The Mediating Role of Self-Esteem in the Relationship between Communication Skills and Anxiety in Adolescents during Coronavirus Pandemic

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The present study was aimed at determining the indirect effect of communication skills on anxiety with the mediating role of self-esteem in adolescents during the Covid-19 pandemic. The study was a descriptive-correlational study where the statistical population was comprised of all the students aged between 15 and 18, studying in Shiraz schools in 1400 (2021-2022). To determine the sample size, multi-stage cluster random sampling method was applied, and two out of the four educational districts of Shiraz were randomly selected. Then, two high schools from each district were chosen on a random basis, and 200 students were randomly included in the investigation. The data was collected using Coronavirus Anxiety Scale by Alipour et al., Quindam Communication Skills Questionnaire, and Rosenberg Self-Esteem Scale. The structural equation modeling and LISREL software were used to analyze the data. The results demonstrated that communication skills had a direct effect on Covid-19 induced anxiety and self-esteem, while self-esteem did not affect Covid-19 induced anxiety. Furthermore, communication skills mediated by self-esteem had no effect on Covid-19 induced anxiety. Therefore, by developing communication skills, students can enhance their self-esteem and overcome the anxiety caused by Covid-19.

Keywords: Coronavirus Anxiety, Self-Esteem, Communication Skills

Since late December 2019, pneumonia caused by Covid-19 has transmitted from one person to another in the form of Covid-19 disease. Not only did this contagious disease pose a threat to the physical health of the society, due to the ambiguities observed in the function of the mutated virus, but it also created confusion and uncertainty among people (Wang, Pan, Wan, Tan, Xu, Ho & Ho, 2020). Moreover, controlling this disease with the help of long-term quarantine has led to numerous problems for individuals in society. This has been an unpleasant and a stressful experience for different groups in society, especially adolescents whose lives have -

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witnessed notable changes, associated with high level of anxiety (Rubin & Wessely, 2020). Because adolescence is one of the most important periods in the life of every individual as the most personality changes occur in this period; it is one of the most important and at the same time the most complex stages of one's life. During this period, the problems and difficulties arising from puberty and youth are such that adolescence can be called a period of pressure and crisis (Hashemi, 2020). Anxiety disorder, moreover, is among the disorders growing significantly during this period (Lazarus, Dodd, Majandzic, Vente, Morris, Byrow, Bogels & Hudson, 2016).

Anxiety in adolescents can be caused by various factors such as genetics, brain maturation process, hormonal changes, and negative life experiences (Abdollahi & Davoudi, 2018). Furthermore, the onset of Covid-19 disease has led to an increase in anxiety among individuals

(Maaravi & Heller, 2020). With the outbreak of Covid-19, the ensuing quarantines, reduced social relationships and disruption of normal life have led to further increase in anxiety level of the societies. The Covid19-induced anxiety has escalated the anxiety level of individuals to more than before the Covid-19 outbreak (Vindegaard & Benros, 2020). Anxiety is an unpleasant, vague, and irrational feeling, often accompanied by symptoms of the autonomic nervous system (Rafiei & Seifi, 2013). It can be said that the feeling of fear and anxiety is of an unknown source and is, hence, associated with helplessness and physiological arousal, which can impair memory and learning, increase the body's metabolism and heart rate, and accelerate respiration (Charls, 2015). Anxiety is considered as an adaptive response to stimuli, the absence of which can put a person in serious danger. But if anxiety exceeds its balance and persists, it can no longer be called adaptive; rather, it should be considered a kind of helplessness, which is associated with executive deficits, continuing into adulthood and is capable of interfering with a person's functioning. One of these important functions in adolescence includes social and communication function that leads to adolescents' maladjustment in interpersonal relationships and lack of effective communication with friends (Abdollahi & Davoudi, 2018). That adolescents with anxiety disorders have less social ability than their healthy peers and are more negative about interpersonal relationships (Lijster, Dielman, Utens, Dierckx, Wierenga, Verhulst & Legereste, 2018) accounts for the fact that anxiety reduces communication skills in adolescents (Abdollahi & Davoudi, 2018).

Communication skills are those skills through which individuals can engage in interpersonal interactions, i.e. the process during which individuals share their information, thoughts, and feelings through exchanging verbal and non-verbal messages (Hariji & Dicson, 2008; cited in Omidpour, Baradaran & Ranjbar Nosheri, 2020). According to the classification provided by the World Health Organization (WHO), Communication skills include verbal and non-verbal communication, active listening, negotiation skills, the skill of starting and ending an effective communication, the skill to be expressive or assertiveness, the ability to resolve interpersonal conflicts and so on, which lay the foundation for healthy social relationships (Barzegar Bafrouei, Zarei Hosseinabadi & Omidian, 2016). Components of communication skills include the ability to receive and send messages, emotional control, listening skill, insight into the communication process, and communication with assertiveness (E'temadi, Jaberi, Jazayeri & Ahmadi, 2014). Based upon the given interpretation of communication skills, adolescents, in the process of social development, need to acquire communication skills in order to develop and demonstrate their talents and adapt to the environment and surrounding people. Training such skills begins from the family, in the process of socialization and is formed in proportion with the growth and age of individuals in schools and society. However, the role of school and peers in skill training is the most evident (Duffy, Gordon, Whelan & Cole-Kelly, 2004; cited in Omidpour et al., 2020). Even so, individuals' initial relationships with their caregivers during childhood and adolescence develops in them the skill of establishing long-term intimate relationships, accompanied by mutual trust (Chambers, 2018): Thus, through the acquisition of communication skills, one's self-esteem grows because teaching communication skills is an effective way of boosting self-esteem (Mazaheri & Rezakhani, 2017; Mostaqimi & Shafi'abadi, 2012).

Self-esteem is a psychological element that is influenced by communication with others. In addition, communication creates the proper environment for one to self-evaluate. Success in communicating with others and the method thereof affects one's self-esteem;.that is, if a person establishes a better relationship with others, he will have correspondingly greater self-esteem (Todor, 2017; cited in Mostaqimi & Shafi'abadi, 2012). Self-esteem is used to describe a person's overall sense of self-worth and personal values (Wanjiru & Gathogo, 2014); yet, it may also be shaped by others' evaluation of the person (Will, Rutledge, Moutoussis & Dolan, 2017). Hantez defines self-esteem as a

person's perception of their own self physically, mentally and emotionally (Hantez, 2006; cited in Dorothy, 2012). Moreover, it is a life skill and social competence which is used to meet the basic challenges of life, to build lasting human relationships, and to maintain hope for the future (Amongin, Oonyu, Baguma, & Kitara, 2012). The fact is that students' self-esteem inversely correlates with their anxiety level (Guil, Gomez-Molinero, Merchan-Clavellino, Gil-Olarte & Zayas, 2019; Kouhi & Mohammadi Motahari, 2018) and, thus, acts as a protective factor in relation to personal standards (Munoz-Villena, Gomez-Lopez, & Gonzalez-Hernandez, 2020). Additionally, self-esteem has a significant effect on communication skills (E'tesamipour, Baqeri & Zare' Bahramabadi, 2020). On the same note, Mazaheri and Rezakhani (2017) and Mostaqimi and Shafi'abadi (2012) concluded in their research that communication skills training could enhance self-esteem. High self-esteem reduces anxiety (Asna Ashari & Sheikh al-Eslami, 2015), and anxiety in turn is predictive of communication skills of individuals (Zare' al-Moshiri & Saber, 2017). In the early stages of the spread of Covid-19, the elderly were identified as the most vulnerable; thus, health officials properly directed their focus towards this fragile population. Conversely, less attention was paid to the emotional and psychological dimensions of adolescents. In addition, despite the fact that adolescents' lives and health were less prone to risk, they still had to "face a reality full of anxiety, fear, and uncertainties" (Smirni, Lavanco & Smirni, 2020, p.1). Considering that adolescence is one of the most important periods in the life of every person and that the difficulties caused by puberty in this period make adolescents face a lot of anxiety, examining the factors related to adolescents' anxiety, such as their communication skills and self-esteem, added to the importance and necessity of the present study. As mentioned, various studies have separately investigated the role of variables such as self-esteem, communication skills, and anxiety. However, to the best of the researchers' knowledge, the direct relationship between communication skills and anxiety and the indirect relationship created through self-esteem have not been studied. Since the underlying factors involved in anxiety help to develop and design treatment and prevention programs as effectively as possible in this area, the present study was intended to show, by application of a causal model, how adolescents' anxiety during the Covid-19 pandemic could be predicted by communication skills with the mediation of self-esteem.

Methods

The present study was a fundamental research using path analysis and was based on correlation assumptions. The purpose of the study was to examine the variables in form of a causal model. In this model, communication skills were the exogenous variable, self-esteem was the mediating variable and adolescent anxiety was the endogenous variable. The statistical population included all students in the age range of 15 to 18, studying in Shiraz schools in year1400 (2021-2022). Of this number, 200 subjects were selected by multi-stage cluster random sampling. Initially, two districts were randomly selected. Then, two high schools from each district were also randomly selected and evaluated. In the implementation stage, due to the limitations caused by the period of Covid-19 pandemic and the ensuing quarantine period, which did not allow face-to-face contact with the students, the researcher, in coordination with school principals and teachers, shared the link of the questionnaires that had been entered into Press Line software in the WhatsApp group of schools. Due to the incompleteness of a number of questionnaires, 200 people participated in the study voluntarily. Finally, LISREL software was used to analyze the data.

Measurement Instruments

Coronavirus Anxiety Scale (2019): Coronavirus Anxiety Scale was developed by Alipour, Qadami, Alipour and Abdollahzadeh in 2019. This scale includes 18 items and two subscales of psychological and physical symptoms, which are measured on a four-point spectrum ranging from zero (never) to 3 (always). The data was analyzed by the internal consistency method using Cronbach's alpha and Guttman's λ-2. Factor analysis method was used

for construct validity. Guttman's λ-2 was obtained for the whole questionnaire to be 0.922. Cronbach's alpha coefficient was calculated to be 0.879 for psychological symptoms, 0.861 for physical symptoms, and 0.919 for the whole scale. The data of the questionnaire revealed a good fit to the two-factor model (Alipour et al., 2019). Cronbach's alpha of the anxiety scale was 0.925 in this study.

Communication Skills Test (2004): This test was developed by Quindam in 2004 to measure communication skills and it contains 24 items, which assess communication skills. To complete it, the respondents must read each item and then determine how well their current status matches its content on a five-point Likert scale ranging from 1 (never) to 5 (always). This questionnaire includes 5 components. Questions 4-5-6-12-21-22-23-24-29 are related to ability to receive and send messages, questions 7-8-9-11-13-16-28-30-32 are related to emotional control, questions 3-25-26-27-31-34 are listening skills, questions 1-2-17-18-20 are insight into the communication process, and finally questions 10-14-15-19-33 pertain to communication with assertiveness. The score range of communication skills is between 34 and 170. A score between 34 and 68 indicates poor communication skills, a score between 68 and 102 shows moderate communication skills, and a score above 102 suggests strong communication skills (E'tesamipour et al., 2020). Cronbach's alpha, test-retest reliability and convergent validity of this test were reported by Quindam to be 0.88, 0.81 and 0.76 respectively, all of which are high and acceptable numbers. Hossein Chari and Fadakar in their study (2005) presented evidence of the validity of the mentioned tool through factor analysis and reported its reliability coefficient to be 0.69 and 0.71 respectively, using Cronbach's alpha and split-half method. The reliability of this test in the study by Rezaei and Hajizadeh (2017) was obtained to be 0.86 using Cronbach's alpha coefficient method (Jabbari, Mirza Hosseini & Sadeq Mahboub, 2019). The total reliability of the test for high school students was 0.66, indicating its acceptable internal consistency (E'tesamipour et al., 2020). Moreover, Cronbach's alpha of the communication

questionnaire in this study was calculated to be 0.713.

Rosenberg Self-Esteem Scale (1965): This questionnaire was designed by Rosenberg in 1965, and it consists of 10 self-report questions, each containing a two-option scale in which the subjects are asked if they agree with it or not, to which they answer either yes or no. In scoring the first five questions, each yes scores 1 and each no scores zero. However, the second five questions are reversely scored; that is, each yes is given zero and each no is given a score of one (Sadeqi, 2015). The results obtained by Palman and Elik (2000) reported a test-retest correlation coefficient of 0.84 at a time interval of two weeks. Mohammadi (2005), through Cronbach's alpha, test-retest and split-half method, investigated the psychometric indices of this scale in Iranian society and reported the reliability of this scale to be 0.69, 0.78 and 0.68 respectively. Furthermore, this scale has a significant positive correlation with Coopersmith Self-Esteem Inventory (0.61) (Mohammadi, 2005). Cronbach's alpha of the Self-Esteem Scale was calculated to be 0.833 in this study.

Results

As displayed in Table (1), descriptive indicators of the whole sample have been investigated. The two statistics of skewness and kurtosis indicate that the distribution of data dispersion in each variable is normal. The results of Table (1) suggest that the skewness and kurtosis of the variables are between 2 and -2. Therefore, the data distribution of the research variables is normal.

Model fit indices indicated that the proposed model fits the data well. Chi-square to degrees of freedom ratio ($X^2/$ df) was found to be 2 which is well below the criteria of 3. GFI was found to be 0.87, NFI = 0.81, CFI = 0.81, and IFI = 0.82 which all were above the criteria of 0.8. Finally, RMSEA was found to be 0.03 which is well below thw criterion of 0.05.

According to the results of Table (2), communication skills have a negative effect on corona anxiety with an intensity of 21%; that is, corona anxiety is reduced by 21% for each unit of change in communication skills. The absolute

value of the t-value is equal to 2.27, which is higher than the significance level of 1.96 and indicates a significant effect of communication skills on corona anxiety. Communication skills also have a direct effect on self-esteem by 30%; that is, each unit of change in communication skills raises self-esteem by 30%. A t-value of 3.21, which is higher than the significance level of 1.96, suggests a significant effect of communication skills on self-esteem. Moreover, self-esteem has a direct effect on anxiety with an intensity of 3%, but considering the t-value of 0.43, which is lower than the significance level of 1.96, this effect is not statistically significant. Thus, self-esteem has no significant effect on adolescent anxiety. Besides, calculating the indirect effect of communication skills on adolescent anxiety with the mediation of the self-esteem variable through the Sobel test (t = 0.569), demonstrates that since its value is less than the significance level of 1.96, communication skills mediated by self-esteem do not indirectly affect adolescents' anxiety.

Table 1
Descriptive indicators of the research variables

Variables	Mean	SD	Minimum	Maximum	Skewness	Kurtosis
Anxiety	9.63	9.32	0	40	-0.945	-0.170
Communication Skills	114.27	13.05	88	150	0.320	-0.135
Self-esteem	7.74	2.50	1	10	1.74	1.30

Table 2
Path coefficients of communication skills and self-esteem to anxiety

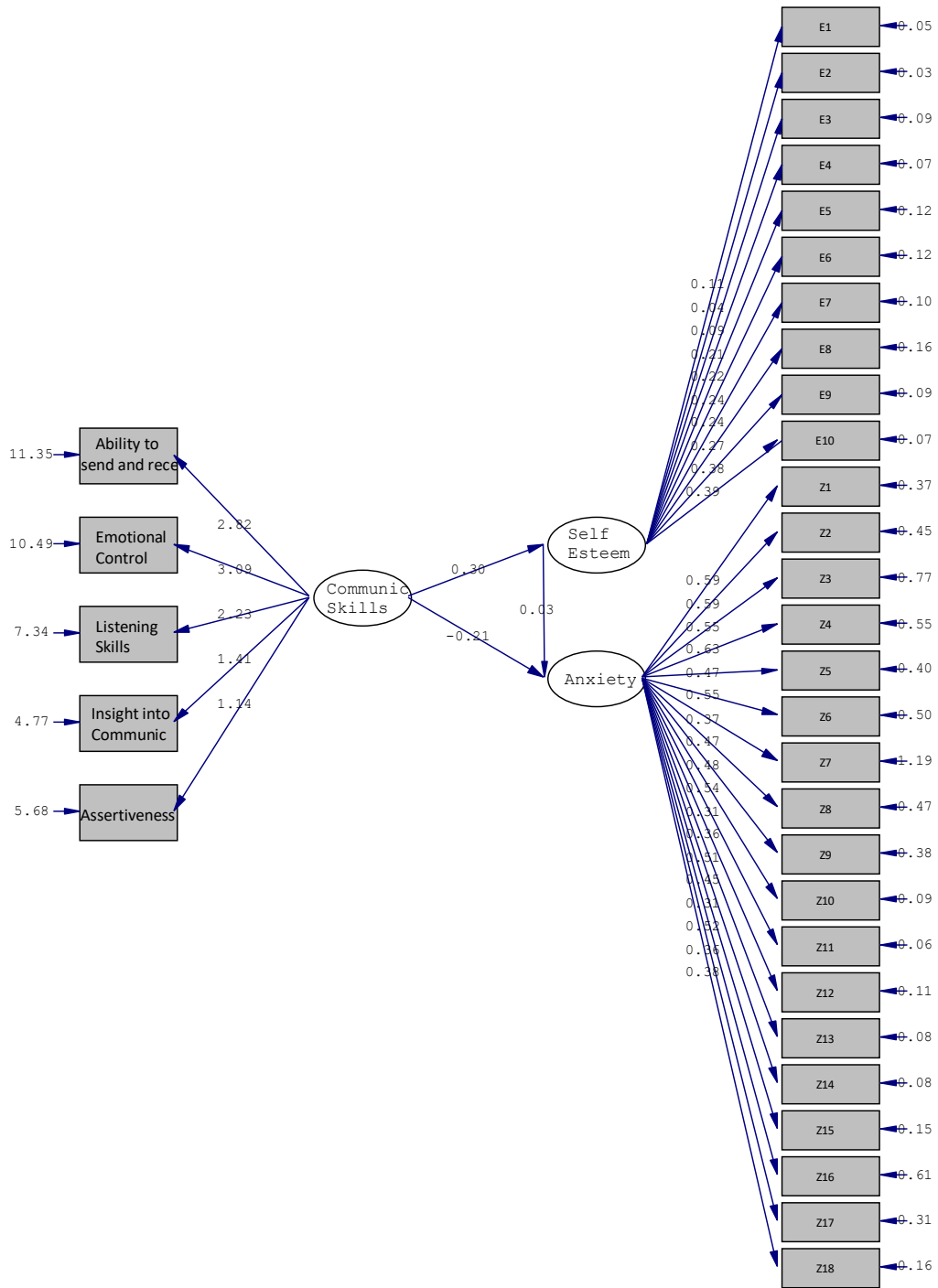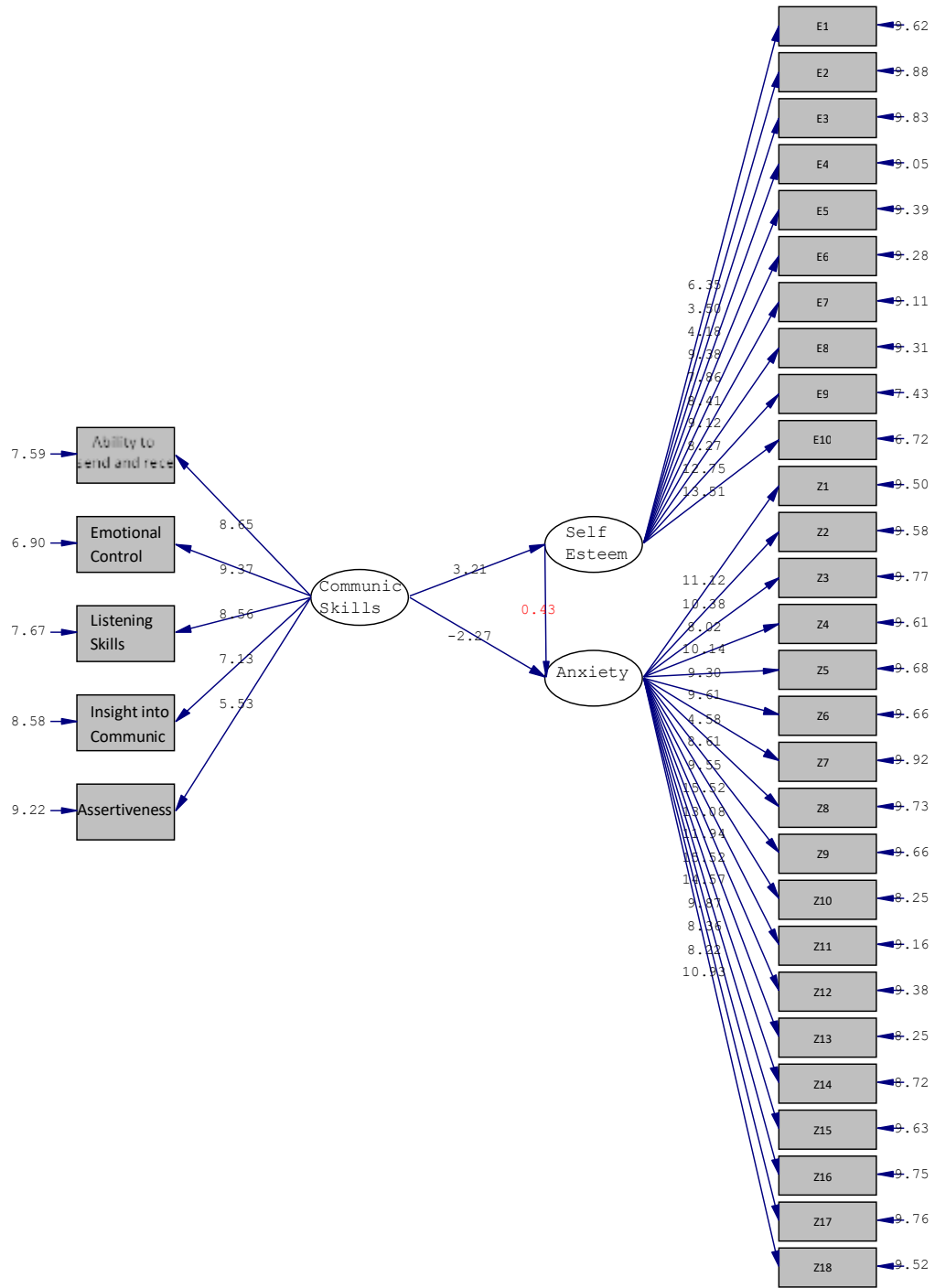| Path of variables	Path coefficient	t statistic	Significance
Communication Skills to Anxiety	-0.21	-2.27	1.96
Communication Skills to Self-Esteem	0.30	3.21	1.96
Self-Esteem to Anxiety	0.03	0.43	1.96

Figure 1: Tested Research Model in the Standard Mode

Figure 2: Tested Research Model In The Significance Mode

Discussion

In this study, a model was tested whose aim was to determine the mediating role of self-esteem in the relationship between communication skills and anxiety in adolescents during Covid-19 pandemic.

One of the important results of this study was that communication skills had a direct effect on adolescents' anxiety during Covid-19 pandemic. The obtained results are consistent with the findings of the research by Lijster et al. (2018), Abdollahi and Davoudi (2018) and Zare' al-Moshiri and Saber (2017). In explaining the above findings, it can be mentioned that since late December 2019, pneumonia caused by Covid-19 was transmitted from one person to another in the form of Covid-19 disease. Not only did this contagious disease pose a threat to the physical health of the society, due to the ambiguities observed in the function of the mutated virus, it also created confusion and uncertainty among people (Wang et al., 2020). In addition, the imposition of the long-term quarantine to control Covid-19 disease has caused many problems in the society: it created an unpleasant and stressful experience for different groups in the society, especially adolescents, who were associated with high levels of anxiety (Rubin & Wessely, 2020). But not all people respond equally to this situation. People with special personality traits give different responses in dealing with the Covid-19 pandemic (Kazemi & Sadeqi, 2020). One of these personality traits concerns communication method, which can affect their anxiety (Abdollahi & Davoudi, 2018). Adolescents, in the process of social development, need to acquire communication skills in order to develop and demonestrate their talents and adapt to the environment and the surrounding people. In the process of acquisition of communication skills, the role of peers is most evident (Duffy et al., 2004; cited in Omidpour et al., 2020). People with communication skills can maintain their relationships in any way possible. During the Covid-19 pandemic, adolescents with high communication skills were able to partly maintain their relationships with peers through social networks. The fact is that no communication occurs except for the strong human need to establish social interaction. Man has developed various methods for communicating with others, including the development of language and non-verbal methods of communication, such as facial expressions, general body postures or gestures and movements. Each of these methods can convey a part of the desired information and the feelings of the person speaking to the listener (Bulten, 1994; translated by Sohrabi & Hayat Roshanaei, 2020). This type of relationship, which is more likely to develop with peers during adolescence, can reduce the Covid-19 induced anxiety, even when the anxiety is heightened by families' great concerns, as one way to decrease anxiety is through expressing emotions; thus, the expression of emotions by adolescents and their communication with peers and, hence, emotional discharge, even through social networks, can reduce much of their anxiety. Each communication is an exchange in which at least two people must participate. People talk to each other in different ways: they listen, observe and react to each other and exchange a lot of information. In these communications, adolescents exchange information, talk about their concerns, or find solutions that reduce their anxiety. Therefore, communication skills can affect Covid-19 induced anxiety.

Another finding of this study was that communication skills had a direct effect on adolescents' self-esteem during the Covid-19 pandemic. The results are consistent with the findings of the study by Mazaheri and Rezakhani (2017) and Mostaqimi and Shafi'abadi (2012). In explaining the above finding, it can be said that self-esteem is used to describe a person's general sense of self-worth and personal values (Wanjiru & Gathogo, 2014). It may also be formed through evaluations received from others (Will et al., 2017). The fact is that lack of communication skills and the skills in solving interpersonal problems causes interpersonal conflicts in adolescents, which in turn can lower adolescents' self-esteem. Self-esteem is one of the psychological elements affected by communication with others, as communication provides an environment for the individual to self-evaluate. As such, if a person establishes a better relationship with others, he will have greater self-

esteem (Todor, 1996; cited in Mostaqimi & Shafi'abadi, 2012). Moreover, self-esteem is a life skill as well as a social competence that is used to build lasting human relationships (Amongin et al., 2012). Therefore, when there are healthy relationships and skills in maintaining these relationships, self-esteem enhances within people. Communication is the first necessity of a social life, and the continuation of life and society depends on increasing the quality of interpersonal relationships. Human relationships are essential to satisfy the basic needs of individuals. Having positive and healthy relationships with others is, therefore, the key to human growth and perfection. What man is now and what he will be in the future are both the result of his relationship with others, which shapes his competence and adequacy. Therefore, communication with others can be effective in boosting self-esteem. According to Bandura and Locke (2003), self-esteem is formed through the generalization of a person's sense of adequacy and competence, and this sense of adequacy affects his attitudes and behaviors (Mazaheri & Rezakhani, 2017). People's relationships shape their behavior as social human beings and they also play a major role in formation of their unique personality, identity, and self-concept. Therefore, a person's behavior and the way he communicates can enhance his self-esteem. According to Kim et al. (2017), people with low self-esteem avoid interpersonal relationships. Moreover, Coopersmith believes that adolescents' self-esteem is created by the evaluation of parents, friends and playmates, teachers and the individuals' self-assessment. He further argues that people with positive self-esteem behave in a more community-friendly manner than those with negative self-esteem (Mazaheri & Rezakhani, 2017). Thus, teaching assertiveness and communication skills can reduce students' vulnerability in the face of their problems and increase their internal control and self-esteem. Communication in the past and for primitive man, in addition to functioning as a means of survival and seeking help from others, laid the foundation for social activities and the beginning of social life. Hence, having self-esteem and a good feeling about oneself is formed in society only when the individual has healthy relationships and communication skills. Therefore,

communication skills can affect people's self-esteem.

Another finding of this study was that self-esteem had no direct effect on adolescent anxiety during Covid-19 pandemic. No study was found on the effect of self-esteem on Covid-19 induced anxiety. In explaining the above finding regarding self-esteem not affecting adolescents' Covid-19 induced anxiety, it can be maintained that Moher considers self-esteem as a sense of worth, degree of approval, emphasis, acceptance and valuableness that a person has toward himself (Nazari Shadkam et al., 2013). Coopersmith believes that self-esteem is a personal the judgment of an individual's worth, which exists as a mental experience and is conveyed by verbal and non-verbal behaviors (Mousazadeh et al., 2014). A person may be aware of his values, but with the onset of the Covid-19 epidemic and the confusion caused by the unknown virus, he might become anxious and concerned about getting sick or losing those around him, or he might not develop Covid-19 anxiety for a variety of reasons, such as having communication skills, regardless of his high self-esteem. That is, the presence or absence of self-esteem in the individual had no effect on his Covid-19 induced anxiety. The anxiety caused by Covid-19 had different reasons; e.g., the presence of an obsessive person at home, losing a friend or family member who died of Covid-19 disease, facing difficulties when being affected by Covid-19 or contradictory news from the surrounding people and the mass media about Covid-19, which confused the individual. Because of the existence of such reasons accounting for Covid-19 induced anxiety, regardless of whether or not a person considers himself valuable, he may experience Covid-19 induced anxiety. Thus, self-esteem can have no effect on the anxiety caused by the Covid-19 disease. The presence or absence of self-esteem tells a person whether he is valuable or not. The emergence of Covid-19 disease as a new epidemic has caused a great deal of confusion for people. In principle, Covid-19 induced anxiety can, for some people, be considered as the anxiety caused by an unknown condition. This unclarity may have nothing to do with self-esteem. Therefore, self-esteem may not affect Covid-19 induced anxiety. Another finding of this study was that self-esteem had no direct effect on adolescent anxiety during

Covid-19 pandemic. No study was found on the effect of self-esteem on Covid-19 induced anxiety. In explaining the above finding regarding self-esteem not affecting adolescents' Covid-19 induced anxiety, it can be maintained that Moher considers self-esteem as a sense of worth, degree of approval, emphasis, acceptance and valuableness that a person has toward himself (Nazari Shadkam et al., 2013). Coopersmith believes that self-esteem is a personal the judgment of an individual's worth, which exists as a mental experience and is conveyed by verbal and non-verbal behaviors (Mousazadeh et al., 2014). A person may be aware of his values, but with the onset of the Covid-19 epidemic and the confusion caused by the unknown virus, he might become anxious and concerned about getting sick or losing those around him, or he might not develop Covid-19 anxiety for a variety of reasons, such as having communication skills, regardless of his high self-esteem. That is, the presence or absence of self-esteem in the individual had no effect on his Covid-19 induced anxiety. The anxiety caused by Covid-19 had different reasons; e.g., the presence of an obsessive person at home, losing a friend or family member who died of Covid-19 disease, facing difficulties when being affected by Covid-19 or contradictory news from the surrounding people and the mass media about Covid-19, which confused the individual. Because of the existence of such reasons accounting for Covid-19 induced anxiety, regardless of whether or not a person considers himself valuable, he may experience Covid-19 induced anxiety. Thus, self-esteem can have no effect on the anxiety caused by the Covid-19 disease. The presence or absence of self-esteem tells a person whether he is valuable or not. The emergence of Covid-19 disease as a new epidemic has caused a great deal of confusion for people. In principle, Covid-19 induced anxiety can, for some people, be considered as the anxiety caused by an unknown condition. This unclarity may have nothing to do with self-esteem. Therefore, self-esteem may not affect Covid-19 induced anxiety.

Another finding of this study was that communication skills mediated by self-esteem did not have an indirect effect on adolescent anxiety during the Covid19 pandemic. No background was found for such research. In explaining the above relationship, it can be stated that the way people communicate with each other can affect their anxiety (Abdollahi & Davoudi, 2018) because interpersonal relationships play a vital role in human life. Given the importance and place of communication, if for any reason a disruption occurs in this process, it is clear that major issues and problems will arise, instigating adverse physical and psychological effects. Communication skills are the skills through which individuals can engage in interpersonal interactions; that is, the process during which individuals share their information, thoughts and feelings through the the exchange of verbal and non-verbal messages (Hariji & Dicson, 2008; cited in Omidpour et al., 2020). Therefore, people with communication skills could reduce their anxiety during the Covid-19 pandemic by communicating in different ways, expressing emotions, and exchanging ideas. According to the definition provided by Coopersmith, self-esteem is a personal judgment of a person's worth, which exists as a mental experience and is conveyed by verbal and non-verbal behaviors (Mousazadeh et al., 2014). Thus, a person's belief in his worth stems from his self-esteem. This belief cannot affect Covid-19 induced anxiety, which is an anxiety about a new epidemic regarding which there is not much information. This lack of awareness causes confusion which has nothing to do with one's thoughts about being valuable or not. Thus, self-esteem cannot affect the anxiety caused by the Covid-19. The existence of some methodological bottlenecks highlights the need for cautious generalization of the findings of this study. This study was limited to the relevant self-reported information received, as due to time constraints and the Covid-19 quarantines, no interviews were conducted. Thus, it is worthwhile to interpret the results with caution. Furthermore, it was not possible to control all the unwanted variables that might affect the research results, including the lack of control over environmental factors related to the location of the test execution. Therefore, it is recommended to select wider samples for future research in order to achieve more extensive results to generalize the findings. Additionally, due to the effect of communication skills on adolescents' Covid-19 induced anxiety and self-esteem, it is suggested online workshops be conducted for adolescents on acquiring communication skills in

order to help them reduce anxiety, increase their self-esteem, and help them solve their problems. By presenting the results to the Education Organization, communication skill training can be incorporated into the lessons or taught to adolescents in different courses. Finally, it is suggested that cultural institutions, such as municipal cultural units, provide communication skill training to adolescents in the form of CDs or textbooks.

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