



## The Effectiveness of Solution-focused Strategies on Coronavirus Anxiety and Mental Toughness in Tehran Female Students during the COVID-19 Pandemic

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### Abstract

**Background:** A serious and urgent concern for the health and well-being of the student population is Coronavirus disease 2019 (COVID-19). This study aimed to evaluate the effectiveness of a solution-oriented strategic approach on coronary anxiety and mental toughness of female students during the COVID-19 pandemic.

**Methods:** The research method was semi-experimental with pre-test & post-test design with the control group. The statistical population included all female students of the Payame Noor university of Tehran during the corona outbreak in the academic year 2020-2021. 32 people were selected by purposive sampling method and randomly divided into two groups of experimental (n=16) and control (n=16). Questionnaires such as coronary anxiety and mental toughness were used for data collection. The solution-oriented strategic approach was performed for 8 sessions, 90 minutes each for the experimental group, and the control group received none. To analyze data, multivariate analysis of covariance (MANOVA) and one-way analysis of covariance (ANOVA) was applied as main statistical procedures.

**Results:** The results showed that the Solution-oriented strategic approach was effective in improving mental endurance and coronary anxiety of female students during coronary heart disease and these results continued until the follow-up stage (Pvalue<0.001).

**Conclusions:** This study showed that the solution-based approach could assist references incorrectly identifying the risks, barriers, and crisis points of their lives and in providing them with appropriate insight into the capabilities and resources of the individual's support system.

**Keywords:** Solution-oriented strategic approach, Coronary anxiety, Mental toughness, Female students, COVID-19 pandemic.

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### Introduction

Coronaviruses were first detected in Wuhan, Hubei province, China, in 2019 and soon spread to other countries.<sup>1</sup> In Qom province, the first case of Coronavirus in Iran was identified on February 20, 2020. During the year 2020, the disease was recognized as the greatest threat to public health around the world.<sup>2</sup> Symptoms of the covid19 virus include a high fever, a dry cough, body aches, and shortness of breath. Due to the wide range of epidemiology, rumors, and misinformation about the origin of the disease, the failure of various treatments, and the high transmission power of this disease, considerable stress and anxiety is surrounding the

Coronavirus among healthy individuals.<sup>3</sup> The covid19 virus has been controlled by home quarantine, social isolation, and the closure of schools and universities. This caused significant fear and stress in students, many of whom were taking virtual courses for the first time.<sup>4</sup>

Nevertheless, due to the differences in individual personalities and life experiences, people react to life events and pressures differently. There is some evidence that mental toughness is one of the most important aspects of personality, which serves as a source of resistance and protection in the face of stressful life events.<sup>3</sup> The term mental toughness refers to a set of traits that an individual possesses that acts as support during stressful times in his or her personal or academic life.<sup>5</sup> Additionally, anxiety is a common symptom among patients with chronic respiratory and cardiac issues.<sup>6</sup> It is one of the most common mental disorders, characterizing a diffuse, unpleasant, and vague sense of fear and anxiety of unknown origin, and is a natural reaction to difficult and threatening circumstances, but if it becomes chronic and severe, it disrupts daily life.<sup>7</sup>

In addition to negatively affecting the immune system, anxiety can weaken the body's resistance to disease. It can also lead to dysfunctional behaviors. Anxious people do things that increase their anxiety cycle as well as that of others.<sup>8</sup> The symptoms of coronary anxiety are anxiety caused by being infected with the Coronavirus, which is primarily caused by ignorance and cognitive uncertainty. People with general anxiety disorders, anxiety disorders, and obsessive-compulsive disorders tend to experience more anxiety in this condition.<sup>6</sup> Due to the importance of students in society and the critical condition of the Corona outbreak, along with the need to improve mental toughness and reduce Corona anxiety among them, this path can be opened up for them during the outbreak of Corona through various training opportunities. The solution-oriented approach is one of the new theories that have emerged in the short term. This method focuses on finding solutions instead of addressing the root cause of problems.<sup>9</sup>

The course of treatment is typically short, but progress is measured by checking the results, not by the number of sessions. Mental health care providers, schools, universities, organizations, and even the community of therapists need to hold themselves accountable for positive treatment results. These objectives have been achieved through the solution-oriented strategic approach. This popularity led to its

widespread recognition as an effective treatment for many types of concerns and clients. The most significant factor in this approach is the use of the right questions. The therapist facilitates the conversation path by trying to clarify the path to growth and achievement by asking the right questions. Because of this approach, clients are viewed as specialists instead of patients with disabilities. Solution-based treatment emphasizes aspects that can and will change, not the ones that are difficult or unchangeable.<sup>10-13</sup> Aboobakri Makoei et al. (2021) demonstrated that the short-term solution-oriented approach is effective in improving coping strategies and psychological toughness of outstanding students.<sup>11</sup>

## Materials and Methods

The present study was quasi-experimental and used a pre-test-post-test design with a control group, in which an experimental group and a control group were employed. For the present study, the statistical population included female students in the academic year 2020-2021 at Payame Noor in Tehran. The university counseling center distributed 70 questionnaires of mental toughness and coronary anxiety in random samples to female clients referred by the university counseling center. Then 32 subjects were selected based on inclusion criteria and randomly divided into the experimental (n=16) and control groups (n=16). Inclusion criteria were scoring lower than average in the mental toughness questionnaire and scoring above the average in the Corona anxiety questionnaire, obtaining written satisfaction from attending the study, no mental disorders and medication use in this regard, not attending courses, and concurrent treatments. Exclusion criteria were the absence of more than one session in intervention sessions, use of concomitant drugs, and dissatisfaction with continued treatment. Following the determination of sample size, courses were conducted virtually through Google Meet, and questionnaires (mental toughness and coronary anxiety questionnaires) were made accessible to the subjects via WhatsApp group for pre-testing. The authors of this study conducted 8 intervention sessions<sup>11-13</sup> over twice a week. At the end of the sessions, the experimental and control

groups completed a post-test. The collected data were then analyzed. Descriptive and inferential statistical methods were used to analyze the data. Analysis of covariance using the assumptions of linearity, multiple nonlinearity, homogeneity of variance, homogeneity of covariances, homogeneity of regression slides, and Kolmogorov-Smirnov tests were used to analyze hypotheses derived from a one-variable covariance analysis (ANOVA) and a multivariate analysis of covariance. Statistics were performed using SPSS software. The significant level was set at 0.05. This study's Ethical approval was received from the research deputy of the Payame Noor university (IR.PNU.REC.1400.061). To gather information, a standard questionnaire was used, which is described below.

**Mental toughness questionnaire:** Clough et al. (2002) developed the Ahvaz mental toughness questionnaire to determine factors that affect mental endurance.<sup>14</sup> The questionnaire contains 48 items, with each item having four possible answers: never, rarely, sometimes, and most of the time. Responses to each question are evaluated on a 5-point Likert scale. Mental toughness questionnaire scores range from 0 to 81. A high score on the mental toughness questionnaire indicates a high level of psychological endurance. Kashani et al. (2014), showed that the mental toughness scale had an acceptable fit index, internal consistency (0.87), and temporal reliability (0.85), indicating good validity and reliability of the Persian version of the mental toughness scale.<sup>15</sup> In addition, the results supported a 1-factor and 11-item structure of the initial scale. In this study, a Cronbach's coefficient of 0.85 was obtained for this questionnaire.

**Coronavirus anxiety inventory:** Alipour et al. (2020) developed the Corona anxiety questionnaire.<sup>6</sup> There are 18 items on the scale, rated on a 4-point scale from never (0) to always (3). The score ranges from 0-54 and a higher score indicates increased coronary anxiety. The validity of the instrument structure was confirmed by factor analysis in Alipour et al. (2020), and the reliability was assessed by the Cronbach's alpha method of 0.91.<sup>6</sup> In this study, Cronbach's alpha coefficients for all questions were 0.88.

**Table 1. Description of solution-focused strategies therapy sessions<sup>11</sup>**

<p>First session            Session Summary: The therapeutic introduction. Introduce group leaders, and get to know each other. Present community guidelines, such as timely and regular attendance at meetings and the need for empathy and assignments in line with the principle of confidentiality, community participation, involvement in-group discussions. Production of strategic solution-focused therapy sessions</p>
<p>Second session            Think of the things that you are doing in a troubling situation. Define the issue. Invite clients in one word to tell the problem, and turn that one word into a sentence. Turn the issue into achievable goals. Debate on the issue</p>
<p>Third session            Summary of the session: Reviewing the assignment and review of the previous session, Goal setting.            Review complaints solution. Formulation of problem-solving rings</p>
<p>Fourth Session            Summary of the Session: Reviewing the assignment and review of the previous session, talk about the future, imagine a time in the future where you do not have the question that you are having. Use the art of exceptions and miracle questions. Find a positive story. Homework: Performing a session.</p>
<p>Fifth Session            Summary of the session: Review the assignment and review of the previous session, Explain the art of the key switch and use it. Use of scale technique. Homework: Do a session exercise.</p>
<p>Sixth Session            Summary of the session: Review the assignment and review of the previous session, Continue the art of the key switch and use it. Use of homework and demonstration techniques to use solution-oriented questions. Use a misguided argument and contradictory betting. Homework: Do a session exercise.</p>
<p>Seventh Session            Summary and brief of the Session: Reviewing the assignment and reviewing the previous session, Use graded questions. Determine whether clients have achieved treatment goals</p>

## Results

According to this study, subjects in the age group of 25-31 years had the highest frequency of subjects at 14 while subjects in the age group of 32-38 years had the lowest number at 7. Postgraduate subjects with a frequency of 14 people have the lowest frequency, while undergraduate subjects with a frequency of 18 people have the highest frequency.

As shown in table 4, the mean and SD scores of coronary anxiety for the experimental and control groups in the pre-test were (38.63±4.41) and (37.94±5.57), respectively, in the post-test were (17.44±5.47 and 39.31±6.09), respectively. Also, the mean and SD scores of mental endurance for the experimental and control groups in the pre-test were (85.38±9.95) and

(89.50±8.43), respectively, in the post-test were (152.31±13.78) and (89.81±12.95), respectively.

In table 4, it is apparent that there is a significant difference between the experimental and control groups regarding dependent variables, with a significant level of less than 0.01. The calculated effect size indicates that 93% of the total variance between experimental and control groups is due to the independent variable.

From table 5, it can be seen that the solution-oriented strategic approach had a positive effect on coronavirus anxiety ( $F=172.245$ ,  $Pvalue<0.01$ ) and mental toughness ( $F=246.518$ ,  $Pvalue<0.01$ ) in the experimental group compared to the control group post-test, respectively.

**Table 2. Describing demographic characteristics of participants**

Demographic variable		Frequency	Percent
Age	18 to 24 years	11	34.3
	25 to 31 years	14	43.7
	32 to 38 years	7	21.8
Education	MA	18	56.25
	M.Sc.	14	43.7

**Table 3. Comparing the solutions-based interventions between two groups on pretest and posttest**

Variables	Groups	Experimental	Control
		Mean±SD	Mean±SD
Coronavirus anxiety	Pre-test	38.63±4.41	37.94±5.57
	Post-test	17.44±5.47	39.31±6.09
Mental toughness	Pre-test	85.38±9.95	89.50±8.43
	Post-test	152.31±13.78	89.81±12.95

**Table 4. Results of multivariate analysis of covariance (MANCOVA) on post-test scores coronavirus anxiety and mental toughness in experimental and control groups**

Presumptions	size	F	Df hypothesis	Df error	Pvalue
Pillai's trace	0.935	193.424	2	27	0.001
Wilk's lambda	0.065	193.424	2	27	0.001
Hotelling's trace	14.328	193.424	2	27	0.001
Roy's greatest root	14.328	193.424	2	27	0.001

**Table 5. Results of ANCOVA on post-test scores of coronavirus anxiety and mental toughness**

Group	Variable	SS	DF	MS	F	Pvalue	Eta
Post-test group	Coronavirus anxiety	3229.732	1	3229.732	172.245	0.001	<b>0.86</b>
	Mental toughness	32819.096	1	32819.096	246.518	0.001	<b>0.89</b>

## Discussion

The purpose of this study was to evaluate the effectiveness of a strategic approach to coronavirus anxiety and mental toughness in female students during the peak of the Coronavirus outbreak. According to the results, it showed that the strategy was more effective in reducing corona anxiety and mental toughness in the experimental group than in the control group post-test. These results are in agreement with those of previous studies that applied this approach to their research, such as Alipour et al.<sup>6</sup> Aboobakri Makoei et al.<sup>11</sup>, Chen<sup>12</sup> and Barzegar et al.<sup>16</sup>

During the quarantine, the person's life routine is disrupted, and therefore, they are less capable of anticipating and planning their future. The sense of insecurity is strengthened because of feeling as though one has less control over life than they once had. As a fundamental need of humankind, security is defined by Maslow as the ability to predict the future. This insecurity causes anxiety. Menec et al. (2009) stated that anxiety is the most important feature of critical conditions, and the predictor of the future has the greatest share of its development.<sup>17</sup> We can add fear of patients, fear of death, fear of material problems, fear of job loss, and other factors.<sup>8</sup> The solution-centered approach that relies on the resources of clients and creates solutions to their problems helps them overcome their

anxiety. Through this approach, people are also able to strengthen their emotions using various techniques. Because of the treatment sessions, participants found new solutions for their concerns and interpersonal relationships, and their feelings of being able to reduce their problems significantly, as well as reducing their anxiety against problems and stress.<sup>16</sup>

To understand the effectiveness of a strategic approach on mental toughness, by new perspectives, mental toughness means a high level of physical, psychological, and social toughness; Consequently, any deficiency in each dimensional will have a direct or indirect impact on the other dimensions, therefore, it is necessary to consider how psychological factors and social factors affect mental toughness.<sup>18</sup> It is common for social and individual structures of life to get confused in critical situations. When individual structures are distressed, this reduces the control of the individual and reduces the probability of life during life.<sup>18,19</sup> Accordingly, this study showed that the solution-based approach could assist references incorrectly identifying the risks, barriers, and crisis points of their lives and in providing them with appropriate insight into the capabilities and resources of the individual's support system. Treatment and intervention are based on a common activity between the therapist and the readers to find and focus on the solutions of exposure to problems and crises, not focusing on these crises themselves.<sup>20,21</sup>

Due to the focus on the future of every individual, this approach emphasizes people's awareness of their capabilities and creating this belief that people can effectively handle issues and problems helps to increase their mental toughness. Furthermore, in therapy sessions, when the students' focus shifted from concerns to solutions, they were able to find appropriate solutions to their concerns with the support of the therapist. As participants in this study were successful in finding solutions to a variety of issues and saw small changes in how they used these solutions in their lives and relationships, they developed a hope to make bigger changes. Additionally, by finding and extracting the exceptions to the lives of the students, they discovered that there were times in their lives when they had no concerns, or there were less intense situations that had behaviors, and they did not currently have any difficulties, and, in the process of treatment, they could re-create those times in their lives.<sup>11</sup>

Future research should combine the variables of the present study with controls for age and education level and compare the results with the results of the present study. Researchers recommend that this intervention be evaluated with subjects of different ages, as well as with both male and female students. Further research should consider assessing the stability and continuity of treatment during the follow-up phase. A solution-oriented strategic approach can be used by therapists and health professionals to improve coronavirus anxiety and mental toughness, based on the results of the current study. Because the statistical population had been made up of female students during the Corona outbreak, the results should be generalized to students in other cities. In using self-report tools, individuals may not have answered the questionnaires or described their problems accurately, and the influence of human factors may have resulted in some limitations. Additionally, this study was conducted on female students, so the results cannot be

generalized to male students. Because of the absence of a follow-up phase, the continuity of treatment has not been examined.

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## Conflict of Interest

The authors declare that they have no conflict of interest.

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