluğa düşmüş	Female	83,33
Pensive	Dalgın	Male	75
Upset	Üzgün	Female	63,33
Arrogant	Kibirli	Male	78,33
Insisting	Israrcı	Male	31,67
Joking	Şakacı	Male	55
Earnest	Ağır başlı	Female	5*
Confused	Kafası karışmış	Female	81,67
Tentative	İkircikli	Male	38,33

Table 4.5. (cont.)

Bewildered	Afallamış	Female	88,33
Nervous	Gergin	Female	61,67
Sarcastic	Kinayeli	Male	95
Threatening	Tehditkar	Female	76,67
Dominant	Baskın	Male	16,67*
Deciding	Karar vermeye çalışan	Female	41,67
Enthused	Hayranlıkla bakan	Male	80
Relaxed	Rahat	Male	26,67
Impatient	Sabırsız	Female	81,67
Amused	Keyifli	Female	86,67
Suspicious	Kuşkucu	Male	86,67
Apologetic	Özür dileyen	Male	6,67*
Indifferent	Umursamaz	Female	31,67
Curious	Meraklı	Male	26,67
Desire	Arzulayan	Male	36,67
Interested	İlgili	Female	41,67
Annoyed	Gıcık olmuş	Female	56,67
Dispirited	Keyfi kaçmış	Female	65
Comforting	Huzur bulmuş	Male	6,67*
Embarrassed	Mahcup	Female	86,67
Resentful	Alınmış	Female	36,67
Depressed	Depresif	Female	71,67
Skeptical	Şüpheci	Female	86,67
Regretful	Pişman	Male	26,67
Stern	Müsamahasız	Male	71,67
Entertained	Eğlenmiş	Female	81,67
Irritated	Rahatsız olmuş	Male	55
Flirtatious	Cilveli	Female	90
Puzzled	Kafası karışmış	Male	86,67
Contemplative	Düşüncelere dalmış	Female	76,67
Anticipating	Beklenti içinde	Male	51,67
Guilty	Suçlu	Female	28,33
Aghast	Ödü patlamış	Male	80
Dubious	Tereddütlü	Male	73,33
Thoughtful	Düşünceli	Female	15*
Panicked	Paniğe kapılmış	Male	28,33
Alarmed	Alarm durumunda	Female	80

Table 4.5. (cont.)

Distrustful	Güvensiz	Male	81,67
Cautious	Tedbirli	Female	48,33
Sympathetic	Sempati duyan	Male	6,67*
Reflective	Derin düşünen	Female	75
Flustered	Telaşlı	Male	83,33
Hateful	Nefret dolu	Male	91,67
Incredulous	Zor inanan	Female	58,33
Jealous	Kıskanç	Male	51,67
Ashamed	Utanmış	Female	33,33
Defiant	Meydan okuyan	Male	45
Insulting	Aşağılayıcı	Female	75
Fantasizing	Hayallere dalan	Male	93,33
Indecisive	Kararsız	Female	78,33
Playful	Oyuncu	Male	15*
Contented	Hoşnut	Female	86,67
Fearful	Korku dolu	Female	93,33
Convinced	İkna olmuş	Male	13,33*
Relieved	Hafiflemiş	Female	58,33
Grateful	Minnettar	Female	91,67
Accusing	Suçlayıcı	Male	63,33
Doubtful	Şüpheci	Female	86,67
Hostile	Düşmanca	Male	75
Worried	Endişeli	Female	83,33
Affectionate	Şefkatli	Male	53,33

*Indicates recognition rate below %25. See the discussion section for more information.

CHAPTER V

DISCUSSION

This study was prepared to answer more than one research question. The first research question is how much mental health professionals (psychologists and psychological counselors) can recognize emotions and complex mental states from facial expressions. In addition, it was investigated whether mental health professionals differ from other people in terms of their ability to recognize emotions and complex states from facial expressions. It was also investigated whether there was a difference between females and males in terms of their ability to recognize emotions and complex states from facial expressions. In this section, the results of the main study are discussed. In addition, the contribution of the study to the literature, limitations of the study, and suggestions for future studies are given.

5.1. Main Study

In the current study, it was hypothesized that mental health professionals recognize emotions and complex mental states from facial expressions better than others. The results support this hypothesis. It is seen that the rate of recognizing emotions and complex states from facial expressions of mental health professionals is significantly higher than the other group. When this hypothesis was put forward, no information was found in the literature specifically on this subject. The reason for this hypothesis is the assumption that the ability to understand emotions and complex states from facial expressions may be one of the professional skills. In interpersonal communication, facial expression, one of the non-verbal communication channels, is important for effective communication (Frith & Frith, 2007). Effective interpersonal communication is an important skill for mental health professionals. This skill can help them to establish healthy, reliable, and understanding relationships with both their colleagues and their clients. Being able to understand the feelings and thoughts

expressed by the clients can contribute to a more productive therapy process (Johnsen, 2018). According to Hall et al. (2014), recognizing and understanding the client's emotions is an important skill for therapists and is required for the therapeutic alliance.

It is possible to find studies on many different topics related to facial expressions in the literature. Likewise, there is substantial literature on recognizing emotional facial expressions. However, there are very few studies on the ability of mental health professionals to recognize facial expressions/emotions from facial expressions. These studies have mostly focused on the ability of therapists to recognize emotions from facial expressions and that this skill can be improved through training (Johnsen, 2018; Curtis, 2017). No data can be found about the ability to recognize emotions and complex mental states from facial expressions, which has been previously investigated by a group of mental health professionals. Therefore, the results of this study, which support the hypothesis of the research, cannot be compared with any information or data in the literature.

The second hypothesis of the study is that there is a significant difference in the accuracy rate of recognizing facial expressions between female participants and male participants. The results of the study do not support this hypothesis. Even if the mean score of female participants in the performance of recognizing facial expressions was higher than males, this difference was not found significant. In the literature, different studies are comparing the facial expression recognition performance of males and females. Many studies show that females recognize emotional facial expressions better than males (Hoffmann et al., 2010). Meta-analytic studies also suggest that women perform slightly but significantly better at recognizing emotions from facial expressions (McClure, 2000). However, some studies have found that women perform better in decoding facial expressions only for some emotional expressions (Campbell et al., 2002). Some studies evaluated the ability of males and females to recognize facial expressions separately for each facial expression rather than evaluating their ability to recognize facial expressions in general. For example, Brody & Hall (1993) found that male participants were better at recognizing anger and aggression, and female participants more accurately recognized expressions of sadness and fear.

The fact that there is no significant difference between male participants and female participants in terms of facial expression recognition can be explained in different ways. As in other studies in the literature, there may be no difference in overall performance. There may be a difference in recognition rate between male participants and female participants for each expression separately, but when the 93 expressions are considered as a total, no significant difference may have been found. Another explanation may be based on the unequal distribution of the number of females and males participating in the research. Of the 60 participants, 43 participants were female (71.67%) and 17 participants were male (28.33%). Due to the high difference in gender distribution rates, it is possible that differences between genders in facial expression recognition could not be detected.

As a result of the analyses on how successfully the 93 facial expressions in the study were recognized by the participants, it was observed that 81 expressions were recognized at a rate higher than 25%. Twelve expressions were recognized at values ranging between 5% and 20%. Information about facial expressions with a recognition rate lower than 25% is given in Table 5.1.

Table 5.1. Facial Expressions with a Recognition Rate Lower than %25

Expression Label in English	Expression Label in Turkish	Gender of Actor	Recognition Rate in Current Study (%)	Recognition Rate in McGill Face Database (%)
Reassuring	Güven verici	Male	16.67	27.27
Horrified	Çok korkmuş	Female	11.67	45.45
Uneasy	Huzursuz	Female	20	63.64
Preoccupied	Kafası meşgul	Male	13.33	15.15
Earnest	Ağır başlı	Female	5	36.36
Dominant	Baskın	Male	16.67	78.79
Apologetic	Özür dileyen	Male	6.67	12.12

Table 5.1. (cont.)

Comforting	Huzur bulmuş	Male	6.67	3.03
Thoughtful	Düşünceli	Female	15	39.39
Sympathetic	Sempati duyan	Male	6.67	15.15
Playful	Oyuncu	Male	15	90.91
Convinced	İkna olmuş	Male	13.33	27.27

When the table above is examined, it is seen that the recognition rates of 4 expressions (preoccupied, apologetic, comforting, and sympathetic) in the McGill Face Database are below 25%. It has been observed that the recognition rates of the female versions of these four expressions are over 25% (Schmidtmann et al. (2020). It should be considered that the results may be different values if the female version was included instead of these expressions in which the actor's gender was randomly determined. One of the possible explanations for why the recognition rates of the other eight expressions may be lower than 25% may be due to translation. The translated words may not be the exact equivalent of the original word. It may also be that the three randomly selected options for each statement have a high distractor value. See Table 5.2 for correct answers and distractor options for expressions recognized less than 25%.

Table 5.2. Correct Answers and Distractor Options for Expressions Recognized Less Than %25

Option 1	**Option 2**	**Option 3**	**Option 4**
Güven verici* (**Reassuring**)	Suçlayıcı (Accusing)	Zor İnanan (Incredulous)	Gergin (Nervous)
Tedbirli (Cautious)	Umutsuzluğa düşmüş (Despondent)	**Çok korkmuş*** **(Horrified)**	Müsamahasız (Stern)
Kibirli (Arrogant)	Keyfi kaçmış (Dispirited)	Paniğe kapılmış (Panicked)	**Huzursuz*** (**Uneasy**)
Tereddütlü (Dubious)	**Kafası meşgul*** **(Preoccupied)**	Yalvaran (Imploring)	Düşünceli (Thoughtful)

Table 5.2. (cont.)

Mahcup (Embarrassed)	Ciddi (Serious)	Meraklı (Curious)	**Ağır başlı* (Earnest)**
Güvensiz (Distrustful)	**Baskın* (Dominant)**	Gücenmiş (Offended)	Meydan okuyan (Defiant)
Keyifli (Amused)	Şaşırıp kalmış (Baffled)	Üzgün (Upset)	**Özür dileyen* (Apologetic)**
Huzur bulmuş* (Comforting)	Hafiflemiş (Relieved)	Tedirgin (Concerned)	Mahcup (Embarrassed)
Depresif (Depressed)	**Düşünceli* (Thoughtful)**	Zor inanan (Incredulous)	Kafası meşgul (Preoccupied)
Gıcık olmuş (Annoyed)	**Sempati duyan* (Sympathetic)**	Hayal kırıklığına uğramış (Disappointed)	Hafiflemiş (Relieved)
İkna olmuş (Convinced)	**Oyuncu* (Playful)**	Arkadaşça (Friendly)	Sempati duyan (Sympathetic)
Karar vermeye çalışan (Deciding)	İlgili (Interested)	**İkna olmuş* (Convinced)**	Meraklı (Intrigued)
* Asterisks indicate the true answer.			

5.2. Conclusion

This study aims to understand to what extent mental health professionals are capable of recognizing emotions and complex mental states from facial expressions. The results show that mental health professionals successfully recognize emotions and complex states from facial expressions at an average rate of 60.27%. Moreover, mental health professionals performed significantly better in recognizing emotion and complex states from facial expressions than non-professionals. Another question in the study was whether there was a difference between female participants and male participants in recognizing facial expressions. In contrast to the findings in the literature, in this study, there was no significant difference between female participants and male participants in terms of their performance in recognizing emotions and complex states from facial expressions. This may be due to the difference between the number of male participants and female participants.

In the literature, studies are showing that therapists' ability to recognize emotions can be improved through training. By preparing a similar training program, mental health professional's ability to recognize both emotions and complex states can be improved. The development of mental health professionals' ability to recognize emotions and complex states from facial expressions may be beneficial in the following areas:

- Accurate diagnosis and assessment: Mental health professionals should accurately assess the mental and emotional state of their clients. As a result of the development of this skill, mental health professionals can better understand the internal state of the other person and develop interventions accordingly.

- Developing empathy: Mental health professionals need to develop their emotional intelligence to better relate to and empathize with their patients. Being able to accurately read emotional expressions can help in understanding patients' emotional needs and supporting them more effectively. An empathic approach can improve the treatment process.

- Improving Communication Skills: Mental health professionals need to communicate effectively with their patients. Understanding patients' emotional expressions can increase their ability to respond accurately and sensitively. For example, if a patient seems upset, the professional can respond appropriately to this emotional expression and ease the patient's emotional burden.

- Intervention in Crisis Situations: In emergencies, it is critical to quickly assess the emotional state of patients. Mental health workers need to quickly recognize whether a person is at risk of suicide or exhibiting violent tendencies. Accurately interpreting emotional expressions can facilitate rapid and effective intervention.

In conclusion, this research shows that mental health professionals can recognize emotions and complex states from facial expressions quite successfully. Despite a certain level of success, there is room for improvement for mental health professionals in recognizing emotion and complex states of mind from facial expressions. It is

recommended that mental health professionals enhance their skills in this field, communicate more effectively with others, and strive for success in their profession.

5.3. Contributions of the Study to the Literature

This study contributes to the literature by addressing the concepts of "complex mental states" and "emotions" together in the field of facial expressions. In addition, since there are few studies in the field of facial expressions in Turkey, this study can serve as an important source for future studies on facial expressions in Turkey. Unlike the studies in the literature on therapists' ability to recognize emotional facial expressions, this study differs from other studies in that it provides a result on the ability of mental health professionals to recognize emotions and complex mental states and contributes to the literature on this subject. In addition, this study aims to contribute to the literature by taking a step towards making the McGill Face Database available in Turkish.

5.4. Limitations of the Study

Since the data collection process in this study was carried out online, the participants were not isolated from distractions during the experiment, even though the participants were warned about this issue beforehand. Therefore, the performance of the participants may have been affected by external factors. Another issue is that the time taken by the participants to respond to the statements could not be controlled healthily. Although the reaction time information of the participant's responses to each expression was included in the data collection tool, it cannot be evaluated as reliable. Another limitation of this study is that the study consists of two stages. It was planned that the participants would confirm the "Informed Consent Form" and fill in the "Demographic Information Form" in the first stage and then proceed to the second stage by clicking on the link. Some participants did not proceed to the second stage after completing the forms in the first stage. Therefore, some people could not participate in the study. It was observed that approximately 20 people filled out the first form but did not proceed to the second stage of the study.

Another limitation of this study is that there is a difference between the number of female participants (n=43) and male participants (n=17). In addition, there is a big difference between the number of female and male participants in the group called mental health professionals. This difference can be evaluated as a limitation of this study. However, the emergence of this difference can be considered quite natural. It is seen that people studying psychology and psychological counseling and guidance undergraduate programs are predominantly women. This difference may be controlled by planning to reach especially male participants for the mental health professionals group during the data collection.

Another issue that can be regarded as a limitation in this study is how long the participants spent on the answer for each expression (response time). Since data collection was conducted online in this study, although the data collection tool gathered information about the participants' response time for each expression, no analysis or interpretation was made by relying on this data since it was not a controlled environment. Some participants may have recognized facial expressions with a higher rate of success by taking much longer to respond. In addition, even if the facial expression recognition rate was similar to other participants, if the participant reached this recognition rate by answering in a shorter time (lower response time), it can be suggested that this participant was more successful in recognizing facial expressions.

5.5. Suggestions for Future Research

Firstly, as mentioned before, there is a difference in the gender distribution of the participants in this study. It may be recommended to conduct a study in which more participants are included, and the ratio of male and female participants in the study is closer. In this study, reaction time data was not included in the analyses since the data was collected online. A more detailed analysis can be obtained by including reaction time data in a laboratory environment. A new study can be designed by selecting one of the appropriate empathy scales in the literature and adding it to the study, and it can be examined whether there is a relationship between the data obtained from the empathy scale and the participants' facial expression recognition rates. As mentioned earlier (see section 5.4 above), it is recommended that similar studies be designed to take place in a single phase, as there was a potential loss of participants in a two-stage

study design. Finally, a more comprehensive study can be designed by using all facial expressions in the McGill Face Database. It should be kept in mind that participants will need a long time to complete a study that includes all facial expressions. In this case, it is recommended to give a small break to the experiment so that the participants can rest and regain their attention. In this study, no information was collected about the professional experiences of mental health professionals. In future studies, obtaining information about the professional experience of the participants may help to make more detailed analyses and inferences on this issue. Mental health professionals have the opportunity to work with more people as their professional experience increases. This process can help them improve their ability to recognize different emotional and conversational expressions. Over time, by encountering more and more different situations, they can better understand people's different reactions. In addition, mental health professionals have the opportunity to observe and evaluate patients' facial expressions continuously during clinical practice. As a result of this continuous practice, their ability to read facial expressions more precisely may improve. Therefore, future studies collecting information about the professional experience of mental health professionals may play an important role in the emergence of new knowledge on this subject.

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APPENDIXES

APPENDIX A

Informed Consent Form

"Yüz İfadelerinden Duygu ve Karmaşık Zihin Durumlarını Tanıma Becerisinin Ölçülmesi" Başlıklı Araştırma İçin Bilgilendirilmiş Gönüllü Olur Formu

Araştırmayı destekleyen kurum: İbn Haldun Üniversitesi

Araştırmanın adı: "Yüz İfadelerinden Duygu ve Karmaşık Zihin Durumlarını Tanıma Becerisinin Ölçülmesi"

Araştırmacı: Mehmet Emin Sağan

Araştırma danışmanı: Prof. Timothy Richard Jordan

ÖNEMLİ NOT: Bu çalışmaya, en az 13 inç ekrana sahip bir bilgisayar aracılığıyla katılmanız önerilmektedir. Cep telefonu ve tablet gibi cihazlar ile katılım mümkün değildir. Çalışmaya başlamadan önce internet bağlantınızda herhangi bir problem olmadığından emin olunuz. Çalışmaya sessiz, dikkatinizi odaklayabileceğiniz bir ortamda girmeniz rica olunur.

Onam: Bu çalışmada bireylerin yüz ifadelerinden duygu ve karmaşık zihin durumlarını tanıma becerisinin ölçülmesi amaçlanmaktadır. Çalışmaya katılmayı kabul ettiğiniz takdirde öncelikle demografik katılımcı bilgi formunu doldurmanız gerekecektir. Daha sonra çalışmanın nasıl ilerleyeceğini göstermek adına 7 egzersiz çalışması yapılacaktır. Bu alıştırma sürecinde size bir yüz ifadesi gösterilecek ve ardından gelen 4 seçenekten bir tanesini seçmeniz istenecektir. Seçeneklerden herhangi birini seçmekte özgürsünüz. Alıştırma bölümü tamamlandıktan sonra asıl çalışma başlayacaktır. Bu çalışmanın yaklaşık 10-15 dakikada tamamlanması öngörülmektedir. Formlara isminizi yazmanız istenmeyecektir. Çalışmaya katılmanız tamamen isteğe bağlıdır. İstediğiniz zaman çalışmaya katılmaktan vazgeçebilirsiniz. Bu durumda sizden almış olduğumuz örnek imha edilecektir. Bu araştırmanın size risk getirmesi beklenmemektedir.

Araştırma sonuçları hakkında bilgi almak istiyorsanız lütfen adresine "Araştırma sonuçları hakkında bilgi almak istiyorum" şeklinde e-posta gönderiniz. Çalışma süresince herhangi bir problem ile karşılaşırsanız, e-posta ile sorununuzu bildirebilirsiniz.

Vakit ayırdığınız için teşekkürler.

Çalışma ile ilgili bilgileri okudum ve çalışmaya katılmayı kabul ediyorum *

- (●) Evet
- ( ) Hayır

APPENDIX B

Demographic Information Form

"Yüz İfadelerinden Duygu ve Karmaşık Zihin Durumlarını Tanıma Becerisinin Ölçülmesi" Başlıklı Araştırma İçin Bilgilendirilmiş Gönüllü Olur Formu

* Zorunlu soruyu belirtir

Sosyo-Demografik Bilgi Formu

Cinsiyet *

- ◯ Kadın
- ◯ Erkek
- ◯ Diğer:

Yaşınız *

Yanıtınız

Eğitim Durumu *

- ◯ Lisans öğrencisi
- ◯ Lisans mezunu
- ◯ Lisansüstü öğrencisi
- ◯ Lisansüstü mezun

Öğrencisi olduğunuz/mezun olduğunuz bölüm

Yanıtınız

Aşağıdaki seçeneklerden sizi en iyi tanımlayanı seçiniz. *

- ◯ Ruh sağlığı çalışanı (psikolog, psikolojik danışman, klinik psikolog)
- ◯ Ruh sağlığı çalışanı değil (diğer meslekler)

Bir önceki soruya "Ruh sağlığı çalışanı değil" seçeneğini işaretlediyseniz, dilerseniz buraya mesleğinizi yazabilirsiniz

Yanıtınız

Görme konusunda herhangi bir problem yaşıyor musunuz? (Gözlük-lens hariç) *

- ◯ Hayır
- ◯ Evet

Görme konusunda problem yaşıyorsanız belirtiniz:

Yanıtınız

Aktif ya da geçmiş dönemde psikiyatrik bir rahatsızlığınız bulunuyor mu? *

- ◯ Hayır
- ◯ Evet

Aktif ya da geçmiş dönemde psikiyatrik bir rahatsızlığınız bulunuyorsa belirtiniz:

Yanıtınız

Anadiliniz Türkçe mi? *

- ◯ Evet
- ◯ Hayır

APPENDIX C

List of Labels in McGill Face Database and Turkish Translated Labels

Expression Label in English	**Expression Label in Turkish**
Accusing	Suçlayıcı
Affectionate	Şefkatli
Aghast	Ödü patlamış
Alarmed	Alarm durumunda
Amused	Keyifli
Annoyed	Gıcık olmuş
Anticipating	Beklenti içinde
Anxious	Kaygılı
Apologetic	Özür dileyen
Arrogant	Kibirli
Ashamed	Utanmış
Assertive	İddialı
Baffled	Şaşırıp kalmış
Bewildered	Afallamış
Cautious	Tedbirli
Comforting	Huzur bulmuş
Concerned	Tedirgin
Confident	Kendine güvenen
Confused	Kafası karışmış
Contemplative	Düşüncelere dalmış
Contented	Hoşnut
Convinced	İkna olmuş
Curious	Meraklı
Deciding	Karar vermeye çalışan
Decisive	Kararlı
Defiant	Meydan okuyan
Depressed	Depresif
Desire	Arzulayan
Despondent	Umutsuzluğa düşmüş
Disappointed	Hayal kırıklığına uğramış
Dispirited	Keyfi kaçmış
Distrustful	Güvensiz
Dominant	Baskın
Doubtful	Şüpheci
Dubious	Tereddütlü
Eager	İstekli
Earnest	Ağır başlı
Embarrassed	Mahcup
Encouraging	Cesaretlendirici
Entertained	Eğlenmiş
Enthused	Hayranlıkla bakan
Fantasizing	Hayallere dalan
Fascinated	Büyülenmiş
Fearful	Korku dolu
Flirtatious	Cilveli
Flustered	Telaşlı
Friendly	Arkadaşça
Grateful	Minnettar
Guilty	Suçlu

Hateful	Nefret dolu
Hopeful	Umutlu
Horrified	Çok korkmuş
Hostile	Düşmanca
Impatient	Sabırsız
Imploring	Yalvaran
Incredulous	Zor inanan
Indecisive	Kararsız
Indifferent	Umursamaz
Insisting	Israrcı
Insulting	Aşağılayıcı
Interested	İlgili
Intrigued	Meraklı
Irritated	Rahatsız olmuş
Jealous	Kıskanç
Joking	Şakacı
Nervous	Gergin
Offended	Gücenmiş
Panicked	Paniğe kapılmış
Pensive	Dalgın
Perplexed	Aklı karışmış
Playful	Oyuncu
Preoccupied	Kafası meşgul
Puzzled	Kafası karışmış
Reassuring	Güven verici
Reflective	Derin düşünen
Regretful	Pişman
Relaxed	Rahat
Relieved	Hafiflemiş
Resentful	Alınmış
Sarcastic	Kinayeli
Satisfied	Tatmin olmuş
Serious	Ciddi
Skeptical	Şüpheci
Stern	Müsamahasız
Suspicious	Kuşkucu
Sympathetic	Sempati duyan
Tentative	İkircikli
Terrified	Dehşete düşmüş
Thoughtful	Düşünceli
Threatening	Tehditkar
Uneasy	Huzursuz
Upset	Üzgün
Worried	Endişeli

APPENDIX D

Illustration D.1. Sample Image from McGill Face Database (Female)

Accusing – Famale Actor

Suçlayıcı – Kadın Aktör

Illustration D.2. Sample Image from McGill Face Database (Male)

Accusing – Male Actor

Suçlayıcı – Erkek Aktör

APPENDIX E

Ibn Haldun University Ethics Committee Approval Page

Evrak Tarih ve Sayısı: 11.07.2023-28128

İBN HALDUN ÜNİVERSİTESİ

T.C.
İBN HALDUN ÜNİVERSİTESİ
Sosyal ve Beşeri Bilimler Bilimsel Araştırma ve Yayın Etiği
Kurulu Başkanlığı

Sayı : E-71395021-100-28128 11.07.2023
Konu : Etik Kurul Kararı - Mehmet Emin Sağan

İLGİLİ MAKAMA

Kurulumuza başvuran Mehmet Emin Sağan'ın "Recognition Skills of Emotions and Complex Mental States from Facial Expressions" isimli projesi; amaç, araştırma türü, veri toplama araçları, süreç ve işlemler, veri analizleri dikkate alınmak suretiyle 10.07.2023 tarihinde değerlendirilerek 2023/05-01 karar numarası ile etik açıdan uygun bulunmuştur.

Bilgilerinizi arz/rica ederim.

Prof. Dr. Alev ERKİLET
Başkan

Bu belge, güvenli elektronik imza ile imzalanmıştır.

Belge Doğrulama Kodu :BSN0N7DZB Belge Doğrulama Adresi: https://www.turkiye.gov.tr/ibn-haldun-universitesi-ebys

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Bilgi için: Melike Kanca
Unvanı: Sekreter

Bu belge,güvenli elektronik imza ile imzalanmıştır.

APPENDIX F

Information about the Facial Expressions Used in Study

Expression Label (in English)	**Expression Label (in Turkish)**	**Gender of Actor**
Reassuring	Güven verici	Male
Horrified	Çok korkmuş	Female
Terrified	Dehşete düşmüş	Male
Intrigued	Meraklı	Female
Confident	Kendine güvenen	Male
Decisive	Kararlı	Male
Serious	Ciddi	Female
Eager	İstekli	Male
Friendly	Arkadaşça	Male
Offended	Gücenmiş	Female
Concerned	Tedirgin	Male
Fascinated	Büyülenmiş	Female
Uneasy	Huzursuz	Female
Anxious	Kaygılı	Male
Baffled	Şaşırıp kalmış	Female
Disappointed	Hayal kırıklığına uğramış	Female
Encouraging	Cesaretlendirici	Male
Hopeful	Umutlu	Female
Preoccupied	Kafası meşgul	Male
Perplexed	Aklı karışmış	Female
Assertive	İddialı	Male
Imploring	Yalvaran	Female
Satisfied	Tatmin olmuş	Male
Despondent	Umutsuzluğa düşmüş	Female
Pensive	Dalgın	Male
Upset	Üzgün	Female
Arrogant	Kibirli	Male
Insisting	Israrcı	Male
Joking	Şakacı	Male
Earnest	Ağır başlı	Female
Confused	Kafası karışmış	Female
Tentative	İkircikli	Male
Bewildered	Afallamış	Female
Nervous	Gergin	Female
Sarcastic	Kinayeli	Male
Threatening	Tehditkar	Female
Dominant	Baskın	Male
Deciding	Karar vermeye çalışan	Female
Enthused	Hayranlıkla bakan	Male
Relaxed	Rahat	Male
Impatient	Sabırsız	Female
Amused	Keyifli	Female
Suspicious	Kuşkucu	Male
Apologetic	Özür dileyen	Male
Indifferent	Umursamaz	Female
Curious	Meraklı	Male
Desire	Arzulayan	Male
Interested	İlgili	Female

Annoyed	Gıcık olmuş	Female
Dispirited	Keyfi kaçmış	Female
Comforting	Huzur bulmuş	Male
Embarrassed	Mahcup	Female
Resentful	Alınmış	Female
Depressed	Depresif	Female
Skeptical	Şüpheci	Female
Regretful	Pişman	Male
Stern	Müsamahasız	Male
Entertained	Eğlenmiş	Female
Irritated	Rahatsız olmuş	Male
Flirtatious	Cilveli	Female
Puzzled	Kafası karışmış	Male
Contemplative	Düşüncelere dalmış	Female
Anticipating	Beklenti içinde	Male
Guilty	Suçlu	Female
Aghast	Ödü patlamış	Male
Dubious	Tereddütlü	Male
Thoughtful	Düşünceli	Female
Panicked	Paniğe kapılmış	Male
Alarmed	Alarm durumunda	Female
Distrustful	Güvensiz	Male
Cautious	Tedbirli	Female
Sympathetic	Sempati duyan	Male
Reflective	Derin düşünen	Female
Flustered	Telaşlı	Male
Hateful	Nefret dolu	Male
Incredulous	Zor inanan	Female
Jealous	Kıskanç	Male
Ashamed	Utanmış	Female
Defiant	Meydan okuyan	Male
Insulting	Aşağılayıcı	Female
Fantasizing	Hayallere dalan	Male
Indecisive	Kararsız	Female
Playful	Oyuncu	Male
Contented	Hoşnut	Female
Fearful	Korku dolu	Female
Convinced	İkna olmuş	Male
Relieved	Hafiflemiş	Female
Grateful	Minnettar	Female
Accusing	Suçlayıcı	Male
Doubtful	Şüpheci	Female
Hostile	Düşmanca	Male
Worried	Endişeli	Female
Affectionate	Şefkatli	Male

APPENDIX G

Expression Labels, Gender of Actors and Recognition Rates for Each Expression – Pilot Study

Expression Label (in English)	Expression Label (in Turkish)	Gender of Actor	Recognition Rate (%)
Reassuring	Güven verici	Male	40
Horrified	Çok korkmuş	Female	30
Terrified	Dehşete düşmüş	Male	90
Intrigued	Meraklı	Female	80
Confident	Kendine güvenen	Male	60
Decisive	Kararlı	Male	50
Serious	Ciddi	Female	90
Eager	İstekli	Male	50
Friendly	Arkadaşça	Male	70
Offended	Gücenmiş	Female	30
Concerned	Tedirgin	Male	40
Fascinated	Büyülenmiş	Female	80
Uneasy	Huzursuz	Female	20
Anxious	Kaygılı	Male	50
Baffled	Şaşırıp kalmış	Female	80
Disappointed	Hayal kırıklığına uğramış	Female	80
Encouraging	Cesaretlendirici	Male	40
Hopeful	Umutlu	Female	60
Preoccupied	Kafası meşgul	Male	30
Perplexed	Aklı karışmış	Female	90
Assertive	İddialı	Male	50
Imploring	Yalvaran	Female	80
Satisfied	Tatmin olmuş	Male	90
Despondent	Umutsuzluğa düşmüş	Female	80
Pensive	Dalgın	Male	60
Upset	Üzgün	Female	50
Arrogant	Kibirli	Male	80
Insisting	Israrcı	Male	40
Joking	Şakacı	Male	70
Earnest	Ağır başlı	Female	20
Confused	Kafası karışmış	Female	60
Tentative	İkircikli	Male	50
Bewildered	Afallamış	Female	90
Nervous	Gergin	Female	80
Sarcastic	Kinayeli	Male	80
Threatening	Tehditkar	Female	80
Dominant	Baskın	Male	30
Deciding	Karar vermeye çalışan	Female	70
Enthused	Hayranlıkla bakan	Male	80
Relaxed	Rahat	Male	40
Impatient	Sabırsız	Female	90
Amused	Keyifli	Female	90
Suspicious	Kuşkucu	Male	70
Apologetic	Özür dileyen	Male	20
Indifferent	Umursamaz	Female	70
Curious	Meraklı	Male	40
Desire	Arzulayan	Male	50
Interested	İlgili	Female	50

Annoyed	Gıcık olmuş	Female	50
Dispirited	Keyfi kaçmış	Female	30
Comforting	Huzur bulmuş	Male	20
Embarrassed	Mahcup	Female	80
Resentful	Alınmış	Female	30
Depressed	Depresif	Female	70
Skeptical	Şüpheci	Female	80
Regretful	Pişman	Male	50
Stern	Müsamahasız	Male	70
Entertained	Eğlenmiş	Female	80
Irritated	Rahatsız olmuş	Male	40
Flirtatious	Cilveli	Female	90
Puzzled	Kafası karışmış	Male	80
Contemplative	Düşüncelere dalmış	Female	70
Anticipating	Beklenti içinde	Male	60
Guilty	Suçlu	Female	30
Aghast	Ödü patlamış	Male	70
Dubious	Tereddütlü	Male	80
Thoughtful	Düşünceli	Female	30
Panicked	Paniğe kapılmış	Male	40
Alarmed	Alarm durumunda	Female	70
Distrustful	Güvensiz	Male	90
Cautious	Tedbirli	Female	70
Sympathetic	Sempati duyan	Male	20
Reflective	Derin düşünen	Female	90
Flustered	Telaşlı	Male	90
Hateful	Nefret dolu	Male	90
Incredulous	Zor inanan	Female	50
Jealous	Kıskanç	Male	70
Ashamed	Utanmış	Female	30
Defiant	Meydan okuyan	Male	30
Insulting	Aşağılayıcı	Female	80
Fantasizing	Hayallere dalan	Male	90
Indecisive	Kararsız	Female	80
Playful	Oyuncu	Male	20
Contented	Hoşnut	Female	90
Fearful	Korku dolu	Female	80
Convinced	İkna olmuş	Male	20
Relieved	Hafiflemiş	Female	60
Grateful	Minnettar	Female	90
Accusing	Suçlayıcı	Male	70
Doubtful	Şüpheci	Female	80
Hostile	Düşmanca	Male	90
Worried	Endişeli	Female	90
Affectionate	Şefkatli	Male	90

CURRICULUM VITAE

Personal Information:

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Education:

2014-2019: BA in Psychological Counseling and Guidance, Bogazici University, TR

2015-2020: BA in Sociology, Istanbul University, TR

2019-Present: MA in Clinical Psychology, Ibn Haldun University, TR

Experience:

February 2021 – November 2022: Research Assistant
Sakarya University – Department of Psychology – Sakarya, TR

September 2019 – January 2021: Graduate Research Assistant
Ibn Haldun University - Department of Psychology – Istanbul, TR

2021 – Present: Clinical Psychology Internship
Psychotherapy and Research Center of Ibn Haldun University, Istanbul, TR

October 2018 – May 2019: Intern Psychological Counselor
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