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Examination of Individuals' Level of Fear of COVID-19, Fear of Missing Out (FoMO), and Ruminative Thought Style

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Abstract

In the current study, it was aimed to examine the relationships between individuals' fear of COVID-19, fear of missing out (FoMO), and ruminative thought style levels. The participants consisted of 408 individuals aged between 17-68, of which 110 were male and 298 were female. In this study, The Fear of COVID-19 Scale, Fear of Missing Out Scale, and Ruminative Thought Style Questionnaire were used in order to collect data. Relational survey method was used in the research. In the mediation analysis, it was observed that the ruminative thought style has a mediator role in the relationship between FoMO and fear of COVID-19. According to the findings, women have a higher fear of COVID-19 and ruminative thought style levels than men, besides that married individuals' fear of COVID-19 level is higher than single individuals, but FoMO and ruminative thought levels are lower.

Keywords: Fear of COVID-19, Fear of Missing Out, Ruminative Thought Style

Introduction

The world is currently facing a virus that emerged in Wuhan, China, and threatened public health. Coronavirus, a family of viruses that includes viruses such as the common cold, Severe Acute Respiratory Syndrome (SARS), and Middle East Respiratory Syndrome (MERS) has been temporarily named as 2019-nCoV, then updated to COVID-19. However, coronaviruses are easily transmitted from person to person, and there are several coronavirus subtypes that can be seen in humans, but these subtypes often cause colds in humans. There are also many coronavirus subspecies detected in animals. It is stated that these viruses can transmit from animals to humans and cause severe diseases in humans (Ministry of Health, 2020). It is seen that the studies on the novel coronavirus, which have influenced the world since its emergence, are focused on the field of physical health. However, the effects of coronavirus on psychological health are thought to be too important to be ignored.

Coronavirus that spreads rapidly and becomes a pandemic, caused more stringent precautions to protect people's health and the health of people around them. Especially with the confirmation of the first coronavirus case on March 11 in Turkey, the government like all countries facing this virus has taken the necessary precautions to prevent the spread of coronavirus, including interruption of education and closure to the usage of shopping centers, theatres, gyms, places of worship, and various transportation vehicles. Besides, citizens have entered the voluntary quarantine process and continue their lives by avoiding physical contact, not being in crowded environments, and isolating themselves unless it is mandatory. Therefore, it can be said that coronavirus has important effects on the psychological health of the individual, a psychosocial entity. Several reactions of individuals may depend on the personality traits, experiences, and mood in a situation that creates fear and stress, such as the coronavirus outbreak. In the research conducted by Satici, Gocet-Tekin, Deniz, & Satici, (2020), it was found that the fear of COVID-19 increased the levels of depression, anxiety, and stress in individuals however the life satisfaction level of individuals who frequently think of COVID-19 decreased. Especially in the process of social isolation individuals are away from their social environment, unable to establish a social bond as a result of not meeting with friends, friends, romantic partners or family members. This situation may bring intense use of technology. It can be said that social media, which allows individuals to communicate with other individuals who compose their social network at any time, can be used more particularly in the COVID-19 process. It is stated that the uncontrolled use of social media, which is thought to be a useful source for the socialization of individuals initially, has caused some problems for individuals. One of the aforementioned problem areas is the concept of FoMO composed by coding the first letters of the words Fear of Missing Out (Gil, Chamarro, & Oberst 2015).

FoMO was used for the first time by Morford (2010) and its effect on behaviour was first examined in the James Walter Thompson Intelligence report (JWT Intelligence, 2012). In the study, FoMO is defined as being aware of the short-term positive experiences that occur in the environment where the individual is absent and desiring them with his/her own will, but the negative affect that they encounter when they are deprived, in accordance with the experience of 70% of participants between the ages of 18-34 (Hayran, Anik, & Gürhan-Canli, 2016). In other words, it is the sense of deprivation experienced by the individual against the positive experiences that occur in the environment where she/he is not (Hayran, Anik, & Gürhan-Canli, 2017). However, many researchers have emphasized that FoMO can reflect the anxiety or obsession caused by social media fears. (Przybylski, Murayama, DeHaan, & Gladwell, 2013; Dossey, 2014; Gökler, Aydın, Ünal, & Metintaş, 2016; Eşitti, 2015; Hoşgör, Koç-Tütüncü, Gündüz-Hoşgör, & Tandoğan., 2017). The negative emotions caused by FoMO cause the individual to be jealous or to envy other people's social life and to experience exclusion (Hetz, Dawson, & Cullen, 2015; Reagle, 2015). FoMO causes individuals to feel lonely when they spend time outside of social networks, as well as trying to satisfy their needs of love and care that they think are not enough in their daily lives with social media posts (Dossey, 2014). It can be said that FoMO is a problematic concept with these feelings and behaviours.

In addition to the studies in which there is a relationship between FoMO and social media addiction (Beyens, Frison, & Eggermont, 2016; Oberst, Wegmann, Stodt, Brand, & Chamarro, 2017), there are many studies stating that FoMO is associated with psychological well-being and problematic internet use (Stead and Bibbly, 2017), sleep disorder (Rogers & Barber, 2019), stress (Beyens et al., 2016), depression, anxiety and physical symptoms (Baker, Krieger, & LeRoy, 2016; Elhai, Levine, Dvorak, & Hall, 2016; Kartol & Peker, 2020), high inner and external motivation (Al-Menayes, 2016), self-efficacy (Erdoğan & Şanlı, 2019), life satisfaction (Błachnio & Przepiórka, 2018), nomophobia (Arslan, Tozkoparan, & Kurt, 2019), lack of love and respect and satisfaction with life (Przybylski et al., 2013), impulsivity (Ercengiz, 2020) variables in literature.

Individuals with high FoMO level experience uneasiness and fears such as “Who is sharing what, where, what right now?”, “I wonder if I missed anything?”, “I wonder if I was left out of the topic discussed?” and spend a lot of time checking their smartphones frequently (Gökler et al., 2016). In this context, it can be thought that FoMO triggered the occurrence of repetitive thoughts and behaviours in the individual.

Rumination is defined by Nolen-Hoeksema, Wisco and Lyubomirsky (2008) as focusing on the negative emotional state, symptoms, or causes and consequences of this situation in a passive and repetitive manner, instead of solving the individual's problem and trying to change the things that cause own restlessness or distress. It is stated that people with ruminative thoughts can produce some solutions, but they are insufficient to implement these solutions (Lyubomirsky, Tucker, Caldwell, & Berg, 1999). However, ruminative thoughts can also arise towards oneself, others, past, present, future, and completed, incomplete or different situations (Papageorgiou & Wells, 2004). When viewed from this perspective, it is seen that rumination is not only a situation arising from past experiences.

Nolen-Hoeksema conceptualized the rumination associated with depression within the scope of the Response Styles Theory, and it appears that this theory is the most frequently emphasized in the rumination literature. Alloy et al. (2000) conceptualized rumination as a reaction to stress based on Nolen-Hoeksema's Response Styles Theory and Beck's Cognitive Theory. In this model, which is nourished by two theories, rumination is defined as the individual's making negative inferences after the stressful life event and bringing these inferences to the mind continuously (Alloy et al., 2000). In other words, while rumination arises as a response to depressive states in the response styles theory, it occurs before the onset of depression in the theory of rumination as a response to the stress (Eker, 2016).

When the studies on ruminative thought style are examined, it is seen that there are studies that determine the relationship between ruminative thought style and peer bullying and depressive symptoms (Treyner, Gonzalez, & Nolen-Hoeksema, 2003; Erdur-Baker, 2009), worry (Segerstrom, Tsao, Alden, & Craske, 2000), anxiety and depression (Yılmaz, 2014), and eating disorders (Nolen-Hoeksema, Stice, Wade, & Bohon, 2007). Ahorsu et al. (2020) also emphasized in their research that high fear of COVID-19 level may cause irrational and ambiguous thoughts. In this context, the relationship between fear of COVID-19, ruminative thought style, and FoMO was tried to be examined in this study.

Method

Relational survey method was used in the research.

Participants

The study group consisted of 408 individuals aged between 17-68 ($M = 31.84$), of which 110 were male and 298 were female. The data collection process was carried out online. Of the participants 228 are single, 180 are married, 95 have high school and lower education level, and 313 have undergraduate and higher education levels.

Measures

The Fear of COVID-19 Scale

In the study, data related to the fear of COVID-19 were collected with The Fear of COVID-19 Scale, developed by Ahorsu et al. (2020) and adapted to Turkish by Satici et al. (2020). The scale is a 5-point Likert-type scale consisting of 7 items and one dimension. The confirmatory factor analysis conducted for the construct validity of the scale showed that the Turkish form of the measure had acceptable fit indices [$\chi^2 (13, N = 1304) = 299.47, p < .05$; SRMR = .061; GFI = .936; NFI = .912; IFI = .915; CFI = .915]. The concurrent validity of the scale was tried to be determined by examining the correlations between the scores obtained from depression ($r = .38$), anxiety ($r = .55$), and stress ($r = .47$) scale so it is seen that the scale has concurrent validity. As a result of the analysis conducted to determine the reliability of the scale in the adaptation study to Turkish, it was concluded that the internal consistency coefficient was .847.

Fear of Missing Out Scale (FoMO)

In the study, data related to fear of missing out (FoMO) was collected by Fear of Missing out Scale, developed by Przybylski et al. (2013) and adapted to Turkish by Gökler et al. (2016). The scale is a 5-point Likert-type scale consisting of 10 items and one dimension. As a result of the factor analysis conducted for the construct validity of the scale, it was observed that the Turkish form of the scale had a one-dimensional structure and item factor loadings ranging between 0.36 and 0.77. Lastly, as a result of the analyses conducted to determine the reliability of the scale in the adaptation study to Turkish, it was concluded that the internal consistency coefficient was .81 and the test-retest reliability coefficient was .81.

Ruminative Thought Style Questionnaire

In the study, data related to ruminative thought was collected with Ruminative Thought Style Questionnaire developed by Brinker and Dozois (2009) and adapted to Turkish by Karatepe, Yavuz, and Turkcan (2013). The questionnaire is a 7-point Likert-type scale consisting of 20 items and one dimension. As a result of the factor analysis conducted for the construct validity of the scale, it was seen that the Turkish form of the scale has a one-dimensional structure that explains 63.43% of the total variance. The scale's item factor loadings ranging between .44 to .72. Lastly, as a result of the analyses conducted to determine the reliability of the scale in the Turkish adaptation study, it was concluded that the internal consistency coefficient was .91 and the test-retest reliability coefficient was .84.

Data Analysis

In this study, Pearson correlation, regression, and independent samples t-test were used to analysis the data. Firstly, the data were examined in terms of normal distribution. Then, the correlation between variables was examined and a mediation analysis was conducted. The findings of the normal distribution are presented in Table 1 and Figure 1.

Table 1: Findings Regarding Normal Distribution

Variable	Skewness	Kurtosis
Fear of COVID-19	.574	.101
FoMO	.596	-.029
Ruminative thought style	-.268	-.483

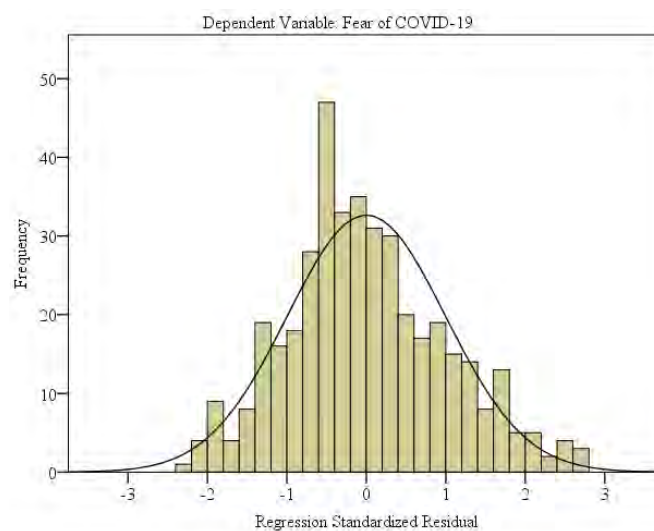


Figure 1: Normal distribution graph

According to Tabachnick and Fidell (2015), the skewness and kurtosis values between +1 and -1 displayed that the data has a normal distribution. In this context, when Table 1 and Figure 1 are examined, it can be said that the research data has a normal distribution.

Results

In the study, the relationships between fear of COVID-19, FoMO, and ruminative thought style were examined by correlation analysis, and the findings are presented in Table 2.

Table 2: Descriptive statistics and correlations among study variables

	1	2	3
Fear of COVID-19	1		
FoMO	.130**	1	
Ruminative thought style	.290**	.456**	1
\bar{x}	17.18	22.13	88.78
SS	5.93	6.11	25.55

** = $p < 0.01$

When Table 2 is examined, it is seen that fear of COVID-19 positively related with FoMO ($r = .130$), and ruminative thought style ($r = .290$).

Mediator Role of the Ruminative Thought Style

In the study, it was investigated whether individuals' who experienced the COVID-19 process the FoMO predicted fear of COVID-19 in order to examine the mediator role of ruminative thought style in the relationship between FoMO and fear of COVID-19. The result is presented in Table 3.

Table 3: Regression Coefficients, Standard Errors and Significance Tests for the Regression Model

Predictor	β	SE	p	F	R	R^2
Constant	14.38	1.09	<.001	6.97	.13	.02
FoMO	.13	.04	<.05			

As seen in Table 3, the analysis demonstrated that FoMO significantly predicted fear of COVID-19 ($\beta = .13$, 95% CI: .03 – .22; $p < .05$).

Table 4: Mediation Model Coefficients

Predictors	Consequent					
	Ruminative Thought Style			Fear of COVID-19		
	B	SE	p	β	SE	p
FoMO	a .46	.18	<.001	c' -.003	.05	>.05
Ruminative Thought Style	-----	-----	-----	b .07	.01	<.001
Constant	i_1 46.63	4.23	<.001	i_2 11.23	1.21	<.001
	$R = .46, R^2 = .21$			$R = .29, R^2 = .08$		
	$F(1, 406) = 106.38, p = .000$			$F(2, 405) = 18.57, p = .000$		

As seen in Table 4, the result of the regression-based mediation analysis demonstrated that FoMO significantly predicted ruminative thought style ($\beta = .46$, 95% CI: 1.54 – 2.26; $p < .001$), but it did not significantly predict fear of COVID-19 ($\beta = -.003$, 95% CI: -.10– .10; $p > .05$). Ruminative thought style significantly predicted fear of COVID-19 ($\beta = .07$, 95% CI: .04 – .09; $p < .001$). When the ruminative thought style was added to the mediation model, the core impact of FoMO on fear of COVID-19 decreased (from .13 to -.003). Furthermore, the total effect of FoMO on fear of COVID-19 was .126 ($p < .001$), direct effect of FoMO on fear of COVID-19 was -.002 ($p > .05$), and indirect effect of FoMO on fear of COVID-19 was .128 ($p < .001$).

Findings Regarding Gender

In the study, whether the individuals' levels of FoMO, ruminative thought, and fear of COVID-19 vary significantly in terms of gender was analyzed by independent samples t-test. The results are displayed in Table 5.

Table 5: T-test Result Regarding the Levels of FoMO, Ruminative Thought Style and Fear of COVID-19 in terms of Gender

	Levene's Test		T-Test					95% Confidence Interval	
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	S.E.	Lower	Upper
Fear of COVID-19	2.817	.094	5.435	406	.000	3.47773	.63983	2.21995	4.73551
FoMO	.001	.981	-.150	406	.881	-.10268	.68294	-1.44522	1.23985
Ruminative Thought Style	.061	.805	2.650	406	.008	7.49866	2.83016	1.93505	13.06226

As seen in Table 5, the levels of ruminative thought style (Woman \bar{x} = 90.80, SD = 25.20; Man \bar{x} = 83.30, SD = 25.81) and fear of COVID-19 (Woman \bar{x} = 18.11, SD = 5.94; Man \bar{x} = 10.64, SD = 5.13) differ significantly ($p < .05$) by gender, but the level of FoMO (Woman \bar{x} = 22.09, SD = 6.07; Man \bar{x} = 22.20, SD = 6.25) doesn't differ significantly by gender ($p > .05$) When the results obtained are evaluated in general, it can be said that the levels of COVID-19 fear and ruminative thinking style of women are higher than men.

Findings Regarding Marital Status

In the study, whether the individuals' levels of FoMO, ruminative thought, and fear of COVID-19 vary significantly in terms of marital status was analyzed by independent samples t-test. The results are displayed in Table 6.

Table 6: T-Test Result Regarding the Levels of FoMO, Ruminative Thought Style and Fear of COVID-19 in terms of Marital Status

	Levene's Test		T-Test					95% Confidence Interval	
	<i>F</i>	<i>p</i>	<i>t</i>	<i>df</i>	<i>p</i>	Mean Difference	S.E.	Lower	Upper
Fear of COVID-19	.115	.735	2.114	406	.035	1.24503	.58903	.08710	2.4029
FoMO	5.373	.021	-4.533	406	.000	-2.69912	.59549	-3.8697	-1.5285
Ruminative Thought Style	6.040	.014	-2.397	406	.017	-6.07281	2.53328	-11.0528	-1.0928

When Table 6 is examined, it is seen that levels of FoMO (Married \bar{x} = 20.61, SD = 5.52; Single \bar{x} = 23.32, SD = 6.30), ruminative thought style (Married \bar{x} = 85.38, SD = 27.78; Single \bar{x} = 91.46, SD = 23.37), and fear of COVID-19 (Married \bar{x} = 17.87, SD = 6.12; Single \bar{x} = 16.63, SD = 5.73) significantly differ in terms of marital status ($p < .05$). When the results reached are evaluated generally, it is concluded that married individuals have a higher fear of COVID-19 than single individuals, while FoMO and ruminative thought levels are lower.

Discussion

In this research, it was seen that the fear of COVID-19 correlated positively with the fear of missing out, and ruminative thought style. When the literature was examined, it was reached no research about the relationship between the fear of COVID-19 and the FoMO. During the pandemic process, it can be said that individuals use social media more actively to learn developments about the pandemic because of statements made via social media by public institutions about the daily number of cases and the precautions which are taken. Also, missing these developments can cause individuals to experience a feeling of uncertainty. For this reason, a relationship between the fear of COVID-19 and the FoMO may have been found in this study. On the other hand, in the study, it was seen that there is a positive relationship between the fear of COVID-19 and ruminative thought style. Similar to this finding of the study, a positive relationship was determined between the fear of COVID-19 and rumination in another study (Satici, Saricali, Satici, & Griffiths, 2020). Focusing on the negative mood in a repetitive manner, which is the characteristics of the ruminative thought style (Nolen-Hoeksama et al., 2008), may have led to increased fear of COVID-19 in individuals who think this way.

As a result of the mediation test conducted in the study, it was observed that the ruminative thought style had a mediator role in the relationship between FoMO and the fear of COVID-19. When the effect of FoMO on the individuals' life was looked, it was seen that it reflected the state of anxiety and obsession (Dossey, 2014; Eşitti, 2015; Gökler et al., 2016; Hoşgör, et al., 2017; Przybylski et al., 2013), made the individual feel excluded and envy others' social life (Hetz et al., 2015; Reagle, 2015), has influenced psychological well-being negatively (Stead & Bibbly, 2017), caused sleep disturbance (Rogers & Barber, 2019), stress (Beyens et al., 2016), depression, anxiety, and physical symptoms (Baker et al., 2016; Elhai et al., 2016; Kartol & Peker, 2020). In this context, it can be stated that FoMO influences the life and functionality of individuals by causing negative emotions and some behavioural problems. On the other hand, when rumination was looked, it is stated that individual constantly focuses on the negative emotional state, symptoms, or causes and consequences of this situation passively and repetitively (Nolen-Hoeksema et al., 2008). Also, it was found that the people made negative inferences after the stressful life event and constantly, brought these inferences to their minds (Alloy et al., 2000). In addition, the ruminative thought style appears to be associated with worry, anxiety, and depression (Segerstrom et al., 2000; Yılmaz, 2014). Consequently, the ruminative thought style is a vicious cycle that occurs when the individuals repetitively bring back their feelings to their minds after stressful life events. Since individuals with ruminative thought style, think and feel this fear repeatedly in their minds, it can be said that the ruminative thought style can be a stronger variable than FoMO in predicting COVID-19 fear. Therefore, ruminative thought may have a mediator role in the relationship between the FoMO and the fear of COVID-19.

In this study, it was concluded that the fear of COVID-19 differs significantly in terms of gender and women have a higher fear of COVID-19 compared to men. A similar finding was observed in the study conducted by Reznik et al. (2020), and it was determined that women's fear of COVID-19 was higher than men. In another study conducted by Gerhold (2020), it was determined that women are more concerned about COVID-19 than men. This might be in consequence of the possibility that men become insensitive due to going out of the house more than women during the pandemic process.

In another finding of the study, it was concluded that the level of ruminative thought style differed significantly in terms of gender, and women's ruminative thought style levels were higher than men. Similarly, in the meta-analysis study conducted by Johnson and Whisman (2013), it was observed that women had higher levels of ruminative thought style compared to men. McBride and Bagby (2006) indicate that rumination decreases women's defences against negative emotional states. In this regard, it can be stated that women visualize and think more about the negative situations brought about by the pandemic process compared to men.

According to this research result, it was founded that the level of sugar does not differ significantly in terms of gender. Furthermore, in the research of Tomczyk and Selmanagic-Lizde (2018), it was determined that the FoMO level does not indicate a significant difference according to gender. The reason for this situation might be that the pandemic process influences the whole society, therefore the FoMO on current developments is similar in both women and men.

As a result of the present study, it was observed that the levels of FoMO and ruminative thought differed significantly in terms of marital status. When the results obtained were evaluated in general, it was concluded that while the fear of COVID-19 was higher in married individuals compared to single individuals, the levels of FoMO and ruminative thought were lower. When the literature was examined, no research was found in which the fear of COVID-19 was investigated in terms of marital status. However, married individuals may be afraid of transmitting the virus to their spouses and children due to they are mostly involved in business life and have to go out of the house. So, it might be concluded that married individuals have a higher fear of COVID-19 than single individuals. Besides, in the literature, when studies reviewed in which examined FoMO in terms of marital status, it was observed that FoMO does not differ (Özcan & Koç, 2019; Qutishat & Sharour, 2019). In the present study, it was seen that the FoMO levels of married individuals are lower than single individuals. This might be because the other two studies were conducted in 2019 and the current study in 2020 during the pandemic process. Moreover, the reason why married people's ruminative thought levels are lower than singles might be that they are in a supportive environment where they can share their negative feelings and experiences at any time by getting more psychosocial support than singles.

In conclusion, according to the results of this research, it was determined that the ruminative thought style is a stronger variable than FoMO in predicting the fear of COVID-19. In this regard, it can be stated that one of the important variables that should be considered to protect the mental health of individuals, is the ruminative thinking style, in the pandemic process which is ongoing and is not known when it will end. Individual and group psychological counselling services can be provided to individuals with ruminative thought styles in order to reduce the impact of the pandemic on individuals' mental health. Also, it was found that women's fear of COVID-19 was higher than men's. In this regard, the reasons why this fear is higher in women compared to men can be investigated as well as special preventive and protective mental health services can be provided to women.

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