

Original Article

# The Role of Self-Talk in Predicting Death Anxiety, Obsessive-Compulsive Disorder, and Coping Strategies in the Face of Coronavirus Disease (COVID-19)

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## Abstract

**Objective:** Nowadays, the outbreak of Coronavirus (COVID-19) is one of the most stressful resources that has led to the rise of different levels of psychological crisis. In addition to the countries affected by the COVID-19, such as China, European and American countries, Iran has appeared as one of the most affected countries with high infected cases and deaths. Thus, the purpose of this study was to investigate the role of self-talk in predicting death anxiety, obsessive-compulsive disorder, and coping strategies in the face of COVID-19.

**Method:** This descriptive and correlational study was conducted on 354 adults living in Ardabil, Iran, who were selected using cluster sampling from 21 January to 19 March 2020. Self-Talk questionnaires, Coping Strategies, Death Anxiety, and Obsessive-Compulsive questionnaires were used for data collection. Descriptive statistics, Pearson correlation, and multiple linear regression were used for data analysis.

**Results:** The findings revealed a significant positive relationship between self-talk and problem-centered coping style. Also, significant negative relationships were found between self-talk and emotional coping style, death anxiety, and obsessive-compulsive disorder. Furthermore, based on the results of the regression test, self-talk predicted problem-centered style, emotional-coping style, death anxiety, and obsessive-compulsive disorder.

**Conclusion:** The results of this study emphasize the need for psychological crisis intervention during the COVID-19 outbreak. Also, this study provides an important step in shifting attention to self-talk skills from sport psychology fields toward clinical psychology, especially about the mental impacts of COVID-19.

**Key words:** *Coronavirus (COVID-19); Coping Strategies; Death Anxiety; Obsessive-Compulsive Disorder; Self-Talk*

**A**t different times, human health and life have been threatened by different infectious diseases (1, 2), which have attracted researchers to study their effects and control. However, few studies have been conducted on their psychological impact (2, 3). One of these infectious diseases is COVID-19, following the first reported case of COVID-19 in Wuhan, China, in late December 2019, the illness rapidly broke out around the world (1-3), so that the World Health Organization declared COVID-19 as a public health emergency of international concern (4).

COVID-19 patients show symptoms such as fever, cough, and shortness of breath or problem in breathing (5). Besides these symptoms, the challenges and unpredictable conditions of the COVID-19 and an increasing number of infected cases and deaths can cause mental health disorder. In such a situation, one of the most important psychological problems is the fear and anxiety of death. Death anxiety (DA) is a reaction that people experience when faced with death, chronic, or life-threatening illness. DA is demonstrated as an understanding of danger to life in daily interactions (6).

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From an existential perspective, DA has considered inevitable anxiety as a sign of fundamental anxiety that demonstrates the reality of human existence (7). Previous investigations on the prevalence of COVID-19 showed that stressful situations caused by this disease had significant associations with common mental disorders, especially DA (1, 5, 8).

In addition to DA, the death of loved ones and recommendation to wash hands repeatedly may create disturbing thoughts and behaviors related to the disease, which may cause obsessive-compulsive disorder (OCD). OCD is a psychiatric disorder that involves intrusive and persistent thoughts and time-consuming compulsive behaviors (9). The dread of pollution and extreme washing of hands is likely the prevalent symptom of OCD (9, 10). Studies showed that because of the fear of getting infected with the COVID-19, the individual with OCD attempts to stop these thoughts and behavior but often cannot succeed, which ultimately causes social and functional disturbances in many situations (9-11).

The stress condition, strong infection, and lethality in severe cases can lead to several mental problems, so people use coping strategies to protect themselves in such a situation. Coping strategies are thoughts and operations that individuals employ to deal with tension and stress (12, 13). Strategies that people use to solve or eliminate stress involve 2 general coping strategies: problem-focused coping in which the goal is to solve the dilemma and take action to improve the situation; emotion-focused coping whose goals are to decrease the emotional confusion related to stressful status (12). Studies have found that the COVID-19 outbreak resulted in tension and anxiety in people. In this situation, awareness and the effective use of coping strategies will help people to control stressful events and decrease negative emotions (12-14).

The component that seems to be effective in all 3 variables of death anxiety, obsessive-compulsive disorder, and coping with stress is the cognition, an individual's talking to oneself influences thoughts, feelings, and behaviors. Self-talk implies automatic statements that involve reflective and purposeful methods people apply to manage irrational thinking and establish a healthy mental state in stressful conditions (15-17). Self-talk has important functions for human beings and theory and research highlight its importance in everyday life. Previous studies have shown its positive impact on anxiety, behavior control in scary conditions, and self-efficacy (16-18).

Thus, the increased prevalence of COVID-19 among people has led to an abundance of research about its negative impact on communities. However, most of the published research is related to clinical characteristics of the infected patients (19) and genomic characterization of the virus (20). Thus, considering the increasing rate of the cases, deaths, and prevalence of the virus and that there is almost no research on the psychological impact

and mental health of the people on the peak of the COVID-19 epidemic, we conducted the present study to survey the role of self-talk to predict death anxiety, obsessive-compulsive disorder, and coping strategies in the face of COVID-19 in Iran.

## **Materials and Methods**

### **Procedure and Sample**

This descriptive and correlational study was conducted on adult residents Ardabil, Iran, from January 21 to March 19, 2020. For sampling, Ardabil was divided into 5 regions, including north, south, east, west, and center. Based on our goals, the minimum sample size with a 95% confidence interval, an error estimate of 5%, was calculated using the Cochran formula. Among the adult residents of Ardabil, 354 were selected using cluster sampling. One of the sources of bias in the study was the COVID-19 and its devastating effects on the society, such as fear and stress, and our thoughts about it. We tried as much as possible to select cases who had no symptoms or experiences of the disease. In addition, to distribute the questionnaires, anonymous and blind distributors were used to control this bias. Finally, 300 adults completed the questionnaire. However, 54 questionnaires were discarded due to incomplete responses. We considered a larger sample size than required to increase the generalizability of our results and to compensate for sample shedding. To control the interfering variables, inclusion and exclusion criteria were considered. The inclusion criteria for the potential participants were age 18 to 50 years, Iranian nationality, being a resident of Ardabil, lack of physical and mental illnesses, minimum educational literacy, and willingness to participate. The exclusion criteria were being younger and/or older than 18-50 years, lack of residence in Ardabil, a history of psychological and physical illnesses, lack of a minimum literacy, and lack of willingness to participate in research. The study was performed in accordance with the Declaration of Helsinki and approved by Salamat Gostar Research Center, Iran. We explained the research objectives, and the participants were ensured that their information would remain confidential. Those who had the inclusion criteria and were willing to take part in the study completed the informed consent and agreement forms. Also, the participants could resign from the research whenever they wanted, and the research was performed based on respecting the rights of the participants by ensuring anonymity and confidentiality.

### **Measures**

In this study, the research instrument was selected based on the sample and the appropriateness of the measured values. This study included 4 types of instruments: (1) Self-Talk Scale (STS), (2) Templer Death Anxiety Scale (TDAS), (3) Maudsley Obsessive-Compulsive Inventory (MOCI), and (4) Folkman and Lazarus Coping

Strategies Inventory. In addition, demographic data, including gender, age, education level, and economic level, were collected.

**1) Self-Talk Scale (STS):** This self-report questionnaire was developed by Brinthaupt et al (21) and consists of 16-item rated on a 6-point scale (1 = never, 6 = always). Each item is rated according to the common statement stem of "I talk to myself ...". Self-talk includes 4 subscales: social assessment, self-reinforcement, self-management, and self-criticism. Each subscale has 4 items and can be scored from 4 to 24. Higher scores indicate more self-talk (21). Brinthaupt et al (21) reported reliability for the total scale to be 0.69 and for the subscales to be 0.50, 0.54, 0.69, 0.62, respectively. In Iran, Khodayarifard et al (22) also reported reliability for the subscales of social assessment, self-reinforcement, self-management, and self-criticism to be 0.67, 0.75, 0.73, 0.72, respectively.

**2) Templer Death Anxiety Scale (TDAS):** Death Anxiety Scale (DAS) was developed by Templer (23) and consists of 15 statements. The yes/no format is the original response option depending on whether the answer is yes or no; the score will be one (yes) or zero (no). The score of 0 indicates the absence of death anxiety and 15 indicates very high death anxiety, with the cutoff point of 6-7 and higher showing the signs of very high death anxiety (23). Templer reported reliability for the total scale to be 0.83 (23). In Iran, Moradipour et al (24) reported test-retest reliability for the scale to be 0.78.

**3) Maudsley Obsessive-Compulsive Inventory (MOCI):** This self-report questionnaire contains 30 two-item questions (yes/no), which are answered by the participants. Maudsley's Obsessive-Compulsive Inventory includes 4 categories and subscales: washing (11 items, rating between 0-9), checkup (7 items, rating between 0-9), slowness (7 items, rating between 0-7), and doubt (7 items, rating between 0-7). The overall score is between 0-30 with a cut-off point of 11, so that score 11 and above show the signs of OCD. Hodgson and Rachman reported reliability for the total scale to be 0.89 (25). In Iran, Mohamadirizi et al (26) also reported reliability for a total score of OCD and its subscales of washing, checkup, slowness, and doubt, as 0.98, 0.92, 0.96, 0.88, 0.93, respectively.

**4) Folkman and Lazarus Coping Strategies Inventory:** This self-report questionnaire developed by Folkman and Lazarus (27) consists of 15 items about thoughts and actions that individuals apply to deal with specific stressful events. All questions are scored with the Likert scale of not at all = 0, sometimes = 1, quite a bit = 2, and very much = 3. The questionnaire is grouped into 8 subscales: confrontation, withdrawal, self-control, social support, responsibility acceptance, escape-avoidance, problem-solving, and positive reappraisal. Higher scores demonstrate more applications of the coping strategies. Folkman and Lazarus (27) reported Cronbach's alpha coefficient for the subscales of social

support, escape-avoidance, and problem-solving as 0.76, 0.72, and 0.68, respectively. In Iran, Afroze et al (28) reported reliability of 0.82 for the scale.

#### **Statistical Analysis**

The collected data were analyzed in SPSS 22 and Amos 23 software. Data were analyzed using descriptive statistics (mean and standard deviation), Pearson correlation coefficient with the significance level of  $p < 0.001$ , and multiple linear regression analysis.

## **Results**

The demographic information is reported in Table 1. The descriptive indicators of Self-Talk, Death Anxiety, Obsessive-Compulsive Disorder, and Coping Strategies in the face of COVID-19 are reported in Table 2. In Table 3, the multiple linear regression is presented.

According to Table 1, most participants in both male (150 people) and female (150 people) groups were between 18-30 years old (52% and 48%), had an education level of high school diploma (56%, 60%), and belonged to middle economic level (62% and 70%).

The findings of Table 2 showed that the mean and standard deviation of the self-talk, death anxiety, obsessive-compulsive disorder, problem-focused coping, and emotion-focused coping were  $60.00 \pm 9.5$ ,  $2.77 \pm 1.8$ ,  $9.70 \pm 2.9$ ,  $50.35 \pm 3.6$  and  $32.07 \pm 2.9$ , respectively.

Also, the results of correlation coefficient revealed the existence of a significant correlation between self-talk, death anxiety, obsessive-compulsive disorder, and coping strategies. As a significant positive correlation existed between self-talk with the problem-focused coping factor as 0.328, a significant reverse correlation of -0.227 existed between the Self-Talk with the emotion-focused coping factor. Also, a reverse correlation existed between self-talk with death anxiety and obsessive-compulsive disorder factor as -0.41 and -0.243.

The results of Table 3 showed self-talk can predict death anxiety, obsessive-compulsive disorder, and coping strategies ( $p < .001$ ). Figure 1 summarizes the flow diagram of the research variables.

**Table 1. The Demographic Information of the Participants According to the Questionnaire (N= 300)**

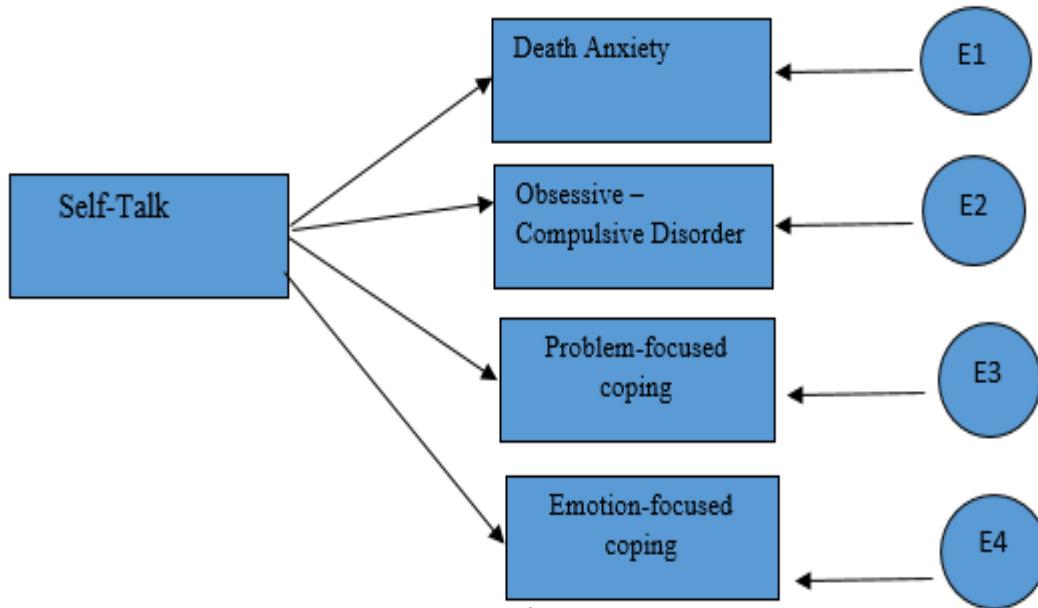
	Demographic properties	Female N %	Male N %
Age	18-30	78 52	81 54
	31-54	72 48	69 46
	High school Diploma	84 56	90 60
Education Level	Associate Degree	54 36	45 30
	Master's Degree and above	12 8	15 10
	Poor	30 20	24 16
Economic Level	Middle	93 62	105 70
	High	27 18	12 14

**Table 2. Mean and SD of Self-Talk, Death Anxiety, Obsessive-Compulsive Disorder, and Coping Strategies**

Variables	Min	Max	Mean, SD
Self-Talk	48	77	60.00±9.5
Death Anxiety	0	7	2.77±1.8
Obsessive- Compulsive Disorder	6	15	9.70±2.9
problem-focused coping	45	58	50.35±3.6
emotion-focused coping	10	19	12.07±2.5

**Table 3. Regression Coefficients in Multiple Linear Regression Model for Self-Talk, Death Anxiety, Obsessive-Compulsive Disorder, and Coping Strategies**

Variables	Estimate	S.E	C.R	P
Death anxiety	-0.311	0.074	-4.221	0.001
Self-reinforcement	0.101	0.016	6.216	0.001
Self-management	0.188	0.016	11.814	0.001
Self-criticism	0.348	0.051	6.777	0.001
Social assessment	0.150	0.011	13.671	0.001
Checkup	-0.057	0.004	-12.750	0.001
Washing	-0.048	0.006	-7.664	0.001
Slowness	-0.028	0.007	-3.794	0.001
Doubt	-0.040	0.005	-8.055	0.001
Obsessive-compulsive disorder	-0.075	0.017	-4.335	0.001
Problem-focused coping	0.124	0.021	6.008	0.001
Emotion-focused coping	-0.074	0.015	-4.978	0.001

**Figure 1. Flow Diagram of the Research Variables**

## **Discussion**

The present study examines the role of self-talk in the prediction of death anxiety, obsessive-compulsive disorder, and coping strategies in the face of COVID-19. The results showed significant relationships between self-talk and death anxiety, obsessive-compulsive disorder, and coping strategies. Also, self-talk predicted death anxiety, obsessive-compulsive disorder, and coping strategies in the face of COVID-19.

Based on the findings of this research, there was a negative correlation between self-talk and death anxiety. Meanwhile, self-talk predicted death anxiety in the face of COVID-19. The results are in accordance with the previous findings showing that self-talk skills can be helpful intervention techniques in reducing death anxiety thoughts and fears in stressful situations (17, 29 -31). The outbreak of COVID-19 led to critical situations in the community, and the media report on the statistics of infected cases and deaths causes psychological reactions, especially the fear and death anxiety (1,5). Death is universal and can cause concerns in any people resulting from an individual thinking about the death of himself or others and shows its negative impact in many fields in individuals' lives, such as pessimism, despair, low perception of social support, and inability to get enough from life (7). In such stressful situations, the person cannot process properly and as a result experience severe anxiety. Thus, using self-talk skills can be effective, as a method of self-management or self-reinforcement in stressful conditions and self-criticism to correct one's misconceptions about death.

The other finding of the present study indicated a significant negative relationship between self-talk and obsessive-compulsive disorder. Meanwhile, self-talk predicted obsessive-compulsive disorder in the face of COVID-19. The results are in accordance with the previous findings which showed that self-talk skills are highly effective in reducing annoying thoughts and increasing concentration in dealing with stressful situations (10, 32, 33). All news and social media are involved with numerous recommendations by governments and other national and international health agencies about COVID-19, which emphasize attention to hygiene issues and washing hands repeatedly as a preventative method against the disease. Fear of contracting the virus after watching or listening to these programs have led to obsessive-compulsive behaviors in people and prompted them to wash their hands excessively, and ultimately these compulsive behaviors and intrusive thoughts about being infected with the COVID-19 can lead to serious problems. In this dysfunctional situation, using self-talk can lead to criticizing thoughts and social assessment of such behaviors. Also, self-management or reinforcement can decrease the occurrence of interfering thoughts and allow people to manage their performance toward an appropriate outcome or think more effectively about their performance.

The last finding of the present study shows positive and significant associations between self-talk and problem-focused coping as well as negative significant associations between self-talk and emotion-focused coping. Also, self-talk predicted problem-focused coping and emotion-focused coping in the face of COVID-19. Problem-focused coping strategy can be considered as a style in which a person tries to overcome obstacles and achieve his or her desired goals and has a significant relationship with mental health status, while in the emotion-focused coping the main aim is to reduce or change the emotional turmoil related to stressful status having a negative relationship with mental health status (34). This result aligns with the previous studies that found applying self-talk skills as a cognitive psychological technique led to stopping negative thinking and using effective coping strategies to deal with stressful situations (12, 14, 35, 36). In addition to the impact of the COVID-19 on citizens' emotions, an individual's coping strategies will also change, so that it leads to inefficient coping strategies and ultimately inappropriate insights and actions in confronting these conditions. When people use self-talk in the face of COVID-19, it helps them to turn their mental processes into statement form with self-reinforcement and self-management of social and mental conditions, which allows them to turn their attention to the appropriate processes in problem-solving ultimately leading to use problem-focused coping strategy rather than emotion-focused coping style.

## **Limitation**

This study had some limitations. The participants were assessed by a self-report scale which might not be sufficient for collecting accurate data. This was a cross sectional study. The correlation between the variables may be due to other variables which can only be controlled by the survey of the role of each in the creation of such types. Further, recognizing that the present study was performed among adult residents of Ardabil, caution should be exercised in generalizing the findings to other cities.

## **Conclusion**

The findings in this study can provide information about the psychological impacts of COVID-19 as a mental health disaster and a new epidemic disease. Psychological intervention can play an important role at any stage of this infecting disease. Thus, the Iranian Association of Psychology and the Ministry of Health should establish a professional group for psychological services in the social media or national TV, publish self-help handbooks on COVID-19, and train health care professionals in managing psychological conditions. Despite existing studies about clinical and genomic characterization of the COVID-19 in Iran, little research has been done to address the psychological impact of COVID-19.

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## Conflict of Interest

None.

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