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Determining the relationship between anxiety levels, stress coping styles, and emotional eating of women in the COVID-19 pandemic[☆]

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ABSTRACT

Purpose: This study aimed to determine the relationship between women's anxiety levels and their style of coping with stress and emotional eating in the COVID-19 pandemic.

Methods: This is a cross-sectional study and data were collected using online surveys. The sample of the study consisted of 450 women between the ages of 18–65, who have no understanding and perception problems, and who are willing to participate in the study. The data were obtained using the “Introductory Information Form”, “Coronavirus Anxiety Scale”, “Stress Coping Styles Scale” and “Emotional Eating Scale”. Descriptive statistics, Pearson correlation analysis and multiple regression analysis were used to analyze the data.

Results: Increased emotional eating was increased helpless approach, submissive approach and Coronavirus anxiety increase while decreasing the self-confident approach. Increased Coronavirus anxiety was increased the total scores of helpless approach, submissive approach, disinhibition, guilt, and emotional eating increased while decreasing the scores of the self-confident approach and optimistic approach. BMI, weight change in pandemic, age, self-confident approach to coping with stress and helpless approach score explained emotional eating 30.8 %.

Conclusion: Considering the emotional eating score average (11-20), women were emotional eating, and their Coronavirus anxiety score was below the average. In minimizing emotional eating in women, first of all, emotional eating awareness should be created, and it is recommended to increase their awareness of stress coping styles for the stress that causes this situation.

Introduction

The COVID-19 pandemic is a disease that threatens health due to its gradually spreading physical, mental and social effects. In particular, it has led to an increase in mental disorders in the society (OECD, 2021). As of 23 May 2022, 522,783,196 Coronavirus cases and 6,276,210 deaths have been reported by WHO (2022). In Turkey, when the current data are examined, the number of 14,775,634 cases and 97,666 deaths were reached on 19–25 March 2022 (Ministry Health, 2022).

The psychosocial impact of the COVID-19 pandemic is expected to continue as governments and health care facilities in many countries take strict measures to prevent the spread of the disease. The concurrent effects of the social isolation imposed by quarantine measures to contain the spread of the virus on the mental health of today's people, who have

never faced such a practice before, have yet to be adequately explored. Considering factors such as workplace, childcare, and distance learning during the pandemic, we know that women are more stressed and affected by the process. The high level of depression, anxiety, and health fears among women during the pandemic COVID 19 also show the psychological impact of the epidemic on women (Özdin and Bayrak Özdin, 2020). It has been shown that the intensity of people's anxiety and the way they cope with stress are closely related to their physical and mental health (Maner and Aydın, 2007; Bennett et al., 2013). Öner and Le Compte (1983) state that a person's perception of a situation as dangerous and threatening can cause an increase in negative emotions. The long and intense duration of stressful situations or events can trigger depressive and anxiety symptoms in people (Hammen, 2005; Kendler et al., 2003). However, some studies show that people's perceived stress

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and incompatible coping strategies play an important role in developing eating disorders (Ball & Lee, 2000; Stader & Hokanson, 1998). Striegel-Moore et al. (1989) showed that there is a positive relationship between eating disorder symptoms and student anxiety. Similarly, in the study conducted by Nelson et al. (1999) with a non-clinical group, it was found that the level of anxiety was related to the deterioration of the subjects' eating behavior. However, different coping or emotion regulation strategies shape responses to anxiety (Martin & Dahlen, 2005). When people encounter a situation that triggers anxiety, emotional tension, and feelings that disturb, they may be negatively affected (Bruch, 1941). An examination of the literature shows that people with emotional eating behaviors use their eating behaviors as a coping method to get rid of negative emotions or anxiety-provoking situations. This eating behavior is often associated with disordered eating behaviors such as excessive dieting and binge eating (Spoor et al., 2007). Studies show that emotional eating is mainly associated with bulimia nervosa and binge eating episodes (Birgegård et al., 2013). Thus, emotional eating is thought to be related to disordered eating behaviors. For example, it has been suggested that individuals who are prone to binge eating in the face of a negative situation do so to feel better and overcome disturbing emotions (Heatherton & Baumeister, 1991). Wallis and Hetherington (2009) found that individuals who tend to engage in emotional eating behaviors in the face of anxiety do not reduce their anxiety during or after eating but, on the contrary, increase their current negative emotions and engage in more eating behaviors in the face of increased negative affect. However, it is shown that people with a binge-eating disorder and people with a healthy and average body weight regulate negative emotions through eating (Macht, 2008; Clum et al., 2014). Similarly, Rodin (1981) states that emotional eating behaviors are not unique to overweight individuals but are also seen in thin or normal-weight individuals. It has been found that the tendency to eat unhealthy, high-calorie foods increases, especially when the level of anxiety in people's lives increases. When positive emotions grow, people tend to consume more healthy foods (Zellner et al., 2006). İnalcaç and Arslantaş (2018) states that people's eating behaviors are more controlled in the face of positive emotions than negative emotions.

Emotional eating can lead to psychological distress as well as its negative effects on health (Bemania et al., 2021). It has been determined that the increase in emotional eating behaviors during the pandemic process causes an increase in mental problems such as depression, anxiety, and stress (Cecchetto et al., 2021). In a study conducted in Norway during the pandemic process, it was determined that emotional eating is more common in women and is seen in more than half of the samples (54 %) (Bemania et al., 2021). In another study conducted in Turkey, it was determined that emotional eating scores of women were high and emotional eating was common in obese people (Madalı et al., 2021). Therefore, the present study aimed to determine the anxiety level of women who are believed to be more affected due to their role in the COVID-19 pandemic in Turkey and belong to a disadvantaged group due to their gender. In addition, the relationship between coping styles and emotional eating, which is more prevalent among women, and the influence of psychosocial and demographic factors were determined. In particular, the influence of anxiety on eating habits was investigated. It is planned to pay particular attention to social characteristics that characterize the quality of life during quarantine, such as changes in workload and type of employment, degree of social isolation, and quality of stay at home. Most importantly, unlike other studies that focused only on anxiety and stress at certain stages of women's lives (such as pregnancy or reproductive age), the psychological impact on all women in quarantine, their coping styles, and the effect of these changes on eating behaviors were identified to understand their differences better.

Methods

This cross-sectional online survey research was conducted with

women living in Turkey. A random sampling method was used to select the sample. The criteria for participation in the study are women between the ages of 18 and 65 who agree to participate in the study, can read and write Turkish, and have no problems with their comprehension skills. Four hundred fifty women who met the research criteria were reached. The research data were collected online using a Google form. The individuals were sent an electronic link via social network (WhatsApp, Facebook, and Instagram) and asked to share it. The data were collected between 15/02/2021 and 30/04/2021. In this study, after data collection, the program "G. Power-3.1.9.7" was used to calculate the power of the study with a margin of error of 0.05. Accordingly, the study's effect size was the alpha value was calculated as 0.05, and the power was calculated as 100.

Data collection tools

"Introductory Information Form," "Coronavirus Anxiety Scale," "Coping Stress Scale," and "Emotional Eating Scale" were used for the study.

Introductory information form

This form was designed to collect introductory information about women. It contains information such as age, height, body mass index, marital status, occupation, number of children, educational status, weight change during the pandemic, and COVID-19.

Coronavirus Anxiety Scale (CAS)

In the study, a brief mental health screening, CAS, developed by Lee in 2020, was used to identify possible cases of dysfunctional anxiety associated with the COVID-19 crisis (Lee, 2020). Biçer et al. conducted Turkish validity for our country in 2020 (Biçer et al., 2020). The internal consistency coefficient Cronbach's alpha of the scale was reported to be 0.80. The CAS is a 5-point Likert scale. The scale consists of 5 questions and one dimension. The scale was scored as "0" "never," "1" "rarely, less than a day or two," "2" "a few days," "3" "more than seven days," and "4" "almost daily in the last two weeks." The highest value of the scale is 20, and a value of 9 or more is interpreted as a high level of anxiety. In this study, the internal consistency coefficient Cronbach's alpha of the scale was 0.81.

Coping Stress Scale

This 30-item "Coping Stress Scale" was developed using the "Coping Ways Inventory" developed by Lazarus and Folkman (1984) after that adapted into Turkish by Şahin and Durak (1995). The Likert scale "Coping Stress Scale" is ranked between 0 and 3 (0 = 0 %, 1 = 30 %, 2 = 70 %, 3 = 100 %) and scores are obtained for each subscale. When scoring the scale, items 1 and 9 are scored in reverse order. The higher the score a person gets on the questions, the better they fit that question. Şahin and Durak (1995) found that the scale consists of five factors: Self-confident approach (SCA), helpless approach (HA), submissive approach (SA), optimistic approach (O.A.), and seeking of social support (SSS). The internal consistency coefficients of Cronbach's alpha ranged from 0.49 to 0.68 for the optimistic approach, 0.62–0.80 for the self-confident approach, 0.64–0.73 for the helpless approach, 0.47–0.72 for the submissive approach, and 0.45–0.47 for the seeking of social support factor. In this study, the internal consistency coefficient Cronbach's alpha of the scale was 0.74.

Emotional Eating Scale

The Emotional Eating Scale developed to assess emotional eating behaviors (Garaulet et al., 2012) consists of 10 items and three sub-dimensions (disinhibition, types of eating, guilt). It is answered on a Likert scale with four options ("0" Never, "1" Sometimes, "2" Usually, and "3" Always). There is no reverse item on the scale. The lowest score, "0," and the highest score, "30," are taken out of the scale. High scores on the scale indicate a high level of emotional eating. Arslantaş et al.

(2020) found that the Turkish version of the scale has a three-factor structure like the original scale: Disinhibition, type of food, and guilt. The internal consistency coefficients of the three dimensions of the scale, which were created according to the factors, were 0.81 for the disinhibition dimension, 0.57 for the Type of Food dimension, 0.64 for the Guilt dimension, and 0.84 for the whole scale. It was found that 10 % of the individuals with the most pronounced tendency to emotional eating scored 21 and above. The authors suggest that it would be more appropriate to work with the total scale score. In this study, the internal consistency coefficient Cronbach's alpha of the scale was reported as 0.88.

Data evaluation

Data analysis were done using the program SPSS-version 25.0. Parametric tests were used for statistical analysis as the data met the assumptions of the parametric tests by giving numbers, percentages, and averages in the breakdown of the data. Person correlation analysis was used to test the relationship between the variables. Stepwise regression analysis was used to determine the variables that predict emotional eating in women.

Ethical approval

The Human Research Ethics Committee of Sinop University approved the study (dated 11/02/2021, decision number 2021/2). In addition, since the study took place during the pandemic, research approval was obtained from the Ministry of Health and Scientific Research. First of all, the necessary approvals and permissions were obtained for the research, and then the online form was prepared by the researchers. In the form, it was explained in the first place that the purpose of the research, that it was carried out on a voluntary basis, and that they could withdraw from the study if they did not want to while answering the research questions. In this research, which was carried out for scientific purposes, care was taken to protect the rights of the participants.

Results

The mean age of participants in the study was 30.25 ± 10.70 years. 60.7 % of the participants are single, 67.1 % have a university graduate, 64.7 % estimate their monthly income as good, 35.3 % are officer (public service), and 58.2 % do not work during the pandemic. It was found that 98.9 % of the participants took precautionary measures against COVID-19, 49.6 % of these measures included self-quarantine practices, use of masks, distancing, and hand hygiene together, 70.0 % had a weight change during the pandemic, and 56.6 % gained 1 to 10 kg. Some sociodemographic characteristics of the participants are shown in Table 1.

The mean scores of the scales used in the study are shown in Table 2. The mean score of Emotional Eating is 11.31 ± 6.32 . Looking at the mean score of the sub-dimensions of the scale, the mean score of the sub-dimension disinhibition is $6.30 + 4.05$, the mean score of the sub-dimension type of food is 2.81 ± 1.50 , and the mean score of the sub-dimension guilt is 2.19 ± 1.59 . The Coronavirus Anxiety total score is 2.54 ± 3.07 . The participants were classified as emotional eaters (11–20) according to the mean score of their emotional eating. Examining the Stress-Coping Style Scale sub-dimensions, the mean score of self-confident approach sub-dimension is 1.93 ± 0.56 , the mean score of optimistic approach sub-dimension is 1.57 ± 0.59 , the mean score of helpless approach sub-dimension is 1.46 ± 0.57 , the mean score of submissive approach sub-dimension is 1.01 ± 0.44 , and the mean score of social support sub-dimension is 1.80 ± 0.57 (Table 2).

The relationship between emotional eating, Coronavirus anxiety, and stress coping styles is shown in (Table 3). As the value of emotional eating increased, the helpless approach, submissive approach, and Coronavirus anxiety increased, and the confident approach decreased. When the optimistic approach increases, the total score of Coronavirus

Table 1
Demographic characteristics of participants.

| Properties | n | % |
|---|-----|------|
| Marital status | | |
| Married | 177 | 39.3 |
| Single | 273 | 60.7 |
| Level of education | | |
| High school graduate | 72 | 16.0 |
| University graduate | 302 | 67.1 |
| Postgraduate | 76 | 16.9 |
| Monthly income | | |
| Bad | 63 | 14.0 |
| Middle | 96 | 21.3 |
| Good | 291 | 64.7 |
| Profession | | |
| Housewife | 70 | 15.6 |
| Officer (public service) | 159 | 35.3 |
| Employee | 20 | 4.4 |
| Self-employment | 17 | 3.8 |
| Retired | 17 | 3.8 |
| Student | 158 | 35.1 |
| Private sector | 9 | 2.0 |
| Body mass index | | |
| Weak | 39 | 8.7 |
| Normal | 278 | 61.8 |
| Lightweight | 100 | 22.2 |
| Obese | 33 | 7.3 |
| Working status in the pandemic | | |
| Working from workplace | 119 | 26.3 |
| Working from home | 50 | 11.1 |
| Part-time | 20 | 4.4 |
| Not working | 263 | 58.2 |
| Are you taking precautions to avoid getting Covid? | | |
| Yes | 445 | 98.9 |
| No | 5 | 1.1 |
| Has there been any weight change during the pandemic process? | | |
| Yes | 315 | 70.0 |
| No | 134 | 29.8 |

Table 2
Mean scores of emotional eating, coronavirus anxiety, and stress coping styles.

| | X ± SS | Min-max |
|------------------------------------|--------------|---------|
| Emotional eating | | |
| Disinhibition | 6.30 + 4.05 | 0–18 |
| Type of food | 2.81 + 1.50 | 0–6 |
| Guilt | 2.20 + 1.60 | 0–6 |
| Total score | 11.31 + 6.32 | 1–30 |
| Coronavirus anxiety total score | 2.54 + 3.07 | 0–20 |
| Styles of coping with stress scale | | |
| Self-Confident Approach (SCA) | 1.93 + 0.56 | 0–3 |
| Optimistic Approach (OA) | 1.57 + 0.59 | 0–3 |
| Helpless Approach (HA) | 1.46 + 0.57 | 0–3 |
| Submissive Approach (SA) | 1.01 + 0.44 | 0–2.67 |
| Seeking of Social Support (SSS) | 1.80 + 0.57 | 0–3 |

anxiety, disinhibition, and emotional eating decreases. As the Coronavirus anxiety increased, the total scores of the helpless approach, submissive approach, disinhibition, guilt and emotional eating increased, while the self-confident and optimistic approach scores decreased. Stepwise regression analysis was used to determine the predictive values of the variables predicting emotional eating (Table 4).

As seen in Table 4 showed that in the first stage of the stepwise

Table 3
The relationship between emotional eating, coronavirus anxiety, and coping styles with stress.

| | | Emotional eating | | | | Coronavirus Anxiety Total Score |
|---------------------------------|-----|------------------|--------------|----------|-------------|---------------------------------|
| | | Disinhibiton | Type of food | Guilt | Total score | |
| Styles of coping with stress | SCA | -0.177** | -0.134** | -0.125** | -0.177** | -0.204** |
| | OA | -0.115* | -0.088 | -0.085 | -0.116* | -0.214** |
| | HA | 0.324** | 0.288** | 0.344** | 0.364** | 0.194** |
| | SA | 0.172** | 0.206** | 0.177** | 0.204** | 0.109* |
| | SSS | -0.062 | -0.045 | -0.013 | -0.054 | -0.079 |
| Coronavirus Anxiety Total Score | | 0.147** | 0.096* | 0.144** | 0.153** | - |

** $p < 0.01$.

* $p < 0.05$.

Table 4
Results of stepwise regression analysis in the prediction of emotional eating.

| Variables | B | S.H | β | t | p | VIF |
|--|--------|-------|---------|--------|-------|-------|
| Stage 1 | | | | | | |
| Constant | 6.171 | 1.889 | | 3.266 | 0.001 | |
| BMI | 39.650 | 6.729 | 0.263 | 5.893 | 0.000 | 1.029 |
| Weight change | -3.190 | 0.610 | -0.233 | -5.226 | 0.000 | 1.029 |
| $R = 0.379$ $R^2 = 0.144$ $F = 37.241$ $p < 0.001$ | | | | | | |
| Stage 2 | | | | | | |
| Constant | 5.812 | 1.853 | | 3.136 | 0.002 | |
| BMI | 55.319 | 7.496 | 0.367 | 7.380 | 0.000 | 1.330 |
| Weight change | -2.786 | 0.605 | -0.203 | -4.602 | 0.000 | 1.053 |
| Age | -0.126 | 0.029 | -0.216 | -4.395 | 0.000 | 1.296 |
| $R = 0.424$ $R^2 = 0.180$ $F = 32.291$ $p < 0.001$ | | | | | | |
| Stage 3 | | | | | | |
| Constant | 4452 | 1882 | | 2366 | ,018 | |
| BMI | 57,104 | 7438 | ,378 | 7677 | ,000 | 1337 |
| Weight change | -2617 | ,601 | -,191 | -4353 | ,000 | 1061 |
| Age | -,126 | ,028 | -,215 | -4430 | ,000 | 1296 |
| Coronavirus anxiety | ,284 | ,088 | ,138 | 3224 | ,001 | 1013 |
| $R = ,446$ $R^2 = ,199$ $F = 27,331$ $p < 0.001$ | | | | | | |
| Stage 4 | | | | | | |
| Constant | 0.317 | 2.359 | | 0.134 | 0.893 | |
| BMI | 55.366 | 6.969 | 0.367 | 7.945 | 0.000 | 1.332 |
| Weight change | -2.490 | 0.564 | -0.182 | -4.418 | 0.000 | 1.089 |
| Age | -0.096 | 0.027 | -0.163 | -3.554 | 0.000 | 2.278 |
| Coronavirus anxiety | 0.141 | 0.085 | 0.069 | 1.658 | 0.098 | 2.324 |
| SCA | -1.584 | 0.672 | -0.142 | -2.357 | 0.019 | 1.407 |
| OA | 0.815 | 0.643 | 0.077 | 1.268 | 0.206 | 1.313 |
| HA | 3.244 | 0.521 | 0.294 | 6.225 | 0.000 | 1.073 |
| SA | 0.511 | 0.643 | 0.036 | 0.795 | 0.427 | 1.332 |
| SSS | 0.193 | 0.445 | 0.018 | 0.433 | 0.665 | 1.089 |

$R = 0.555$ $R^2 = 0.308$ $F = 21.542$ $p < 0.001$.

regression analysis, BMI and weight change during the pandemic explained 14.4 % of participants' emotional eating. In the second stage of the stepwise regression analysis, the variable age was included in the model and the variables BMI and weight change. The variables BMI, weight change, and age together explained 18 % of emotional eating. In the third step of the stepwise regression analysis, the Coronavirus anxiety score was included in the model. BMI, weight change, age, and the variables from Coronavirus Anxiety Scale together explained 19.9 % of emotional eating. Finally, in the fourth step of the stepwise regression analysis, the sub-dimensions of the stress coping style scale were included in the model. BMI, weight change, age, self-confident and helpless approach explained 30.8 % of emotional eating ($p < 0.001$).

Discussion

Compared to men, women have a higher risk of developing mental disorders and abnormal eating habits (Macht, 2008; Wallis & Hetherington, 2009). Therefore, women are at higher risk for health problems related to eating disorders that could be triggered or exacerbated by the pandemic. Stress appears to be the main trigger for emotional eating in

women (Bennett et al., 2013). Although anxiety, stress, and depression are the primary triggers of emotional eating, very few studies (İnalcaç & Arslantaş, 2018; Sevinçer & Konuk, 2013) have been conducted in our country to assess the extent of anxiety in the pandemic and such studies on mental health still lack in our country.

In our study, BMI and weight change were predictors of emotional eating (14 %). There are many studies in the literature showing that emotional eating behavior differs significantly according to BMI (Elmacioğlu et al., 2021; Nyklíček et al., 2011). Many studies on emotional eating have been conducted with overweight and obese individuals. Most of these studies have shown that overeating due to negative emotions occur in overweight individuals and, in contrast, reduces eating in normal-weight individuals (Ozier et al., 2008; Sevinçer & Konuk, 2013). Constant dieting and food restriction, being overweight due to dissatisfaction with one's body or low self-esteem are risk factors for emotional eating (Clum et al., 2014; İnalcaç & Arslantaş, 2018). In the study by Şimşek and Şen (2020), emotional eating behaviors increased during the pandemic process. In another study conducted with women during the COVID-19 process showed that body mass index and stress were among the predictors of emotional eating (Al-Musharaf, 2020). Elmacioğlu et al. (2021), in their study on emotional eating, reported that emotional eating increased significantly in individuals who fell into the normal or overweight category according to BMI score. In the same study, it was emphasized that it should be kept in mind that maintaining emotional eating behaviors might lead to an increase in obesity prevalence in the long term, as in overweight individuals who are at risk for developing obesity in individuals with normal BMI. Our research has shown the effects of COVID-19 anxiety on emotional eating in overweight and obese individuals and normal-weight individuals. In line with the findings and the literature, health professionals should regularly carry out BMI controls in the society, and fulfill the role of directing other disciplines in deviations from standard measurements in individuals.

In addition to Body Mass Index, people's weight change also affects their eating behavior. This study shows that the emotional eating behaviors of the women who participated in our research are affected by weight changes. It was asked whether body weight changed during the COVID-19 pandemic and social isolation, and 59 % of the participants reported that their body weight increased in the process. In another study of 1036 individuals, 35 % of participants reported that their body weight increased in the process. In a study that examined the effects on eating habits and lifestyle during the COVID-19 study, 32.4 % of participants reported a change in weight (Galali, 2021). The reason for our high rate of study results is likely that our participants are exclusively female, where emotional eating is more common. The results show that people who experience weight change exhibit more emotional eating. In a study conducted with forty-four women aged 25–42 years to investigate the effects of emotions caused by sudden life changes on food intake, it was shown that negative emotional changes affect the body-weight of individuals by causing higher energy intake than in typical daily life (Aguilar-Bloemer & Diez-Garcia, 2018). Weight gain in individuals, during the COVID-19, process is a risk factor for various

chronic diseases. Based on this finding, health professionals should pioneer behavioral changes with training programs for the development of healthy life awareness in individuals.

This study, involving women aged 18–65 years, showed that emotional eating decreases with age. Youth mental health problems are more common during the COVID-19 pandemic process (Ustun, 2020, Serin and Koc, 2020). Like our study, Pak et al. (2021) reported a negative correlation between age and emotional eating in pandemic process. Another study conducted during the pandemic determined that emotional eating scores were higher in the 21–23 age group (Serin and Koc, 2020). Again, a large-scale study conducted in Norway during the pandemic stated that emotional eating is common in younger age groups (Bemania et al., 2021). With the restriction of social life with COVID-19, the length of stay at home has been prolonged. Eating behaviors increase due to the fact that individuals are more exposed to the smell and appearance of food at home (Serin and Koc, 2020). In another study, Kontinen et al. (2010) showed in their population-based survey that there is a significant relationship between age and emotional eating. Although anxiety and stress are an inseparable part of modern everyday life, research shows that young people experience more stress than the general population, so it is believed that the most crucial reason for the age difference is anxiety and stress (Beiter et al., 2015). Bennett et al. (2013) found that the two strongest emotions experienced by young people are happiness and stress. Considering that emotional eating is used as a coping strategy, it is reasonable to assume that young people use this strategy to cope with stress. Nguyen-Rodriguez et al. (2008), in a study of 517 young participants, showed that stress has a strong association with emotional eating in young people. It is suggested that in addition to the greater stress and anxiety they experience, eating habits may also affect increased emotional eating in young people. Studies show that college students eat more unhealthy foods in response to stress (Clum et al., 2014; Kandiah et al., 2006). According to Macht's (2008) three-stage model of emotional eating, in the first stage, people eat small amounts of food to cheer themselves up and lift their mood. These are usually high-energy and delicious foods (such as chocolate, sugar). So, considering that fast food and high-energy foods are more common in the daily diet of young people than middle-aged people, it can be said that their eating habits also contribute to more emotional eating.

Research shows that people with high scores on emotional eating have significantly higher scores on coronavirus anxiety. This finding is consistent with the literature on anxiety and emotional eating (Bennett et al., 2013). In their study, Kontinen et al. (2010) found that people lose control of their eating behavior in the face of negative emotions and eat more than usual. It was found that individuals with emotional eating behaviors experience negative emotions more than positive emotions and that an increase in positive emotions is negatively associated with emotional eating behaviors. In the face of negative emotions, individuals may engage in uncontrolled emotional eating behaviors to distract themselves from the emotion and gain immediate relief (Stice et al., 2002). The tendency to eat in the direction of perceived negativity is typical and has been associated with weight gain (Van Strien et al., 2016). Emotional eating has been reported to mediate the relationship between increased depressive symptoms and increased BMI in women living in the New Orleans metropolitan area after Hurricane Katrina (Clum et al., 2014). Schneider et al. (2010) examined the relationship between emotional eating and anxiety and anger in two groups of overweight and thin individuals. Accordingly, it was found that high anxiety was associated with more emotional eating in obese individuals. In addition, Hearon et al. (2013) reported that anxiety sensitivity was associated with emotional eating, eating as a coping strategy, and loss of control. In the face of anxiety, people exhibit excessive eating behaviors as a strategy to cope with negative emotions. It is thought that these individuals' lower emotion regulation skills and the fact that they learned to eat at a young age to cope with anxiety contribute to their use of eating as a coping tool. The psychosomatic theory states that eating is learned at a young age to relieve anxiety. Thus, people have learned to

eat to alleviate their anxiety because they eat to alleviate their feelings of hunger (Ainsworth, 1979). This is a coping approach. In our study, the helpless approach, the submissive approach, and seeking of social support were identified as predictors of emotional eating. Developing effective coping strategies for individuals will increase the preventive health services of the society. Health workers should take a role in supportive programs in this regard.

The study found that greater use of the helpless approach, the submissive approach, and seeking of social support increased emotional eating. Similar to the results of our study, a previous study showed that the risk for emotional eating was much higher in groups with low social support (Stice et al., 2002). It is believed that helpless, submissive, and accusatory thoughts that blame the individual for his or her experiences in the face of an adverse event or situation may increase the person's negative feelings, and the person seeks relief in the face of these intense negative emotions through eating behaviors (Garnefski et al., 2001). Epli Koc (2006) state that people use emotion-focused coping strategies to feel better in the face of adverse situations that strain their resources and cannot be managed. From this point of view, it can be said that emotional eating behavior is an emotion-focused coping strategy that aims to self-regulate emotions to alleviate or eliminate negative emotions.

Conclusion

Individuals have been able to develop different strategies and behavior patterns in the management of stress together with the life changes caused by the pandemic. Emotional eating, which is one of these behaviors, can affect women's mental health and lead to an increase in stress. The study found that the women were emotional eaters based on the average emotional eating score (11–20), and their COVID-19 anxiety score was below average. The present findings are of great significance in revealing the variables contributing to the development of emotional eating in women during the pandemic. Our findings provide a framework for developing clinical and educational interventions to mitigate the pandemic's short- and long-term adverse effects on women's future health.

During the COVID-19 pandemic, healthcare professionals and nurses have played various roles in protecting and improving the health of the community. Establishing counselling programs for the risk group in eliminating the long-term effects will ensure that the process is passed in a healthy manner. For this reason, nurses can perform individual and group intervention approaches in line with their counselling roles for women with high emotional eating scores. Thus, positive development of mental health outcomes can be achieved by coping with emotional eating behaviors that may affect the ideal woman image. This study also aids in formulating and implementing international and national health policies focused on improving women's health. To minimize emotional eating among women, awareness of emotional eating should first be created. It is recommended to raise their awareness of stress management styles for the stress that causes this situation.

Limitations of the research

There are several limitations in the research. One of the limitations is that the study is based on the self-reports of the participants. It is assumed that the participants provided correct information. Since the research data was collected online, individuals who did not have online access were not included in this study. Since the research sample consists of females aged 18–65, the generalizability of the data is low as it does not include females in the other age group. It is a cross-sectional study showing the relationship between variables. Data on causality was not collected.

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Declaration of competing interest

The authors declare that they had no actual or potential conflict of interest.

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