

## The Effects of Communication Skills Education on Cognitive Flexibility and Communication Skills of Adults\*

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### Makale Bilgisi

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### ABSTRACT

The aim of this study is to examine the Effect of Rational Emotional Behavioral Approach Based Communication Skills Program on communication skills and cognitive flexibility levels of adults. The participants of the study, which was designed according to the experimental design with the pre-test and post-test control group, were included in the study by convenience sampling method among adults between the ages of 18-65. Of the individuals who volunteered to participate in the study, five women and six men were assigned to the experimental group; while six women and five men were randomly assigned to the control group. The data of the study were collected with the Cognitive Flexibility Inventory (CFI), Communication Skills Scale-Adult Form (CSS-AF) and Personal Information Form. Within the scope of the research, the Rational Emotional Behavioral Approach-Based Communication Skills Training Program (REBA-CSTP), developed by the researchers and consisting of 90 minutes and 12 sessions, was applied to the individuals in the experimental group. No application was made to the control group. Follow-up measurements were made four weeks after administration of the post-test. Research data were analysed in SPSS 24.0 environment, differences between groups were analysed with Mann-Whitney U and Wilcoxon Signed Rank Test. As a result of the research, it was determined that REBA-CSTP increased the cognitive flexibility levels and communication skills of the experimental group members at a statistically significant level.

**Keywords:** Cognitive Flexibility, Communication Skills, Adult Individuals

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## Akılcı Duygusal Davranışçı Yaklaşım Temelli İletişim Becerileri Programının Yetişkinlerin Bilişsel Esneklik Düzeyleri ve İletişim Becerilerine Etkisi

### ÖZ

Bu araştırmada Akılcı Duygusal Davranışçı Yaklaşım Temelli İletişim Becerileri Programı'nın (ADDY-İBEP) yetişkinlerin bilişsel esneklik düzeyleri ve iletişim becerilerine etkisini incelemek amaçlanmıştır. Ön test son test kontrol gruplu deneysel desene göre tasarlanan araştırmanın katılımcıları 18-65 yaş arasındaki yetişkin bireyler arasından elverişli örnekleme yöntemi ile çalışmaya dâhil edilmiştir. Araştırmaya katılmaya gönüllü bireyler arasından deney grubuna beş kadın, altı erkek; kontrol grubuna ise altı kadın, beş erkek random yolla atanmıştır. Araştırmanın verileri Bilişsel Esneklik Envanteri (BEE), İletişim Becerileri Ölçeği-Yetişkin Formu (İBÖ-YF) ve Kişisel Bilgi Formu ile toplanmıştır. Çalışma kapsamında araştırmacılar tarafından geliştirilen 90'ar dakika ve 12 oturumdan oluşan ADDY-İBEP deney grubuna uygulanmıştır. Araştırmada kontrol grubundaki üyelere yönelik herhangi bir uygulama yapılmamıştır. Çalışmanın izleme ölçümleri, son testin uygulanmasından dört hafta sonra gerçekleştirilmiştir. Araştırma verileri SPSS 24.0 ortamında incelenmiştir. Verilerin analizinde Wilcoxon İşaretili Sıralar Testi ve Mann-Whitney U Testi kullanılmıştır. Araştırma sonucunda, ADDY-İBEP'in, deney grubu üyelerinin bilişsel esneklik düzeyleri ve iletişim becerilerini istatistiksel olarak anlamlı düzeyde arttırdığı saptanmıştır.

**Anahtar Kelimeler:** Bilişsel Esneklik, İletişim Becerileri, Yetişkin Bireyler

### INTRODUCTION

Communication is one of the formations human beings need most, use most and attach the most importance to throughout their lives. Communication is the mutual transfer of feelings, thoughts and information between individuals (Sekman, 2021). Communication is basically a two-way process that takes place with the act of speaking and listening for bilateral information sharing (Coursen & Thomas, 1989). Communication process is a type of relationship that is carried out with the self, other people, the environment and the objects around (Öztürk, 2013). The effectiveness of communication may affect individuals' psychological-social adaptation and therefore their psychological health. Tursunovna (2022) stated that individuals who use effective communication skills have more control on their lives and have more self-confidence by gaining knowledge, researching well, conceptualizing, organizing and presenting ideas and arguments.

Effective communication affects individuals in cognitive, affective, behavioral dimensions and many other dimensions (Atan & Buluş, 2020). In interpersonal relationships, the key to effectiveness is trying to understand before being understood (Covey, 1998).

When studies on problems in human relationships are examined, can be seen that negatively messages are given through processes such as judgment, criticism, accusation, embarrassment, generalizing, labelling, interpreting, and giving advice (Gordon, 2001). Results have been found which show that the basis of the aforementioned negative messages is individuals' interpreting events outside awareness and automatically with the effects of mislearning from their past life until present (Ellis & Harper, 2017; Epstein, 2003; Tuzcuoğlu, 1996). In the light of these results, it can be said that the content and style of communication shows cognitive processes.

Restricted expressions, which are unspoken secret messages under the expectation that each individual knows everything about himself/herself, or deliberate implicit expressions individuals use prevent communication (Satir, 2001). Tversky & Kahneman (1974) defined restrictive expressions as individuals' making automatic judgments by choosing the easy and simple way instead of making judgments and evaluations at a moment of uncertainty during communication as shortcut methods chosen by the mind. It is stated that instead of making rational decisions by understanding the situation, this automatically accessed information reveals prejudices (Kağıtçıbaşı, 2017). It can be said that these automatic choices, which cause mutual negative feelings, result from beliefs and thoughts that prevent healthy communication.

Effective listening and effective responding are based on two important foundations for healthy communication (Korkut, 1996). Studies conducted in literature have shown that using ego-developing language and body language, empathising through respect and courtesy, effective listening, knowing oneself-opening oneself, interaction management, social relaxation and assertiveness are positively and significantly correlated with communication skills (Goleman, 2014; Rogers, 2019; Rubin & Martin, 1994; Voltan Acar, 2019). For effective communication, individuals must have developed their skills in listening with empathy, asking questions, expressing oneself and making explanations, agreeing and disagreeing, describing behaviors and emotions, and providing feedback (Coursen & Thomas, 1989; Zaiss & Gordon, 2003).

Kısa (2020), describes open and direct communication as the art of saying what needs to be said in the most effective way clearly, without deceiving and without overly forcing the person communicated with. Voltan Acar (2019), stated that a good communication with others can be possible through knowing oneself and humans. Individuals' knowing themselves and others may increase efficiency in communication. Efficiency in communication can be increased by self-disclosure, feedback, paying close attention, ego-enhancing language and using messages of I language. Self-disclosure is defined as the feature that makes individuals express themselves clearly and narrows the hidden and unknown space. Receiving feedback is defined as the ability to receive constructive feedback from others about features in the blind area that the person is unaware of, but seen by others (Voltan Acar, 2019). Paying close attention is the attitudes and behaviors reflected verbally and non-verbally at every stage of communication to make individuals feel that their presence is accepted with respect and courtesy (Goleman, 2014; Voltan Acar, 2019). Ego supportive language improves social skills, self-esteem and self-respect and the feeling of trust and prevents the tension and conflict in communication problems (Gökçe & Keçeci, 2020). Using communication skills effectively in communication can be reflected in individuals' cognitive processes and naturally on their cognitive flexibility. In a study Martin and Rubin (1994) developed the scale of communication flexibility, interpersonal communication was found to be positively correlated with cognitive flexibility. Cognitive flexibility was defined by Hill (2018) as "individuals' being aware of their communication options, their willingness to adapt to situations and their self-confidence about flexibility". Cognitive flexibility is the ability to develop tactics to activate cognitive processes against new and unexpected situations and to reflect these to life (Canas, Quesada, Antoli & Fajardo, 2003). It is the ability to rearrange the cognitive structure in response to messages from external stimuli (Canas, Fajardo & Salmeron, 2006). Cognitive flexibility is a feature that people can show not only in special occasions, but also in different aspects of daily life (Martin, Anderson & Thweatt, 1998). Individuals with cognitive flexibility can replace the beliefs and thoughts that challenge their psychological and social adaptation processes with more harmonious and balanced thoughts, they can create options and they can evaluate difficult situations in a way they can produce solutions to cope with (Gülüm & Dağ, 2012). In summary, cognitive flexibility can be expressed as individuals' creating space for themselves to

support the decision-making process by creating different options at the moment of decision making.

There is a significant relationship between individuals' communication competence and cognitive flexibility (Martin & Rubin, 1995). In this context, it can be said that prominent communication skills of individuals and their characteristic of having a flexible perspective significantly affect the development of personal skills and interpersonal communication. As individuals use the communication skills they have started to develop, they can better understand people and events and they can support their cognitive skills with repeated positive behaviors. Cognitive behaviorist approaches emphasize the importance of changing thoughts on changing behaviors and feelings and it is thought that individuals will create significant awareness by supporting their power of cognitive flexibility (Corey, 2008; Harris, 1988; Şahin, 2019).

According to Rational Emotive Behavior Therapy (REBT), emotions of humans largely stem from their thoughts about events and people. Emotions that disturb the individual include non-rational beliefs and thoughts (AEI, 2021). In studies based on REBT, it has been found that when individuals are shown the negativities they experience by believing in irrational thoughts and automatic thoughts, they create alternatives and significantly improve their emotions and thoughts (Demirtaş & Güven, 2016; Ellis 1987; Herdem, 2009). According to these results, it can be ensured that the results of work and life, which are achieved by the attitudes and behaviors exhibited in the mind-set that negatively affect communication, question whether the individual has a desired lifestyle and direct his attention to the point where he can see more different options.

Ellis (1994) stated that people blame external events for their unhappiness, with false beliefs and thoughts. Irrational thoughts are thoughts that prevent individuals from achieving their goals, give them distress, make them immobile, distort reality and cause behaviors that may harm the self and others (Widodo, 2019). Various sources (Ellis 1994; Mahfar, Noah & Senin, 2019; Türkçapar & Sargin, 2012; Widodo, 2019) have emphasized the importance of being aware of the irrational beliefs that force the human mind to do something and disrupt the individual's harmony with life. It has been found that individuals can control their emotions with the thoughts created by these gains, realize their options and make new decisions, and change their behavior through social interaction (Bandura, 2001; Beck, 2008; Rogers, 2019; Türkçapar & Sargin, 2012). The relations of the variables that are the subject of these studies with communication skills and cognitive flexibility have been examined and it has been found that communication skills are an important factor on the effect of cognitive flexibility level.

In the literature review conducted, it has been found that studies have examined how effective communication influences family relations, relationships of health professionals with patients, communication strategies of students, and relations in business world and communication skills education programs have examined the increases in this influence (Conrad & Newberry, 2011; Guclu, 2016; Korkut, 2005; Korkut Owen & Demirbaş Çelik, 2018). It has also been found that national and international studies based on cognitive flexibility and REBT have examined issues such as marriage conflicts (Tikdarinejad & Khezri Moghadam, 2017), emphatic approach, problem solving, effective listening and communication skills (Gezgin, 2019), psychological resilience (Şahin, 2019), anxiety management (Widodo, 2019) and social problem solving (Sucu, 2020). No studies have been found on the effects of communication skills program for adults on adults' cognitive flexibility and communication skills. For this reason, the aim of the present study is to find out the effects of Communication Skills Education Program (CSEP) based on REBT on

cognitive flexibility and communication skills of adults. In this context, the following hypotheses were tested.

**H1:** Cognitive Flexibility Inventory (CFI) post-test mean scores of the adults in the experimental group on whom REBT based CESP was applied are significantly higher than their pre-test mean scores.

**H2:** Communication Skills Scale-Adult Form (CSS-AF) post-test mean scores of the adults in the experimental group on whom REBT based CESP was applied are significantly higher than their pre-test mean scores.

**H3:** CFI post-test mean scores of the adults in the experimental group on whom REBT based CESP was applied are significantly higher the post-test mean scores of adults who did not participate in this education.

**H4:** CSS-AF post-test mean scores of the adults in the experimental group on whom REBT based CESP was applied are significantly higher the post-test mean scores of adults who did not participate in this education.

**H5:** There is no significant difference between CFI post-test mean scores and follow-up test mean scores of the adults in the experimental group on whom REBT based CESP was applied.

**H6:** There is no significant difference between CSS-AF post-test mean scores and follow-up test mean scores of the adults in the experimental group on whom REBT based CESP was applied.

**H7:** There is no significant difference between CFI pre-test mean scores and post-test mean scores of the adults in the control group.

**H8:** There is no significant difference between CSS-AF pre-test mean scores and post-test mean scores of the adults in the control group.

## **METHOD**

This part includes information about the research model, experimental and control group, data collection process, data collection tools, data analysis and Rational Emotional Behavioral Approach Based Communication Skills Education Program (REBA-CSEP).

### **Research Model**

The study used experimental research method pre-test and post-test experimental design with pre-test, post-test control group (Creswel, 2014). Follow-up tests were conducted four weeks after the last test.

### **Study Group**

Participants of the study were included in the study through convenience sampling method. Convenience sampling is based on elements that are quick and easy to access under current conditions (Patton, 2005). This sampling provides practicality and speed to the study. In this

method, the researcher chooses a situation that is close and easy to access (Yıldırım & Şimşek, 2021). In this context, participants of the study included the employees of an international hotel chain that has branches in Turkey, too. Individuals who volunteered to participate in the study and who worked in different job positions were assigned to the experimental and control group as 11 members in each group through random processes.

The study consisted of an experimental group with 11 individuals, five (45.4%) of whom were female and six (54.6%) of whom were male, and 11 individuals in the control group, six (54.6%) of whom were female and five (45.4%) of whom were male. In the study, one (9.1%) of the participants in the experimental group had middle education (high school) degree, while 1 (9.1%) had a two-year degree, seven (63.6%) had an undergraduate degree and two (18.2%) had post-graduate degree. It was found that one (9.1%) of the participants in the control group had middle education (high school) degree, nine (81.8%) had an undergraduate degree and 1 (9.1%) had post-graduate degree. In the study, while six (54.5%) of the participants were  $\leq 36$  years old, five (45.5%) were  $\geq 37$  years old.

### **Data Collection Process and Ethical Considerations**

The study was conducted with the 18-05 numbered permission as specified in the 27.05.2021 dated and 202-18 numbered letter of the Ethics Committee of a university. In the study, the data were collected with Communication Skills Scale-Adult Form (CSS-AF), Cognitive Flexibility Inventory (CFI) and Personal Information Form (PIF). The measurement instruments were applied to the individuals in the experimental and control group as pre-test, post-test and follow-up test.

### **Data Collection Tools**

This part presents information about the data collection tools used in the study.

#### ***Cognitive flexibility inventory (CFI)***

CFI was developed by Dennis and Vander Wal (2010) and adapted to Turkish culture by Gülüm & Dağ (2012) to find out individuals' skills to produce balanced, appropriate, harmonious and alternative thoughts under difficult conditions. 266 university students were included in adaptation study of the scale. CFI consists of two factors and 20 items. Internal consistency coefficients of CFI and "alternatives" and "control" factors were 0.90, 0.89, 0.85, respectively and their correlation with other scales used for validity was between -0.13 and -0.48. Correlation of CFI and repeated measurement of the factors were found to vary between 0.22 and 0.81. It is thought that cognitive flexibility of an individual increases as CFI score increases (Gülüm & Dağ, 2012).

#### ***Communication skills scale-adult form (CSS-AF)***

The measurement tool was developed by Korkut Owen & Demirbaş Çelik (2018) to measure communication skills. The data during the process of developing the scale were obtained from two different groups including adults who were university graduates. The individuals in the first group were 187 individuals between the ages of 22 and 46 who were studying at a university in the South of Turkey. Exploratory factor analysis was conducted for with the data of this group. The scale was given to 126 individuals to conduct the confirmatory factor analysis. As a result of



the confirmatory factor analysis conducted, it was found that the measurement tool consisted of five factors and 25 items and had acceptable fit indices [ $\chi^2$  (216) = 242.0,  $p < 0.001$ ;  $\chi^2/df$ - ratio = 2.45; IFI= 0.91, SRMR = 0.008, RMSEA = 0.87, CFI = 0.91,]. Reliability of the scale was examined with internal consistency coefficient method. In this context, Cronbach's alpha coefficient was found as 0.94. The values reached show that CSS-AF is sufficient for reliability level (Korkut Owen & Demirbaş Çelik, 2018).

### ***Personal information form (PIF) 87042578443***

PIF, which was developed by the researchers includes questions about gender, age and educational status.

### ***Rational Emotional Behavioral Approach Based Communication Skills Education Program (REBA-CSEP)***

REBT is an action-oriented approach to understanding and coping with cognitive, emotional and behavioral disorders (AEI, 2021). The aim of Rational Emotional Behavioral Approach Based Communication Skills Education Program (REBA-CSEP) is to increase the communication skills and cognitive flexibility levels of adults with an experimental program developed for basic communication skills based on REBT. REBA-CSEP is not a therapeutical process, but an education program in which cognitive processes are at the forefront. In this context, first of all, the aim is to raise awareness about the perceptions of individuals experienced in communication, and to question them in this context when faced with a situation. The aim is also to increase the level of communication skills and cognitive flexibility of the attitudes and behaviors exhibited by revealing the potential related to the willingness to understand and adapt to a problem or difficult situation.

The relationships of the concepts of communication skills, cognitive flexibility and rational emotional behavioral approach with different variables were examined in the literature, and it was found that studies which took participants in the centre instead of didactic studies were conducted and reinforced with tasks that will transform their awareness to skills. In addition, applications designed for various age groups in order to increase cognitive flexibility in advanced psycho-education programs that will contribute to the development of professions were reviewed, and it was found important that these studies should be given to young and middle aged adults with a wide range of influence such as parents and administrators (Conrad & Newberry, 2011; Damanhour, 2018; Guclu, 2016; Korkut, 2005).

In the present study, activities were carried out to support communication skills under the umbrella of empathy, passive-active listening and self-expression and cognitive awareness skills such as focusing on the present, looking outside, accepting, understanding and reflection emotion, emotion management, being non-judgmental, learning mind-set, cognitive reconstructing, increasing belief and motivation, taking responsibility, taking action and similar skills. In addition, the program was applied through support with cognitive techniques such as Johari Window communication model based on Ellis' ABCDEF Model, paying close attention, ego-enhancing language, asking questions, I language, feedback, appreciation, self-positioning, film, poem, story analysis, metaphor and symbol technique, homework, observation, reflection, etc. In the study, 90 minute-long 12 sessions of REBA-CSEP were applied online to the participants in the experimental group due to the pandemic. In the first session, information about the study was presented to the group members in accordance with the education plan, and then introduction activities were

carried out. Starting from the second session, the content of the CSEP planned for that session was implemented. Materials related to the subject to be shared in each session, such as stories, poems, figures, photographs, power point presentations and similar materials were prepared and shared with the group members during the education. During the presentation, the group members were provided with the opportunity of active participation, question-answer technique was used intensively, and the questions of the members were answered instantly, enabling them to communicate with each other. At the end of each session, the assignments given on the topics covered that day were evaluated online with the participation of the members in the next session, a connection was established with the new session of that day and assignment achievements were integrated into the content. No intervention was made on the control group members in this process. The measurement tools were applied to the experimental and control groups at the beginning and end of the education program and also four weeks after the end of education to determine the permanent effect of the education program.

### Data Analysis

In order to determine the effect of REBA-CSEP and to make comparisons between groups and measurements, the pre-test and post-test results obtained from the experimental and control groups and the data of the follow-up test obtained from the experimental group were analysed. Non-parametric tests were used in the analysis of data, since the data were not normally distributed, there was no homogeneity of variance, and the number of individuals in the pores was less than 30 (Toy & Tosunoğlu, 2007). Mann-Whitney U Test was used to test the significance of the difference between groups, while Wilcoxon Signed Ranks Test was used to analyse the significance of the difference between measurements. SPSS 24.0 Program was used in data analysis. Error margin was determined as .05 in the study.

### RESULTS

In the present study which examined the effects of Rational Emotional Behavioral Approach Based Communication Skills Education Program on communication skills and cognitive flexibility levels of adults, the data obtained about the hypotheses of the study were analysed and the following results were found. Pre-test scores regarding cognitive flexibility and communication skills of experimental and control groups were compared with Mann-Whitney U Test and the results were presented in Table 1.

Table 1.

*Pre-test Rational Emotional Behavioral Approach Based Communication Skills Education Program (REBA-CSEP) Mann-Whitney U Test results of the experimental and control groups*

Variable	Group	N	Rank Average	Rank Sum	U	z	p
Cognitive Flexibility	Experimental	11	9.27	151.00	36.00	1.61	0.11
	Control	11	13.73	102.00			
Communication Skills	Experimental	11	9.23	101.50	35.50	1.64	0.10
	Control	11	13.77	151.50			

As can be seen in Table 1, no statistically significant difference was found between the CFI and CSS-AF scores of individuals in the experimental and control groups before REBA-CSEP. This



result indicates that the experimental and control groups are equal in terms of cognitive flexibility and communication skills (CFI=36.00,  $p>0.05$ ; CSS=35.50,  $p>0.05$ ). From this point of view, it can be said that the experimental and control groups are similar before the experiment in terms of communication skills and cognitive flexibility, which are the dependent variables of the study. Results regarding the hypotheses of the study are presented below.

**Results regarding hypothesis 1:**

In order to test the Hypothesis 1 of the study, CFI pre-test and post-test results of the experimental group were compared with Wilcoxon Signed Ranks Test. The results are shown in Table 2.

Table 2.  
*CFI Wilcoxon Signed Ranks Test results of the experimental group*

Variable	Test	Descriptive Statistics			Group	Wilcoxon Signed Ranks Test				
		n	$\bar{X}$	Ss		n	Rank Average	Rank Sum	z	p
Cognitive Flexibility	Pre-test	11	83.00	9.48	Negative Rank	3 <sup>a</sup>	2.50	7.50	2.28	0.02
	Post-test	11	81.00	10.13	Positive Rank	8 <sup>b</sup>	7.31	58.50		
					Equal	0 <sup>c</sup>				
Post-test<Pret-est					Post-test>Pre-test			Post-test=Post-test		

As can be seen in Table 2, it was found that pre-test and post-test mean scores of the experimental group from CFI differed significantly ( $z=2.28$ ;  $p=0.02<0.05$ ). When the differences in rank totals are examined, it can be seen that this difference is in favour of positive ranks; in other words, in favour of post-test. This result shows that the related hypothesis is confirmed. In line with this result, it can be said that REBA-CSEP is effective in increasing the cognitive flexibility levels of adults.

**Results regarding hypothesis 2:**

In order to test the Hypothesis 2 of the study, CSS-AF pre-test and post-test results of the experimental group were compared with Wilcoxon Signed Ranks Test. The results are shown in Table 3.

Table 3.  
*CSS-AF Wilcoxon Signed Ranks Test results of the experimental group*

Variable	Test	Descriptive Statistics			Group	Wilcoxon Signed Ranks Test				
		n	$\bar{X}$	Ss		n	Rank Average	Rank Sum	z	p
Communication Skills	Pre-test	11	95.45	6.77	Negative Rank	3 <sup>a</sup>	3.33	10.00	2.05	0.04
	Post-test	11	105.81	17.65	Positive Rank	8 <sup>b</sup>	7.00	56.00		
					Equal	0 <sup>c</sup>				
Post-test<Pre-test					Post-test>Pre-test			Post-test=Pre-test		

As can be seen in Table 3, it was found that pre-test and post-test mean scores of the experimental group from CSS-AF differed significantly ( $z=2,05$ ;  $p=0,04<0,05$ ). When the differences in rank totals are examined, it can be seen that this difference is in favour of positive ranks; in other words, in favour of post-test. This result shows that the related hypothesis is confirmed. In line with this result, it can be said that REBA-CSEP is effective in increasing the communicative skills of adults.

### **Results regarding hypothesis 3:**

The results regarding CFI applied to experimental and control groups after the education were analysed with Mann-Whitney U Test. Analysis results are as summarized in Table 4.

Table 4.

*Post-test Mann-Whitney U Test results of the experimental and control groups*

Variable	Group	N	Median	Rank Average	Rank Sum	U	z	p
Cognitive Flexibility	Experimental	11	83.00	11.64	128.00	59.00	0.09	0.92
	Control	11	82.00	11.36	125.00			

As can be seen in Table 4, no significant difference was found between the post-test scores of the experimental and control group ( $U=59.00$ ;  $z=0.09$ ;  $p=0.92>0.05$ ). This result shows that the related hypothesis was not confirmed.

### **Results regarding hypothesis 4:**

The results regarding CSS-AF applied to experimental and control groups after the education were analysed with Mann-Whitney U Test. Analysis results are as summarized in Table 5.

Table 5.

*Post-test Mann-Whitney U Test results of the experimental and control groups*

Variable	Group	N	Median	Rank Average	Rank Sum	U	z	p
Communication Skills	Experimental	11	106.00	12.14	133.50	53.50	0.46	0.64
	Control	11	105.00	10.86	119.50			

As can be seen in Table 5, no significant difference was found between the post-test scores of the experimental and control group ( $U=53.50$ ;  $z=0.46$ ;  $p=0.645>0.05$ ). This result shows that the related hypothesis was not confirmed.

### **Results regarding hypothesis 5:**

In order to test the fifth hypothesis of the study, CFI post-test and follow-up test results of the experimental group were compared with Wilcoxon Signed Ranks Test. The results are shown in Table 6.

Table 6.  
*CFI post-test and follow-up test Wilcoxon Signed Ranks Test results of the experimental group*

Variable	Test	Descriptive Statistics			Wilcoxon Signed Ranks Test					
		n	$\bar{X}$	Ss	Group	n	Rank Average	Rank Sum	z	p
Cognitive Flexibility	Follow-up test	11	82.90	9.68	Negative Rank	4 <sup>a</sup>	4.63	18.50	1.29	0.19
	Post-test	11	80.54	8.91	Positive Rank	7 <sup>a</sup>	6.79	47.50		
					Equal	0 <sup>c</sup>				
Follow-up test<Post-test				Follow-up test>Post-test			Follow-up test=Post-test			

As can be seen in Table 6, it was found that CFI post-test and follow-up test mean scores of the experimental group did not differ significantly ( $z=1,292$ ;  $p>0,05$ ). It can be said that the hypothesis was supported and the effect of REBA-CSEP was permanent in the experimental group in terms of cognitive flexibility.

**Results regarding hypothesis 6:**

In order to test the sixth hypothesis of the study, CSS-AF post-test and follow-up test results of the experimental group were compared with Wilcoxon Signed Ranks Test. The results are shown in Table 7.

Table 7.

*CSS-AF post-test and follow-up test Wilcoxon Signed Ranks Test results of the experimental group*

Variable	Test	Descriptive Statistics			Wilcoxon Signed Ranks Test					
		n	$\bar{X}$	Ss	Group	n	Rank Average	Rank Sum	z	p
Communication Skills	Follow-up test	11	108.18	7.71	Negative Rank	4 <sup>a</sup>	5.38	21.50	1.02	0.30
	Post-test	11	105.81	6.77	Positive Rank	7 <sup>b</sup>	6.36	44,50		
					Equal	0 <sup>c</sup>				
Follow-up test<Post-test				Follow-up test>Post-test			Follow-up test=Post-test			

As can be seen in Table 7, it was found that CSS-AF post-test and follow-up test mean scores of the experimental group did not differ significantly ( $z=1.02$ ;  $p>0.05$ ). It can be said that the hypothesis was supported and the effect of REBA-CSEP was permanent in the experimental group in terms of communication skills.

**Results regarding hypothesis 7:**

In order to test the seventh hypothesis of the study, CFI post-test and follow-up test results of the control group were compared with Wilcoxon Signed Ranks Test. The results are shown in Table 8.

Table 8.  
*CFI Wilcoxon Signed Ranks Test results of the control group*

Variable	Test	Descriptive Statistics			Wilcoxon Signed Ranks Test					
		n	$\bar{X}$	Ss	Group	n	Rank Average	Rank Sum	z	p
Cognitive Flexibility	Pre-test	11	83.00	9.48	Negative Rank	7 <sup>a</sup>	6.29	44.00	0.98	0.32
	Post-test	11	81.00	10.13	Positive Rank	4 <sup>a</sup>	5.50	22.00		
					Equal	0 <sup>c</sup>				
Post-test<Pre-test				Post-test>Pre-test			Post-test=Pre-test			

As can be seen in Table 8, no significant difference was found between CFI pre-test and post-test mean scores of the control group ( $z=0.98$ ;  $p=0.32>0.05$ ). According to this result, the related hypothesis was confirmed.

### **Results regarding hypothesis 8:**

In order to test the eighth hypothesis of the study, CSS-AF pre-test and post-test results of the control group were compared with Wilcoxon Signed Ranks Test. The results are shown in Table 9.

Table 9.  
*CSS-AF Wilcoxon Signed Ranks Test results of the control group*

Variable	Test	Descriptive Statistics			Wilcoxon Signed Ranks Test					
		n	$\bar{X}$	Ss	Group	n	Rank Average	Rank Sum	z	p
Communication Skills	Pre-test	11	105.90	12.98	Negative Rank	7 <sup>a</sup>	7.60	38.00	0.44	0.65
	Post-test	11	104.72	10.59	Positive Rank	4 <sup>b</sup>	4.67	28.00		
					Equal	0 <sup>c</sup>				
Post-test<Pre-test				Post-test>Pre-test			Post-test=Pre-test			

As can be seen in Table 9, no significant difference was found between CFI pre-test and post-test mean scores of the control group ( $z=0.44$ ;  $p=0.65>0.05$ ). According to this result, the related hypothesis was confirmed.

## **DISCUSSION AND INTERPRETATIONS**

In the study, Rational Emotional Behavioral Approach Based Communication Skills Education Program (REBA-CSEP) was applied to the experimental group. In this context, the effects of REBA-CSEP were examined on the communication skills and cognitive flexibility levels of adults.

According to the results of the study, it was found that REBA-CSEP increased the communication skills and cognitive flexibility levels of adults in the experimental group. When this result of the study is evaluated with the results of previously conducted similar studies, it can be said that the

results are consistent with each other (Ghazavi, Feshangchi, Alavi & Keshvari, 2016; Guclu, 2016; Fallowfield, Jenkins, Farewell & Solis-Trapala, 2003; Korkut, 2005). It can be said that the results which show that communication skills education increases communication skills and cognitive flexibility levels of adults in different occupations support the results of the present study.

Rational emotional behaviorist techniques are based on the notion that emotions and behaviors originate from cognitive processes and it is stated that it is possible for humans to change such processes to gain different forms of emotions and behaviors (Froggat, 2005). The aim of Rational Emotional Behavioral Approach (REBA) is to enable individuals to realize their irrational beliefs and thoughts and to make them gain the flexibility required for the rational beliefs and thoughts they will replace them with (Dryden, 2018; Ellis & Harper, 2017). These principles of the approach support the purpose of preparing the communication skills education program in the application part of the research on the basis of REBA.

In the study, a statistically significant difference was found between the pre-test and post-test mean scores of the experimental group obtained from the Cognitive Flexibility Inventory. It was found that the post-test scores were higher than the pre-test scores. This result shows that the first hypothesis of the study was confirmed. In other words, it can be said that REBA-CSEP has a positive effect on the cognitive flexibility levels of adults. Domestic and international studies conducted (Ghazavi et al., 2016; Martin et al., 1998; Tikdarinejad & Khezri Moghadam, 2017; Gezgin, 2019; Sucu, 2020) have shown that the increase in cognitive flexibility levels develops human relations positively. These results are similar to the effects of practices placed on the basis of REBA-CSEP, which allow group members to be aware of their perceptions of themselves, their relationships with others and the environment. In addition, the results of studies including education programs conducted with cognitive approaches which showed positive effects such as increasing thinking by acting with rational thoughts and alternative solutions and also cognitive flexibility (Herdem, 2009; Gezgin, 2019; Turner, Ewen & Barker, 2020) are in parallel with the results of the present study. Since individuals who are flexible in communication are able to adapt different ways of communication to meet the demands of the situation and take into account their options in different situations and alternative forms of behavior (Martin et al., 1998), these results support the first hypothesis of the study. While cognitive flexibility is discussed with its improvable aspect, it is related to the individual's personal skills and ability to adapt to the process at different times and conditions. It can be thought that the results obtained from programs made with cognitive approaches on the variables mentioned in these studies confirm the first hypothesis of the research. In other words, it can be seen that REBA-CSEP is effective in increasing the cognitive flexibility levels of adults.

In the study, a statistically significant difference was found between Communication Skills Scale-Adult Form pre-test and post-test mean scores of the experimental group. Post-test mean scores are significantly higher than pre-test mean scores. This result shows that the second hypothesis of the study was confirmed. In other words, it can be said that REBA-CSEP has a positive effect on communication skills of adults. The results of the present study are similar to the results of studies conducted to help different identities such as adults, family members, employees, etc. to gain communication skills (Atan & Buluş, 2020; Conrad & Newberry, 2011; Fallowfield et al., 2003; Ghazavi et al., 2016; Gezgin, 2019; Guclu, 2016; Silliman & Schumm, 2000). With this result, it can be said that communication skills can be developed through education. According to the results of other studies in literature, it can be said that communication skills can be taught (Atan & Buluş, 2020; Buckman, 2001; Korkut, 2005; Verderber, 1999), and individuals can learn communication skills such as close interest and empathy through relationship with the self, others and the world

they live in, effectively listening and understanding the data which is here and now, reasoning without prejudices and expressing emotions and thoughts in such a way that other parties can understand (Herdem, 2009; Şahin, 2019) Based on all the results, it is confirmed that REBA-CSEP is effective in increasing the communication skills of adults.

In the study, no statistically significant difference was found between the Cognitive Flexibility Inventory post-test mean scores of the experimental and control groups. In this context, it can be said that the third hypothesis of the study was not confirmed. Cognitive approaches have stated that beliefs and thoughts have an effect on individuals' feelings and behaviors (Beck, 2008). Therefore, it can be possible for the participants in the control group to have high social competent perception, in other words, cognitive flexibility perception about a situation they face.

The reason for the increase in CFI post-test scores of the individuals in the control group who did not participate in the education is limited to the probabilities stated above. We do not know exactly what developments occurred in the lives of the control group or what other data they accessed during the process that occurred outside the application.

In the study, no statistically significant difference was found between the Communication Skills Scale-Adult Form post-test mean scores of the experimental and control groups. In this context, it can be said that the fourth hypothesis of the study was not confirmed. According to Yalçın (2010), it should be examined whether some individuals have special skills in interpersonal relationships and whether these skills cause an effect on their characteristics. The necessity of conducting the program online and insufficient conditions of the participants to participate in social interaction may have limited the significant difference that was aimed in this hypothesis. The intention to take action may not result in a positive outcome when faced with unexpected obstacles (such as preoccupations, inability to take full responsibility, personal priorities, etc.) (Güler & Yılmaz, 2021). Cüceloğlu (1996) stated that it is not always possible to know the basic causes of successful interpersonal relationships. The fourth hypothesis may not have been confirmed since any factor that affects this result is not controllable for a group outside the application. The reason for the increase in CSS-AF post-test scores of the individuals in the control group who did not participate in the education is limited to the probabilities stated above. Therefore, this hypothesis was not confirmed since no significant difference was found between the CSS-AF post-test scores of the experimental group and the control group.

Even if the individuals in the control group of the study were not trained in communication skills and cognitive flexibility, since they were in the service sector as hotel employees, they may have tried to improve their communication skills as a requirement of their job. The third and fourth hypothesis of the research may not have been confirmed for this reason. In other words, there may not be a statistically significant difference between the Cognitive Flexibility Inventory and Communication Skills Scale-Adult Form post-test mean scores of the experimental and control groups.

In the study, no statistically significant difference was found between the post-test and follow-up test mean scores of the experimental group from the Cognitive Flexibility Inventory. This result supports the fifth hypothesis of the study that REBA-CSEP will have a permanent effect on the cognitive flexibility of adults. This result of the study is in parallel with the results of REBA-based studies conducted on different sample groups which show that the positive effects of applications or education programs that affect cognitive flexibility continue in follow-up measurements (Corey, 2008; Şahin, 2018; Şahin, 2019). Results of previously conducted studies show that



following REBA-based education programs, rational thoughts and cognitive flexibility of experimental group members increase, and this increase also continues during the follow-up process. The results can be evaluated as a proof of cognitive based experimental practices. This result supports the result of the fifth hypothesis.

In the study, no statistically significant difference was found between the post-test and follow-up test mean scores of the experimental group obtained from the Communication Skills Scale-Adult Form. This result supports the sixth hypothesis of the study that REBA-CSEP will have a permanent effect on communication skills of adults. This result of the study is similar to the results of other studies on the effects found in the follow-up process (Fallowfield et al., 2003; Ghazavi et al., 2016; Herdem, 2009; Silliman & Schumm, 2000). The results of the cognitive approaches or communication skills education used in the aforementioned studies support the result that the effects on communication skills of the adults in the experimental group continue for a longer time. The fact that most of these studies had experimental practices which examined the elements of communication skills with cognitive approaches may have increased the effectiveness of the program and its permanence on the experimental group.

Including the results of the fifth and sixth hypotheses, it was found that REBA-CSEP is effective in increasing the cognitive flexibility level and communication skills, and this effect is permanent.

In the study, no statistically significant difference was found between the pre-test and post-test mean scores of the control group obtained from the Cognitive Flexibility Inventory. This result shows that the seventh hypothesis of the study is confirmed. This result confirms that REBA-CSEP used in the present study was an effective approach in increasing the cognitive flexibility levels of the adults in the experimental group, while the same effect was not observed in the control group which did not receive the program.

In the study, no statistically significant difference was found between the pre-test and post-test mean scores of the control group obtained from the Communication Skills Scale-Adult Form. This result shows that the eighth hypothesis of the study is confirmed. When other studies conducted for creating a positive change in communication skills were examined, it was found that when the results which have an effect on communication skills were measured in the members of the control groups, no positively significant difference was found (Fallowfield et al., 2003; Gezgin, 2019; Silliman & Schumm, 2000). These results are in parallel with the results of the current study.

## **LIMITATIONS AND RECOMMENDATIONS**

Since the study was carried out during the COVID 19 Pandemic period, REBA-CSEP was applied in the form of distance education. Practitioners used online processes at all stages, such as applying measurement tools to the experimental and control groups, and providing education to the experimental group. Practitioners tried to keep the motivation levels of the participants high in the process by explaining the aims at the beginning of the study and by performing warm-up activities at the beginning of the sessions. The fact that the data collection and application part of the study was carried out through online processes and distance education due to the pandemic conditions can be expressed as a limitation.

The study has been planned for adults. Due to pandemic conditions, convenience sampling was used. The experimental and control groups were randomly created among the staff of an international hotel chain, which also has branches in Turkey, on a voluntary basis. Yıldırım & Şimşek (2021) stated that the generalizability of the results of studies conducted with convenience sampling is low compared to other sampling methods. For this reason, it can be said that another limitation of the study is the preference of convenience sampling method.

It can be seen that the majority of the individuals included in the sample are undergraduates in terms of education. This shows that the individuals in the sample are not similarly distributed in terms of education. On the other hand, due to the fact that the individuals in the sample work in the service sector, it is thought that their communication skills are relatively good even without participating in the study. The third and fourth hypotheses of the research may not have been confirmed due to this reason. The stated reasons can be expressed as another limitation of the study.

Researchers are recommended to apply the REBA-CSEP with face-to-face processes in new studies and to use sample selection methods that can be generalized to larger populations in sample selection. On the other hand, researchers can enrich the literature in this field with the results of studies conducted by carrying out REBA-CSEP with adolescents and emerging adults.

Cognitive flexibility is the ability to develop and reflect on life the tactics of activating cognitive processes against unexpected, new events and conditions that people encounter. It has been shown by the results of this study that cognitive flexibility can be improved through REBA-CSEP. Based on the results of this study, professionals helping humans can use REBA-CSEP for their students and clients by adapting it to the relevant age groups, and contribute to the communication skills and cognitive flexibility of the individuals receiving help. Individuals whose cognitive flexibility and communication skills become more positive may have increased psycho-social adaptation.

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