Determining the Relationship between the Level of Trust in the Measures Taken Regarding the Covid-19 Epidemic and the Anxiety Caused by the Covid-19 Epidemic

[COVID-19 Salgını ile ilgili Alınan Önlemlere Güven Düzeyi ve COVID-19 Salgınının Neden Olduğu Anksiyete Arasındaki İlişkinin Belirlenmesi]

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Özet

Giriş: Pandemi sürecinde insanların anksiyetelerini hangi faktörlerin nasıl ve ne kadar etkilediğini anlamak salgınla etkili mücadele edilmesini sağlamaktadır.

Amaç: Bu çalışmanın amacı, Türkiye'de yaşayan insanların COVID-19'un neden olduğu anksiyete düzeyine etki eden faktörleri araştırmaktır.

Yöntem: 741 kişi çalışmaya gönüllü olarak katılmıştır ve veriler on-line toplanmıştır. Katılımcıların COVID-19'a karşı anksiyete düzeyleri, baş dönmesi, uyku bozuklukları, tonik hareketsizlik, iştahsızlık ve karın sıkıntısını ölçen maddelerle belirlenmiştir. Katılımcıların COVID-19 ile ilgili olarak güvenlik güçlerinin, sağlık kuruluşlarının, halkın, iş yerlerinin ve kamu binalarının aldığı önlemlere ne kadar güvendiği belirlenmiştir.

Bulgular: Katılımcılar COVID-19 ile mücadelede en çok sağlık kurumlarının ve güvenlik güçlerinin çalışmalarına güvenmektedir. COVID-19 anksiyete maddeleri arasında en yüksek ortalamaya sahip madde iştahsızlık, en düşük ortalamaya sahip madde ise tonik hareketsizliktir. Eğitim, aylık gelir, medeni durum, kronik hastalık, çocuk sayısı, sağlık kurumlarına güven, insanlara güven değişkenleri COVID-19 kaygısını anlamlı olarak yordamamıştır. COVID-19 ile ilgili güvenlik güçlerine güven tonik hareketsizliği ve karın ağrısını azaltmıştır ve kamu binalarına güven baş dönmesini azaltmıştır.

Sonuç: Salgının neden olduğu anksiyete düzeyini azaltmak için COVID-19'a karşı alınan önlemler artırılmalıdır ve bu önlemler sürekli takip edilmelidir.

Abstract

Introduction: Understanding which factors affect people's anxiety, how and to what extent, during the pandemic provides a more effective response to the epidemic.

Purpose: The objective of this study is to investigate the factors affecting the anxiety level of people residing in Turkey caused by the COVID-19.

Methods: 741 people participated in the study and data were collected online. The anxiety levels of the participants against the COVID-19 were determined by the items measuring dizziness, sleep disturbances, tonic immobility, appetite loss, and abdominal distress. It was determined that how much the participants trust the measures taken by security forces, health institutions, people, workplaces and public buildings regarding the COVID-19.

Results: The participants trusted most the work of health institutions and security forces in coping with the COVID-19. Among the COVID-19 anxiety items, the item with the highest mean was appetite loss, while the item with the lowest mean was tonic immobility. Education, monthly income, marital status, chronic illness, number of children, trust in health institutions, trust in people variables did not significantly predict COVID-19 anxiety. Trust in security forces related to COVID-19 reduced tonic immobility and abdominal distress and trust in public buildings reduced dizziness.

Conclusions: In order to reduce the level of anxiety caused by the pandemic, the measures taken against COVID-19 should be increased and these measures should be followed continuously.

The COVID-19 Anxiety

The pandemic originated by the COVID-19 epidemic has caused economic, social and psychological disorders all over the world, and this pandemic has negatively affected people, societies, work-places and governments. The COVID-19 pandemic increased people's anxiety levels, and there were many factors that affected people's anxiety levels[1]. According to the study conducted in the USA and Canada, the COVID-19 affected people with pre-existing anxiety and mood disorders more negatively[2].

The study conducted in Germany showed that there was a negative significant relationship between being informed about the pandemic and the anxiety caused by the virus[3]. In America, people's satisfaction with the management of the COVID-19 process and their avoidance of Chinese products increased their anxiety about the COVID-19[4]. People who thought that the economic and health measures taken against COVID-19 were insufficient had higher levels of anxiety and hopelessness than people who thought that the measures were sufficient[5]. In a study conducted on nurses, social support, individual resilience, and institutional support predicted the COVID-19-related anxiety negatively and significantly[6].

People's trust in the management's work on the COVID-19 is important to effectively combat the pandemic[7]. In the study conducted with the data of 84 countries, it was determined that social trust increased the COVID-19 deaths[8]. In addition, people's trust in the sources from which they get information about the pandemic was positively correlated to the COVID-19 vaccine[9]. Schraff found in a household study that as the number of the COVID-19 infections increased, trust on politics increased[10]. After the pandemic in South Korea, while the public's social trust towards people, local and central government increased, social trust towards the judiciary, press and religious organizations decreased[11]. In Switzerland, it was found a negative significant relationship between general confidence and general trust, and economic fears and health risk perception caused by the COVID-19[12]. People's trust in the fight against the pandemic and their anxiety caused by the pandemic indi-cate the impact of the epidemic on community. Both increasing trust and reducing anxiety will enable people and institutions to fight the epidemic more effectively and efficiently. Therefore, scientists and managers should investigate the concerns, worries, anxieties and fears of all segments of community about COVID-19 until the pandemic process ends.

The objective of this study is to investigate the effect of people's trust in the measures taken by security forces, health institutions, people, workplaces and public institutions against the COVID-19 on anxiety levels. In addition, the effects of socio-demographic variables and being infected with the COVID-19 on anxiety were also investigated in this study. This study is important because it reveals people's trust in COVID-19 measures and COVID-19 anxiety level during a certain period of the pandemic, and shows the relationship between the trust and anxiety variables related to the epidemic. This study will provide ideas to managers and health officials to reduce people's anxiety level in an effective cope with COVID-19.

YÖNTEM
Study design
This study was designed as cross-sectional. The relationships between independent variables and anxiety level were revealed by ordinal logistic regression analysis.

Data collection
In this study, the data were collected on-line by questionnaire method between 15-25 March 2021. The questionnaire was applied to people aged 18 and over living in Turkey. 741 people voluntarily participated in the study.

Instrument
The measurement tool used in this study consists of three parts. The first part includes the socio-demographic characteristics of the participants (age, education, monthly income, marital status, chronic disease, number of children, the number of individuals in the house, being infected with COVID-19 status). The second part includes five Likert-type questions that measure the level of trust of the participants in the measures taken by security forces, health institutions, other people, workplaces and public buildings regarding the COVID-19. In the third part, the scale measuring the CO-VID-19 anxiety level developed by Lee[13] and the Turkish validity and reliability form tested by Biçer et al.[14] was used. The scale is a five-item scale consisting of one factor. In this study, the Cronbach Alpha value demonstrating the internal consistency of the scale was .861 and the confirmatory factor analysis testing the construct validity of the scale confirmed the one-factor structure obtained with appropriate goodness of fit values (Chi-square/Degree of Freedom= 1.28, Root-Mean-Square Error Approximation= 0.019, Goodness-of-fit Index= 0.998, Adjusted Goodness-of-fit Index= 0.990 and Comparative Fit Index= 0.999)[15,16].

Analysis of data
The data were analyzed with the help of SPSS and AMOS program. The results were presented with descriptive statistics and ordinal regression analysis results. Five items of the COVID-19 anxiety scale were used as the dependent variable. Socio-demographic variables, the status of being infected with COVID-19 virus, trust and were used as independent variables. The results of the five ordinal regressions analyze were interpreted according to Odds Ratio (OR).

RESULTS
Table 1 shows the information of the participants. The majority of the participants were university graduates and had a middle-income level. 80.7% (n=598) of the participants were single, 91.4% (n=677) had a chronic disease and 83.8% (n=621) had no children. The rate of people infected with COVID-19 was 17.4% (n=129). In addition to Table 1, the variables of age and the number of individuals in the house were measured as continuous variables (Age: minimum= 18, maximum= 71, mean= 25.4; the number of individuals in the house: minimum= 1, maximum= 15, mean= 3.7).

Table 2 shows the items of trust and anxiety and their mean

Table 1. The Characteristics of the Sample			
Variable	**Groups**	**n**	**%**
Education	High school and below	261	35.2
	Pre-undergraduate	149	20.1
	Undergraduate	221	29.8
	Postgraduate	110	14.8
Monthly income	Low	217	29.3
	Middle	454	61.3
	High	70	9.4
Marital status	Single	598	80.7
	Married	143	19.3
Chronic disease	No	677	91.4
	Yes	64	8.6
The number of children	None	621	83.8
	1	51	6.9
	2	53	7.2
	More than 2	16	2.2
Being infected with COVID-19	No	612	82.6
	Yes	129	17.4

and standard deviation. According to the means, participants trust the work of health institutions most about COVID-19, while they trust the least other people's individual measures regarding COVID-19. As for the anxiety level, the participants had the most appetite loss anxiety problems related to COVID-19, while tonic immobility anxiety problems related to COVID 19 had the least.

Table 3 shows the results of the ordinal regression analyzes in which the items of the COVID-19 anxiety scale were used as the dependent variable. The presence of multicollinearity among the independent variables was checked with VIF values, and VIF values were found to be between 1.029 and 3.718. The fact that VIF values are less than 7.5 indicates that there is no multicollinearity problem among the independent variables[17]. Only trust in public buildings predicted dizziness negatively and significantly (OR= 0.748, p< 0.05). Age and being infected with the COVID-19 positively and significantly predicted sleep disturbance (OR= 1.043, p< 0.05; OR= 1.986, p< 0.001, respectively). The number of people at home and trust in workplaces predicted tonic immobility po-

Table 2. The Descriptive Features of Trust and Anxiety Items				
Trust	**Max.**	**Min**	**Mean**	**Sd**
Security forces = I trust in the work of security forces related to the coronavirus	4	0	1.564	1.187
Health institutions = I trust in the work of health institutions related to the coronavirus	4	0	2.122	1.148
People = I trust the individual measures taken by the people around me regarding the coronavirus	4	0	0.763	0.958
Workplaces = I trust the measures taken by workplaces regarding the coronavirus	4	0	1.12	1.02
Public buildings = I trust the measures taken by public buildings regarding the coronavirus	4	0	1.468	1.045
Anxiety	**Max.**	**Min**	**Mean**	**Sd**
Dizziness = I felt dizzy, lightheaded, or faint, when I read or listened to news about the coronavirus	4	0	0.346	0.71
Sleep disturbances = I had trouble falling or staying asleep because I was thinking about the coronavirus	4	0	0.446	0.82
Tonic immobility = I felt paralyzed or frozen when I thought about or was exposed to information about the coronavirus.	4	0	0.256	0.648
Appetite loss = I lost interest in eating when I thought about or was exposed to information about the coronavirus.	4	0	0.504	0.827
Abdominal distress = I felt nauseous or had stomach problems when I thought about or was exposed to information about the coronavirus.	4	0	0.355	0.76

sitively and significantly (OR= 1.212, p< 0.001; OR= 1.385, p< 0.05, respectively). Trust in security forces negatively and significantly predicted tonic immobility and abdominal distress (OR= 0.742, p< 0.001; OR= 0.685, p< 0.05, respectively). None of the dependent variables affected appetite loss significantly. Age, education, monthly income, marital status, chronic illness, number of children did not predict anxiety significantly.

DISCCUSSION

In this study, which investigated the level of trust in the measures taken against COVID-19 and the effect of socio-demographic variables on the COVID-19 anxiety, the participants most trust the work of health institutions. In Switzerland and Denmark, people trusted health authorities more than government in their ability to respond to the COVID-19 epidemic[18]. Many institutions have conduct different tasks in the fight against the COVID-19, and the most important institu-

tion in the pandemic process is health institutions. Therefore, people follow the work of health institutions, and the effectiveness and efficiency of these works affect people's attitudes and thoughts. On the other hand, participants trust the least human measures against the COVID-19. This may indicate that the people around the participants do not have the necessary precautions and behaviors to combat the epidemic.

In this study, age affected only sleep disturbance positively and significantly among anxiety items. Education, monthly income, marital status, chronic illness, the number of children did not significantly affect the COVID-19 anxiety. The study, in which the factors affecting the COVID-19 anxiety were determined, showed that education, marital status, age and income did not significantly affect anxiety[19]. While the number of people living at home affected only tonic immobility positively and significantly, it did not significantly affect other anxiety items. The impact of the COVID-19 epidemic

Table 3. The Ordinal Logistic Regression Results for The COVID–19 Anxieties					
	Dependent Variable				
	Dizziness	**Sleep Disturbances**	**Tonic Immobility**	**Appetite Loss**	**Abdominal Distress**
Independent Variable	OR	OR	OR	OR	OR
Age	1.038	1.043*	1.027	1.009	-0.976
Education	1.097	0.839	0.857	1.002	-0.984
Monthly income	0.939	0.867	1.068	0.893	1.037
Marital Status	0.774	1.151	1.351	0.847	1.158
Chronic Illness	1.065	0.719	0.914	1.076	-0.708
Number of Children	1.057	0.937	0.969	1.008	1.071
The number of people in the house	1.097	0.965	1.212†	1.054	1.016
COVID - 19 status	1.278	1.986†	1.413	1.418	1.387
Trust = Security forces	0.891	0.856	0.742†	0.875	0.685†
Trust = Health institutions	1.162	1.158	1.094	0.904	-0.956
Trust = People	1.087	0.997	1.043	0.955	1.065
Trust = Workplaces	1.220	1.061	1.385*	1.220	1.164
Trust = Public buildings	0.748*	0.927	0.849	0.988	1.025
Pseudo R-Square					
Cox and Snell	0.034	0.041	0.043	0.021	.035
Nagelkerke	0.044	0.049	0.060	0.025	.044
McFadden	0.023	0.024	0.035	0.011	.023
Model Fitting Information					
-2 Log Likelihood	1095.06	1281.856	884.278	1392.922	1107.571
Chi-Square	25.645*	31.032†	32.287†	15.845	26.110*
† $p < 0.001$; * $p < 0.05$					

differs according to the characteristics of the community and people, and over time. In addition, the measures taken against the epidemic and the effect of the epidemic are constantly changing. For this reason, the impact of the epidemic on community should be continuously investigated periodically at the local level.

This study showed that being infected with COVID-19 virus affected sleep disturbance positively and significantly, but it did not affect other anxiety levels significantly. Biçer et al. found that being infected with the COVID-19 virus affected anxiety negatively and significantly[19]. The worries of people being infected by the COVID-19 increase anxiety levels in Hong Kong[1]. Since the effect of the COVID-19 manifests differently in people, individual characteristics may cause different psychological responses to this disease.

In this study, it was revealed that the effect of trust variables on participants' the COVID–19 anxiety was different for each anxiety item. Trust in security forces was the strongest factor reducing anxiety in this study. This result shows the critical importance of security forces in dealing with the COVID-19. Previous studies have suggested that police should be further supported and strengthened to effectively combat pandemics and epidemics[20,21]. The trust of the participants in this study in healthcare institutions and other people in the fight against the pandemic did not significantly predict their CToVID-19 anxiety. Detailed studies are needed to understand the public's thoughts about the health institutions that have the most

important role in the fight against the pandemic. In order to combat pandemics and epidemics effectively and efficiently, public attitudes, thoughts, trusts and risk perceptions should be constantly investigated.

Limitations
The study and the data collected for the study have limitations. This study reflected only one period of the pandemic. Due to the epidemic, data was collected online, and therefore, it was not possible to reach every segment of community. Both the COVID-19 anxiety and trust in the measures taken for the COVID-19 were examined in five dimensions. Further studies may address trust and anxiety for the COVID-19 in more detail, both quantitatively and qualitatively.

CONCLUSION and RECOMMENDATIONS
This study investigated which factors affected the anxiety levels of people residing in Turkey caused by the COVID-19 epidemic. Five anxiety items were used as the dependent variable in the study. The level of trust in the actions and measures taken against the COVID-19, socio-demographic variables and the status of being infected with COVID-19 were used as independent variables.

The trust level of the participants in this research was the highest against the work of the security forces against the COVID-19, and the lowest against the measures taken by the people around. Among the anxiety levels caused by the COVID-19, the highest mean item was appetite loss, while

the lowest mean item was tonic immobility. Appetite loss and tonic immobility were the items with the highest and lowest means showing the anxiety level caused by the COVID-19, respectively. Trust in public buildings reduces dizziness. Age and being infected with the COVID-19 increaseed sleep disturbance. While the number of people living at home and trust in workplaces increased tonic immobility, trust in security forces reduced both tonic immobility and abdominal distress.

Research should be repeated periodically as the situation of the pandemic and the methods of combating the pandemic are constantly changing. In particular, qualitative research should be conducted to better understand the impact of the pandemic on people and communities. Managers and scientists should use the COVID-19 epidemic as a guide in order to be less affected by epidemics in the future and to better combat them.

Ethics

Ethics Committee Approval:

The Scientific Research and Publication Ethics Committee of Gümüşhane University accepted this study in scientific and ethical terms (Date: 10.03.2021, No: E-95674917-108.99-13243).

Informed Consent: Written informed consent from the employees were obtained.

Peer-review

Enternally and internally peer-reviewed.

Authorship Contributions

Conceptual design, literature review, data collection, analysis, interpretation and critical revision were made by SM.

Conflict of Interest

None.

Finance

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