Psikiyatride Güncel Yaklaşımlar-Current Approaches in Psychiatry 2021; 13(Suppl 1):405-420
Doi: 10.18863/pgy.1009613

RESEARCH

Do the Anxiety of Individuals Affect their Perceptions and Attitudes towards the Covid-19 Outbreak?

Bireylerin Kaygıları Covid-19 Salgınına Yönelik Algı ve Tutumlarını Etkiler mi?

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Abstract

This study is planned to determine the anxiety levels of individuals and their perception and attitude levels for the Covid-19 pandemic during the pandemic process and to examine the effect of anxiety on perception and attitude levels towards the Covid-19 pandemic. The data of the study were collected with the Assessment Scale for the Perceptions and Attitudes towards the Covid-19 Pandemic and the Beck Anxiety Scale. This is a descriptive cross-sectional type study, and it was conducted with 707 individuals living in the society using the random sampling method. Individuals' mean anxiety scores were found to be low, and a positive relationship was found between anxiety levels and causes perception and avoidance behaviors and a negative relationship with the disease perception. According to the results of multiple regression analysis, it was found that the anxiety variable had a positive predictive effect on the perception of causes and avoidance behaviors. A clear understanding of the severity and nature of the relationship between people's perceptions and attitudes towards the COVID-19 pandemic and psychosocial problems is necessary to develop health policies that will prevent possible problems. Therefore, it will be useful both in practice and theory to evaluate the perceptions and attitudes towards the pandemic and examine the obtained results in terms of anxiety, depression, or interpersonal relations.

Keywords: Society, Covid-19, anxiety, perception, attitude

Öz

Bu çalışma pandemi sürecinde bireylerin anksiyete düzeyleri ile Covid-19 salgınına yönelik algı ve tutum düzeylerini saptamak, anksiyetenin Covid-19 salgınına yönelik algı ve tutum düzeylerine etkisini incelemek amacıyla planlanmıştır. Tanımlayıcı kesitsel tipte bir araştırma olup, Tesadüfi örnekleme yöntemiyle toplumda yaşayan 707 birey ile yapılmıştır. Veriler bireylerin tanımlayıcı özellikler ile Beck Anksiyete Ölçeği ve Covıd-19 Salgınına Yönelik Algı ve Tutumları Değerlendirme Ölçeği ile toplanmıştır. Bireylerin anksiyete puan ortalamaları düşük bulunmuş olup, anksiyete düzeyleri ile nedenler algısı ve kaçınma davranışları arasında pozitif yönlü, hastalık algısı ile negatif yönlü ilişki saptanmıştır. Multiple regresyon analizi sonuçlarına göre, anksiyete değişkeninin nedenler algısı ve kaçınma davranışları üzerinde pozitif yönlü yordayıcı etkisinin olduğu bulunmuştur. Koronavirüs Salgınına Yönelik Algı ve Tutum ölçeği ile anksiyete arasında güçlü ilişkiler gözlenmiştir. İnsanların COVID-19 salgınına yönelik algı ve tutumlarının psikososyal sorunlar ile ilişkisinin şiddeti ve doğasının iyi anlaşılması, olası sorunları önleyici sağlık politikaları geliştirmek için gereklidir. Dolayısıyla pandemiye yönelik algı ve tutumların değerlendirilmesi ve elde edilen sonuçlar üzerinden anksiyete, depresyon veya kişiler arası ilişkiler açısından incelemeler yapılması gerek uygulama alanında gerekse teorik alanda faydalı olacaktır.

Anahtar sözcükler: Toplum, Covid-19,anksiyete, algı, tutum

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Received: 14.10.2021 | Accepted: 24.12.2021 | Published online: 29.12.2021

COVID-19 is a virus that spreads all over the world in a short time after its emergence in Wuhan, China, and causes severe pneumonia(Huang et al. 2020, Kubat and Şahin 2020). According to the definition by the World Health Organization, COVID-19 is an infectious disease caused by a newly discovered coronavirus (SARS-COV-2)(WHO 2020). The COVID-19 pandemic, which threatens both the physical and psychological health of individuals, has a risk of death ranging from 0.5% to 3% and has changed our lives with irreversible consequences shortly after its emergence(Aşkın et al. 2019).

Various measures have been taken since the first days of the outbreak and continue to be taken. Various measures have been taken, from restricting entry to and exit from all countries, quarantine measures, cessation of mass activities, suspension of education, intercity travel restrictions, mask use practices, curfews (Demirbilek et al. 2020, WHO 2020). In addition to these measures, it has been considered important to take measures by the individuals living in the society in the control of the pandemic. However, the uncertainties about the disease related to the COVID-19 pandemic and the fear of possibly fatal consequences have profoundly affected human life and the adaptations of individuals in the society. Many studies have shown that pandemics cause great trauma in humans and raise anxiety levels (Erdoğdu et al.2020). Pandemics cause anxiety, and also the changes in business life that develop with the epidemic, layoffs, or closure of workplaces, remote teleworking system are also reflected negatively on the mental health of individuals living in different parts of society (Aşkın et al. 2019, Çölgeçen and Çölgeçen 2020, Karataş 2020). On the other hand, the fact that each individual in the society is at risk for COVID-19, having a chronic disease, witnessing the loss of relatives due to COVID-19, and not having enough information about COVID-19 have caused concerns(Erdoğdu et al. 2020). Since the first day of the pandemic, it has increased emotional/reactive problems such as fear, panic, anxiety, and insecurity in people due to situations such as death, the excessive number of patients in intensive care and intubated patients, and comments made in the media(Lai et al. 2020), its rapid spread has caused people to experience crises of fear, despair, stress, anxiety, despair, and depression(Yamaguchi and Takebayashi 2020).

The level of anxiety can encourage individuals to take protective measures against the COVID-19 pandemic, as well as direct them towards avoidance behavior towards COVID-19. It is known that there is a relationship between the way people perceive disease and their reactions to the disease and adaptation to the disease (Hekler et al. 2008). In light of this information, it is important to investigate the relationship between people's perceptions and attitudes towards the COVID-19 pandemic and anxiety. Knowing people's perceptions and attitudes towards COVID-19 disease will be useful for developing evidence-based strategies such as crisis management, coping with stress, and determining the needs of different groups in society (Artan et al.2020).

Therefore, taking measures to support the psychological health of individuals living in the society during the pandemic period will reflect positively on their behavior towards the pandemic. At a time when the active fight against the COVID-19 pandemic continues, it is important to determine the awareness, perceptions, and attitudes of the society towards the disease and make the necessary arrangements accordingly, combat the anxiety experienced and take measures against risk groups. It is appropriate to evaluate the possible psychological and behavioral reflections of the pandemic, fill the gap in the literature in this sense, and, therefore, aim to develop possible solutions for the problems that may arise. This study aims to investigate

whether the anxiety levels of individuals in the pandemic process have an impact on their perceptions and attitudes towards the COVID-19 pandemic, evaluate the possible psychological and behavioral reflections of the pandemic, fill the gap in the literature in this sense, and therefore develop possible solutions for the problems that may arise.

In the context of basic hypotheses, (H1) Does the level of anxiety of individuals living in the society have an effect on their perceptions and attitudes towards the COVID-19 Pandemic? (H2) Is there a significant difference between some variables of the individuals in society (age, income level, chronic disease status, status of needing psychological support in the pandemic, status of being diagnosed with COVID-19, and status of receiving information about the epidemic) and their level of anxiety and their perceptions and attitudes towards the COVID-19 pandemic?

Method

This is a descriptive study based on the general screening model, using the quantitative approach. It was conducted with a scanning pattern in which structural equation analysis was performed. Screening studies that allow working with large groups are studies that aim to describe a past or present situation and are conducted with a sample that represents the universe (Karasar 2012). The data were collected by a survey and scale forms prepared on software on the internet.

Sample and Procedure

Firstly, the researchers prepared the online scale form on Google and created a link. The use of the prepared link and the clarity of the questions were tested with 10 individuals, and the resulting data were not included in the study. This link was sent to the people in the phone book of the researchers over online applications (e.g. mail, WhatsApp) between April 01 and May 1, 2021, and they were asked to share it with their own circles. The purpose and criteria of the study (limited only with the people who live in the center of Kastamonu with internet access, know how to use smart phones, and agree to participate in the study) were explained to the people who reached this link on the first page, and it was stated that individuals who met the conditions voluntarily accepted and approved to participate in the study if they answered the questions. It was also explained on the first page of the link that every question in the study was to be filled, the answered question was not reversible, and no questions were to be left blank. The study questions and scales were formed on one single screen, and consisted of a total of 91 questions, 7 of which were descriptive and 84 of which were scale questions. The time that took to answer all questions was 20-25 minutes. It was explained that no payments would be made for participation and that it would contribute to science. The prevention of entering the data again from the same device was ensured with IP and cookie controls, data increase was followed regularly, and the data collection process of the study was terminated as the data increase stopped for one month. The data collection stage was completed with 707 participants who were suitable for the scope of the study out of 850 data; and 143 questionnaires were left out because they were not completed.

The study population consisted of all 151.500 individuals who were between the ages of 18-70 living in the city center of Kastamonu in the Western Black Sea Region of Turkey (TUIK, 2020). Based on the literature data, the formula n=(N.t2 .p.q)/(d2 .(N-1)+(t2.p.q)) was used to calculate the sampling size when the target population is known,

in calculating the sampling size of the data that were collected with the Random Sampling Method (Yazıcıoğlu and Erdoğan, 2004). As a result of the calculation, it was determined that the minimum number of the sampling that could be taken with 95% Confidence Interval, and 5% error margin was 383 people. A power analysis was also conducted to determine the number of people to be included in the study. The power of the test was calculated with the G*Power 3.1 Program. According to the multiple regression analysis that was set by Cohen (1988), the effect size was taken as 0.15 as moderate. It is necessary to reach 107 people with a 95% Confidence Interval, 5% significance level, and an effect size of 0.15 to determine the power of the study (df=2; F=3.086).

Approval was obtained for this research from Bartın University Social and Humanities Ethics Committee with the date 07.04.2021 and number E-23688910-050.01.04-2100031599. After reading the informed consent form at the beginning of the research, the participants proceeded by selecting "yes" in the statement "I have been informed about the research, I agree to participate." Those who approved the informed consent permit among the individuals who would participate in the study were included in the research

Measures

Online surveys were used as the data collection tool. The data were collected using a questionnaire (general information form) and scale forms (Beck Anxiety Inventory (BAI) and Assessment Scale for Perceptions and Attitudes towards the Coronavirus (COVID-19) Outbreak prepared on an application on the internet.

General information form

It is a form prepared by the researchers that includes the identifying characteristics of individuals and questions related to COVID-19 (age, chronic disease, income level, psychological support status, status of being a COVID-19 patient or having a relative diagnosed with COVID-19, level of pandemic knowledge).

Beck Anxiety Inventory (BAI)

The BAI, developed by Beck et al. (1988), is a scale whose Turkish validity and reliability study was conducted by Ulusoy (1993). Each item is scored between 0-3, and high scores from the inventory indicate a high level of anxiety. 0-17 points indicate a low level of anxiety, 18-24 a medium level of anxiety, 25 points and above a high level of anxiety. The Cronbach alpha coefficient of the inventory is reported as 0.92 and was calculated as 0.94 in this study.

Assessment Scale for Perceptions and Attitudes towards Coronavirus (COVID-19) Pandemic

As a result of the literature review, it was determined that there was no objective, valid and reliable measurement tool that allows measuring the perceptions and attitudes of people towards COVID-19 in Turkey. During the similar swine flu (H1N1) outbreak, Çırakoğlu (2011) created 5 forms to examine people's perceptions and attitudes towards the disease in the context of anxiety and avoidance levels. The first form consists of 8 statements regarding the nature of the disease, the second form consists of 18 statements

regarding the causes of the disease, the third form consists of 14 statements regarding the methods of controlling the outbreak, the fourth form consists of 9 statements that evaluate the attitudes towards vaccination and the final form consists of 14 statements evaluating the behaviors of avoidance. Some items on the scale were reverse-coded. By using these forms prepared by Artan et al. and Çırakoğlu; the subscale containing avoidance behaviors was adapted with the permission of the researcher and a total of 4 subscales were created including the subscales that evaluate the general perception of the disease, causes of the disease, and the perception of control. Each scale was evaluated independently and separate scores were obtained. General Perception, Causes and Control Perception Scales (1= strongly disagree, 2= disagree, 3= somewhat agree, 4= agree, 5= strongly agree) are 5-point Likert-type scales (Artan et al. 2020). In the focus of the present study, in addition to the subscales that evaluated the general perception of the disease, the causes of the disease, and the perception of control, the subscale that involved avoidance behaviors was adapted with the permission of the researcher, and a total of 4 subscales were created each of which was evaluated independently and separate scores were obtained.

The expressions in the scale were used in original scale except for the revisions for the coronavirus. The Disease Perception, Causes, and Control Perception Scales are in 5-point Likert style, where marking can be made as "1- Strongly Disagree" and "5-I Strongly Agree". The subscale of the questionnaire, which evaluated the general perception on the disease, consisted of 8 items that covered the sub-dimensions of "contagiousness" and "danger". The second 18-item subscale (i.e. the causes) evaluated the factors that caused the disease. It consisted of conspiracy, environment, and belief sub-dimensions. The conspiracy sub-dimension evaluated the perception that included the statements of belief that the coronavirus was created with a type of conspiracy motivation. The environment sub-dimension evaluated the perception that the disease occurred because of environmental reasons. The belief sub-dimension measured the level of basing the disease on religious grounds. The next subscale (i.e. the control) evaluated the perception of control towards the disease and consisted of 13 items. High scores obtained in the perception of the control scale show a positive outcome indicating that the perception of control is high. There are the sub-dimensions of macro control, personal control, and inevitability. All statements in the inevitability sub-dimension required reverse-coding, and high scores in this sub-dimension show that the person has a high belief that s/he can avoid the disease. High scores obtained in the scales mean that the belief in that field is high (Artan et al. 2020).

Statistical analysis

The data obtained in the study were analyzed using SPSS (Statistical Package for Social Sciences) for Windows 22.0 and the AMOS program. Mean and standard deviation were used for the means of the ages, income levels, smoking and alcohol use status, requirement for psychological support in the pandemic, Covid-19 diagnosis, pandemic knowledge levels, and general health status distributions in number and percentages, anxiety status, perception of illness, causes, control, and avoidance behaviors, The relation between anxiety and perception of illness, causes, control, and avoidance behavior was tested with the Pearson Correlation Analysis and Structural Equation Modeling. The Scheffe Test was used as the post-hoc analysis to examine the relation

between age and income levels and perception of anxiety, illness, causes, control, and avoidance behavior; and the t-test One-Way ANOVA Test was used in the distribution of pandemic knowledge and general health status, chronic illness status, smoking and alcohol use status, requirement for psychological support in pandemic, and Covid-19 diagnosis.

Results

41.3% of the individuals included in the study were aged 20 and under, the relatives of two out of three individuals (67.6%) who participated in the study, and one out of five individuals (19.0%) were diagnosed with COVID-19. 57.9% of individuals stated that their level of knowledge about the epidemic was sufficient, 42.1% stated that it was partially sufficient, and 28.3% stated that they needed psychological support during the pandemic process (Table 1).

Table 1. Descriptive characteristics of individuals

Descriptive Characteristics(N=707)	Groupsr	Frequency (n)	Percentage (%)
Age	20 and below*	292	41.3
	21-30	225	31.8
	31-40	81	11.5
	40 and above	109	15.4
Status of Chronic Disease	Yes	86	12.2
	No	621	87.8
Income Level	Low	110	15.6
	Medium	569	80.5
	High	28	4.0
Status of Needing Psychological Support in the Pandemic	Yes	200	28.3
	No	507	71.7
Status of Having a Relative Diagnosed with COVID-19	Yes	478	67.6
	No	229	32.4
Being Diagnosed with Covid 19 by Participants	Yes	134	19.0
	No	573	81.0
Level of Knowledge on Pandemic according to the own statements of the participants	Sufficient	409	57.9
	Somewhat sufficient	298	42.1
Total		707	100

* Consists of individuals between the ages of 18 and 20

The anxiety scale mean score of the participants was found to be 11.962±11.013. The subscale score means of the scale are 17.557±5.289 for the "disease perception" subscale, 52.672±9.503 for the "causes perception" subscale, 36,968±6,180 for the "control perception" subscale, and 40.570±10.041 for the "avoidance behavior" subscale, respectively (Table 2). When the correlation analyses between anxiety mean scores and disease perception, causes perceptions, control perception, avoidance behavior, which are the subscales of the Evaluation Scale for Perceptions and Attitudes Towards COVID-19 Pandemic are examined; a negative correlation was found between disease perception and anxiety (r=-0.091, p=0.016<0.05), a positive correlation between causes perception

and anxiety (r=0.201, p=0.000<0.05), a positive correlation between avoidance behavior and anxiety (r=0.267, p=0.000<0.05) (Table 2).

Table 2. Correlation and descriptive analysis

	Alpha	Mean	Standard Deviation	Anxiety	Disease Perception	Causes Perception	Control Perception	Avoidance Behavior
Anxiety	0.930	11.962	11.013	1.000				
Disease Perception	0.788	17.557	5.289	-0.091*	1.000			
Causes Perception	0.812	52.672	9.503	0.201**	0.100**	1.000		
Control Perception	0.672	36.968	6.180	-0.003	0.109**	0.224**	1.000	
Avoidance Behavior	0.811	40.570	10.041	0.267**	-0.147**	0.126**	-0.004	1.000

*<0.05; **<0.01

According to the results of multiple regression analysis, which was conducted to examine the effect of anxiety on the perceptions and attitudes towards the coronavirus pandemic, it was found that the anxiety variable had a positive predictive effect on the perception of causes (β=0.312 p<0.05) and avoidance behaviors (β=0.359, p<0.001) (Table 3).

Table 3. Effect of anxiety on perceptions and attitudes towards Coronavirus pandemic

			β	Std.β	SE	t	P	R^2	Hypothesis
Disease Perception	<---	Anxiety	-0.108	-0.050	0.091	-1.188	0.235	0.115	Rejection
Causes Perception	<---	Anxiety	0.312	0.121	0.104	2.991	0.003	0.302	Acceptance
Control Perception	<---	Anxiety	-0.107	-0.046	0.097	-1.107	0.268	0.139	Rejection
Avoidance Behaviors	<---	Anxiety	0.359	0.169	0.093	3.866	p<0.001	0.234	Acceptance

β: coefficient of increase, Std.β:standard, SE:standard error, t and p: significance, R2: explanatory ratio

The effect of anxiety on disease perception and control perception was found to be insignificant (p>0.05). A positive path coefficient was obtained between anxiety and the perception of causes (β=0.121; p<0.05). A positive path coefficient was also obtained between anxiety and avoidance behaviors (β=0.169; p<0.001) (Table 4).

Table 4. Goodness of fit indices of the structural model

Index	Normal Value	Acceptable Value	Model
χ2/sd	<2	<5	3.41
GFI	>0.95	>0.90	0.90
AGFI	>0.95	>0.90	0.91
CFI	>0.95	>0.90	0.90
RMSEA	<0.05	<0.08	0.08
RMR	<0.05	<0.08	0.05

GFI: Goodness of Fit Index, AGFI: Adjusted Goodness of Fit Index,CFI:Comparative Fit Index, RMSEA: Root Mean Square Error of Approximation, RMR: Root Mean Square Residual(Çapık 2014, Wang and Wang 2012)).

It was determined that the goodness of fit related to the Structural Equation Modeling (SEM) carried out to determine the effect of anxiety on perceptions and attitudes towards the coronavirus (COVID-19) pandemic were found to be acceptable and the effect coefficients were given in Table 4 and diagram of the model in Figure 1.

Anxiety scores (X=17.279) of those with chronic diseases included in the study were found to be higher than those without chronic diseases (X=11.225) (t=4.853; p=0<0.05). However, individuals' disease perception, causes perception, control perception, avoidance behavior scores did not differ significantly according to the variable of chronic disease status (p>0.05). The anxiety scores (X=18.875) of those who needed psychological support in the pandemic were found to be higher than the anxiety scores (X=9.235) of those who did not need psychological support (t=11.401; p=0<0.05). The disease perception scores (X=16.835) of those who needed psychological support in the pandemic were found to be lower than the disease perception scores (X=17.842) of those who did not need psychological support (t=-2,288; p=0.012<0.05). The causes perception scores (X=54.090) of those who needed psychological support in the pandemic were found to be higher than the causes perception scores (X=52.112) of those who did not need psychological support (t=2.502; p=0.013<0.05). The avoidance behavior scores (X=43.540) of those who needed psychological support in the pandemic were found to be higher than those (X=39.398) of the participants who did not need psychological support (t=5.024; p=0<0.05). Participants' control perception scores did not differ significantly according to the variable of needing psychological support in the pandemic (p>0.05).

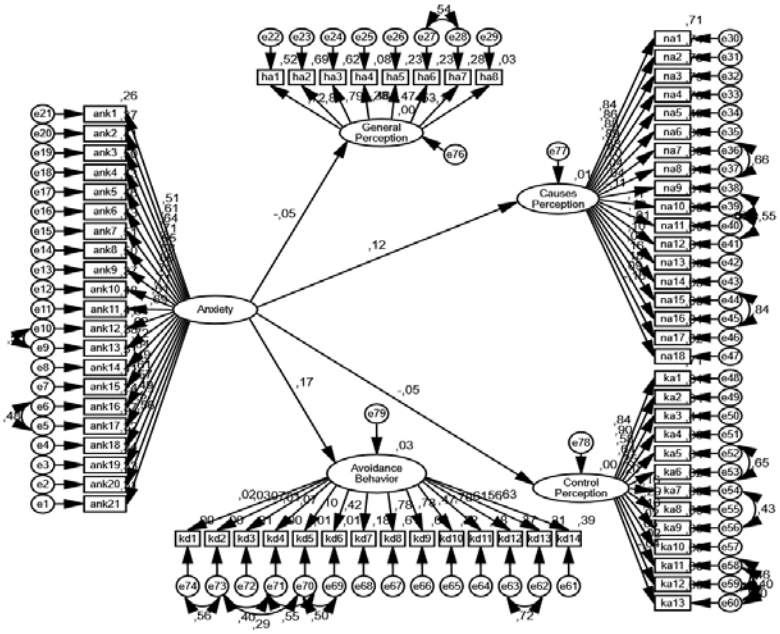

Figure 1. The diagram of the structural model to determine the effects of anxiety on the perceptions and attitudes towards the coronavirus (Covid-19) pandemic

ank: Beck Anxiety Inventory; kd:Avoidance Behavior; ka:Control Perception; ha:General Perception; x2/df =3.41, GFI=0.90, AGFI=0.91, CFI=0.90, RMSEA=0.08, RMR=0.05

Table 5. Differentiation status of Perception and Attitude Scores for anxiety and coronavirus pandemic by descriptive characteristics

Demographic Characteristics	n	Anxiety	Disease Perception	Causes Perception	Control Perception	Avoidance Behavior
Age		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
20 and below*	292	13.428±11.409	16.928±4.380	53.058±9.326	36.240±6.533	41.548±10.254
21-30	225	11.684±11.149	17.618±5.109	52.578±9.880	37.022±5.765	41.200±9.916
31-40	81	8.543±8.429	20.074±7.942	52.457±10.302	37.284±5.432	38.469±10.501
40 and above	109	11.147±10.78	17.248±4.935	51.991±8.601	38.569±6.308	38.211±8.821
F=		4.645	7.849	0.368	3.913	4.471
p=		0.003	0.000	0.776	0.009	0.004
Post Hoc=		1>3. 2>3 (p<0.05)	3>1. 3>2. 3>4 (p<0.05)		4>1. 4>2 (p<0.05)	1>3. 2>3. 1>4. 2>4 (p<0.05)
Status of Chronic Disease		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Yes	86	17.279±12.246	18.244±5.375	53.267±10.013	37.547±7.066	40.616±9.721
No	621	11.225±10.634	17.462±5.274	52.589±9.435	36.887±6.050	40.564±10.092
t=		4.853	1.286	0.620	0.927	0.046
p=		0.000	0.199	0.536	0.412	0.964
Status of Needing Psychological Support in the Pandemic		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Yes, I need it	200	18.875±11.917	16.835±4.402	54.090±8.938	36.460±6.369	43.540±9.661
No, I don't need it	507	9.235±9.329	17.842±5.578	52.112±9.668	37.168±6.099	39.398±9.955
t=		11.401	-2.288	2.502	-1.372	5.024
p=		0.000	0.012	0.013	0.170	0.000
Income Level		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Low	110	14.891±12.470	18.091±5.031	53.527±9.600	36.255±6.577	40.955±10.677
Medium	569	11.257±10.624	17.418±5.281	52.415±9.438	37.116±5.956	40.411±9.883
High	28	14.786±10.737	18.286±6.347	54.536±10.358	36.750±8.674	42.286±10.814
F=		6.064	1.022	1.193	0.913	0.560
p=		0.002	0.360	0.304	0.402	0.572
Post Hoc=		1>2 (p<0.05)				
Status of having a relative diagnosed with Covid-19		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Yes	478	12.672±11.062	17.431±5.350	52.946±9.205	36.820±6.122	40.912±9.907
No	229	10.480±10.784	17.821±5.160	52.100±10.092	37.275±6.303	39.856±10.300
t=		2.485	-0.917	1.107	-0.916	1.310
p=		0.013	0.359	0.269	0.360	0.191
Being Diagnosed with Covid 19 by Participants		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Yes	134	15.963±12.595	16.970±4.882	53.522±8.386	36.754±6.618	40.351±9.969
No	573	11.026±10.401	17.695±5.374	52.473±9.741	37.018±6.078	40.621±10.066
t=		4.742	-1.429	1.151	-0.444	-0.281
p=		0.000	0.154	0.250	0.657	0.779
Level of Knowledge on Pandemic according to the own statements of the participants		Mean±SD	Mean±SD	Mean±SD	Mean±SD	Mean±SD
Sufficient	409	11.076±10.987	17.650±5.883	51.983±9.725	37.279±5.971	40.186±10.387
Somewhat sufficient	298	13.178±10.950	17.430±4.349	53.617±9.121	36.540±6.443	41.097±9.539
t=		-2.516	0.548	-2.265	1.570	-1.192
p=		0.012	0.566	0.024	0.117	0.234

SD: Standard deviation, *Consists of individuals between the ages of 18 and 20

The anxiety scores of the individuals who participated in the study also differed significantly according to the variable of income level (F=6.064; p=0.002<0.05). The participants' perception of illness, perception of causes, perception of control, and avoidance behavior scores did not differ significantly according to the income level variable (p>0.05). Anxiety scores of individuals with relatives diagnosed with COVID-

19 (X=12.672) were found to be higher than anxiety scores (X=10.480) of individuals diagnosed with Covid-19 without relatives (t=2,485; p=0.013). Participants' disease perception, causes perception, control perception, avoidance behavior scores did not differ significantly according to the variable of income level (p>0.05).

The anxiety scores (X=12.672) of the individuals with relatives diagnosed with COVID-19 were higher than those (X=10.480) of the individuals with a relative diagnosed with Covid-19 (t=2,485; p=0.013<0.05). Participants' disease perception, causes perception, control perception, avoidance behavior scores do not differ significantly according to the variable of having a relative with a COVID-19 diagnosis (p>0.05). The anxiety scores (X=15.963) of those diagnosed with COVID-19 were found to be higher than the anxiety scores (X=11.026) of those not diagnosed with Covid (t=4.742; p=0<0.05), however, disease perception, causes perception, control perception, avoidance behavior scores did not differ significantly according to the variable of COVID-19 diagnosis (p>0.05). The anxiety scores (X=11.076) of those who considered their level of pandemic knowledge sufficient were found to be lower than the anxiety scores (X=13.178) of those who somewhat considered their level of pandemic knowledge sufficient (t=-2.516; p=0.012<0.05) (Table 5).

Discussion

The effects of the COVID-19 pandemic extend beyond medical repercussions, affecting individuals and societies on many levels, causing disruptions (Hays 2005, Boscarino 2015) According to the latest research from the Census Bureau, Centers for Disease Control and Prevention, the COVID-19 crisis is associated with rapid increases in psychological distress in many countriesm(Basu 2020), mental health problems especially in disadvantaged groups (i.e., women, young people, less educated and some ethnic minority groups) (Resnick 2020). Due to the pandemic, people are concerned about the direct effects of fear of death, permanent disabilities, or potential infections exacerbating chronic diseases, while they are subjected to life restrictions and emotional distress, including actions to mitigate the spread of COVID-19, social distancing, quarantine and job closures resulting in layoffs. Fear and anxiety about a disease as contagious as COVID-19 can trigger mental health problems or exacerbate existing mental illness (McGinty 2020).

One in four individuals (28.3%) who participated in our study stated that they needed psychological support in the pandemic. The meta-analyses that reported symptoms of post-traumatic stress and general psychological stress during the COVID-19 pandemic also found that both post-traumatic (26.2%) and psychological (23.1%) stress levels associated with COVID-19 were high, and nearly one in four adults needed mental health services during the ongoing pandemic (Conde et.al. 2018,Cooke et.al. 2020). Emerging evidence suggests that rates of post-traumatic stress and psychological stress in the general population are increasing due to COVID-19. Our research finding is in line with the literature. Stress is expected to rise during a global pandemic, and the long-term effects of these rises are also a concern. Studies have shown that high levels of general stress are triggers or accelerators of mental health problems associated with anxiety, depression, or substance use (Conde et al.2019, Cooke et al.2020).

42.1% of the individuals who agreed to participate in the study found their knowledge levels about the pandemic somewhat sufficient. According to the results of a

comprehensive and cross-sectional survey conducted in Malaysia with 4,850 Malaysians (2020) to determine the public's knowledge level, attitudes, and practices for COVID-19, it was determined that Malaysians had an acceptable level of knowledge about COVID-19 (80.5%) (Mohamad 2020). The rate obtained in our research is lower than that in the literature. This result can be explained by the fact that our participants gave sincere and accurate answers. The positive results from the Malaysian study can be explained by the fact that they tended to give positive answers to attitude and practice questions based on giving socially desirable answers and perceiving what was expected of them, as the researcher stated. A general evaluation of the public's knowledge, attitudes, and practices regarding COVID-19 will help provide better insight into the development of strategies and health improvement programs that will prevent inadequate knowledge about the disease.

The mean anxiety score (11.962±11.013) of the individuals who participated in the study was found to be low. According to the results of a cross-sectional survey conducted in northern Spain in 2020, one in five (19.9%) people experience anxiety (severe and extremely severe anxiety) (Ozamiz-Etxebarria et al. 2020). In our research, we can explain the reason for the low level of anxiety with the adaptation process to the pandemic as of the date that the study was conducted. Again, it was seen that the highest anxiety mean score was in the under-20s group and the lowest anxiety mean score was in the 31-40 age group. In the same study in northern Spain, the highest level of anxiety was seen in the 18-25 age group. Given that the youngest sample is mostly students in our research (41.3% of individuals are under 20 years old) and in the northern Spain study (56.5% of individuals are in the 18-25 age group) and that restrictions were imposed mostly for this age group; the need to adapt to the new educational situation without face-to-face classes can be an additional psychological burden for young individuals. In this sense, educational institutions seem not to have served to comfort young people due to some uncertainty, even though they implemented online education strategies from the beginning. In addition, the fact that this young population can be vulnerable to the development of emotional disorders can be seen as another reason.

Correlation analysis results, another finding of the study, supported our hypothesis regarding the relationships between the Evaluation Scale for Perceptions and Attitudes towards COVID-19 and its subscales, and anxiety. Strong relationships were observed between the Perception and Attitude towards the coronavirus pandemic scale and anxiety. A negative significant relationship was found between disease perception and anxiety ($r=-0.091$, $p<0.05$). This result means that the level of anxiety decreases as the disease perception level increases. This research finding is supported by the research results of Li et al.(2020). The global impact of the COVID-19 pandemic is continuing, and protecting the mental health of individuals is one of the primary needs of societies. However, very few studies have been conducted on disease-related information and its effects on disease perception and mental state in COVID-19 patients. Knowing the disease is very important for patients, and it can improve compliance with treatment and mental health(Molenaar et al.2001,Yoo et al.2015). Studies show that the lack of knowledge or health information about COVID-19 can increase patients' anxiety and depression, and seriously affect their mental health (Wang et al. 2020, Tran et al. 2020). Therefore, improving knowledge about the disease will reduce patient anxiety, increase compliance and satisfaction with treatment, and reduce treatment costs (Velez-Velez and

Bosch, 2016, Bassi et al. 2019, Wang et al. 2020). According to a study conducted by Li et al. (2020) with 118 patients diagnosed with COVID-19 using the Disease Perception Survey, it was stated that disease perception could have a negative and significant effect on psychological distress and quality of life (Li et al.2020).

Additionally, a negative significant relationship was found between individuals' perception of control and anxiety levels related to COVID-19 disease (r=-0.003, p=0.931). As individuals' anxiety levels increase, their perception of pandemic control decreases. Since anxiety causes a high level of concern and fear in individuals, protectionist attitudes will likely develop in individuals and their expectations for controlling the pandemic will increase. In parallel with this finding, in a study conducted by Wang (2020) in China; providing individuals with detailed, up-to-date, and accurate health information (e.g., about treatment and local outbreak status) and taking special precautionary measures (e.g., hand hygiene, wearing a mask) were observed to reduce levels of psychological effects, stress, depression, and anxiety. It was found, in a study conducted by Wheaton et al. (2012) in the United States, that anxiety, in response to the swine flu epidemic, was common in the sample, and it was revealed that fears of contamination and disgust sensitivity were associated with anxiety. Controlling the anxiety level of the society is important both for taking individual measures and for the understanding of the control measures implemented throughout the country. Otherwise, it will be difficult for individuals who do not perceive the scope and breadth of the measures taken to exhibit behaviors in parallel with their health anxiety levels.

A positive significant relationship was found between individuals' perception of causes related to COVID-19 disease and their anxiety levels (r=0.201, p<0.01). The perception of causes is about the factors that cause the disease. It evaluates a perception that the disease is caused by environmental reasons, including expressions of belief that the coronavirus was created by some kind of conspiracy motivation. It also measures the level of attributing the disease to religious reasons. Outbreaks are periods when social trust is irreparably weakened in the long term. People experience problems with trust in individuals and society due to the concern that how and from whom the disease will be transmitted to themselves; and in institutions due to reasons such as fear, level of danger, and treatment of the disease. Dozens of conspiracy theories i.e., the outbreak was a planned experiment, the virus was produced in a laboratory, it was planned to reduce the world's population or implant chips in humans, have affected millions of people, especially through social media. The World Health Organization has defined this misinformation outbreak that causes the spread of misinformation, disinformation, and conspiracy theories as "Infodemic" (Akyüz 2020). Rapidly spreading conspiracy theories and misinformation have revealed a threat that could have a direct impact on human health. There have been deaths due to misinformation and underestimation of the disease or improper prevention and treatment practices (Akyüz 2021). Therefore, as in our research finding, anxiety increases as the perception of causes increases.

A positive association was found between individuals' avoidance behavior and anxiety levels related to COVID-19 disease (r=0.267, p<0.01). According to the results of a cross-sectional study that examines the psycho-behavioral changes and avoidance behaviors in the Karachi population conducted in Karachi, Pakistan in March 2020, more than 80% of the participants limited their communication with people. More than three-quarters of the participants made changes to their behavior to ensure their safety, more than three-quarters restricted their physical contact with people (86.5%),

avoided/decreased access to health facilities (74.5%), recently canceled plans such as family gatherings, social gatherings, travel or meetings (84.5%) and washed their hands more often (87.0%). Since watching/listening to/reading current news increases anxiety levels, about a third (35.4%) of the participants began to avoid this (Balkhi et al. 2020). However, it should be noted that sudden changes in lifestyle and social interaction, especially the uncertainty of the situation, can further trigger anxiety. A study found an association between anxiety levels and avoidance behavior, including public places(AlNajjar et al. 2016). Another study showed and supported that preventive measures were closely related to the effective and timely transmission of information about the pandemic and the virus (Jin et al. 2020). As anxiety increases, avoidance behaviors increase, which is supported by our research results. As a result, a road analysis was carried out using the structural equation modeling to determine the effect and importance of anxiety on perceptions and attitudes towards the coronavirus (COVID-19) pandemic. In addition, it was determined that all goodness of fit indices had an acceptable fit.

The research covers individuals aged 18 and over living in Kastamonu city center and was carried out through an online survey application. In this context, in addition to the limitations of being quantitative research; it is also limited by the people who used social networks and had internet facilities and agreed to participate in the research. The fact that the research was carried out in a certain period creates a common constraint, especially for such studies; the perceptions and psycho-social situations of individuals vary over time with the changing situation, measures taken, and practical implementations throughout the country. This study was conducted in April 2021, when the pandemic process was continuing. Araştırma sonuçları yapılan örneklem ile sınırlıdır.

Conclusion

The COVID-19 pandemic is an infection that has been exerting influence for a long time, causing fear, anxiety, and panic all over the world, about which we have very little, uncertain, and ever-changing information. Therefore, studies examining the individual, social and psychological effects and related factors of this infection are still limited. As the literature on this subject becomes richer, our knowledge will become clearer. It is stated that the pandemic has become a global trauma with its social, political, economic, and psychological repercussions, and the situation is not just a medical health problem; a mental health problem also emerges with effects such as depression, anxiety, health anxiety, stigma, and social isolation along with the COVID-19 pandemic, (Aşkın, et al., 2020). In light of this information; It is thought that the relationship between people's perceptions and attitudes towards the COVID-19 pandemic and psychosocial problems is a crystal-clear fact. A good understanding of the severity and nature of this relationship is necessary to develop health policies that will prevent possible problems. Therefore, it will be useful both in practice and theory to evaluate the perceptions and attitudes towards the pandemic and examine the obtained results in terms of anxiety, depression, or interpersonal relations. For these reasons, the need for knowing the perceptions and attitudes of society towards COVID-19 has arisen. Determination of people's perceptions and attitudes towards coronavirus disease will be useful for developing evidence-based strategies on issues such as crisis management, coping with stress, and determining the needs of different disadvantaged groups. Since Covid-19 is

associated with negative psychological and social outcomes, it is recommended to expand mental health protection measures and make psychological support services available to every individual in society. High-quality, long-term research on the long-term mental health effects of the pandemic is greatly needed. In addition, although educational institutions implemented online education strategies from the beginning, they do not seem to have served to reassure young people due to uncertainties. Prevention and intervention programs will be mandatory to reduce stress levels caused by educational institutions.

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Authors Contributions. Authors attest that they have made an important scientific contribution to the study and have assisted with the drafting or revising of the manuscript.
Peer-review: Externally peer-reviewed.
Ethical Approval: Ethical approval was obtained from Bartin University Social Sciences and Humanities Ethics Committee for the study. All participants gave informed consent.
Conflict of Interest: No conflict of interest was declared by the authors.
Financial Disclosure: The authors declared that this study has received no financial support.