



## THE RELATIONSHIP BETWEEN LIFE SATISFACTION AND CYBERCHONDRIA IN THE PANDEMIC PERIOD

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**Abstract:** The main purpose of this study is to explain the relationship between individuals' cyberchondria levels and their life satisfaction during the pandemic process. At the same time, it is aimed to determine whether there is a statistical difference between cyberchondria and life satisfaction and demographic characteristics of individuals. Sociodemographic information form, Cyberchondria Severity Scale and Life Satisfaction Scale were used as data collection tools. Within the scope of the research, 416 participants were reached. Structural equation modeling, Mann-Whitney U Test, Kruskal-Wallis H Test and Miller Method were used in the analysis of the data. During the pandemic period, there is a significant difference between life satisfaction, compulsion and doctor confidence scores and gender. There is a statistically significant difference between life satisfaction and age. There is a statistical difference between life satisfaction, compulsion and trust in doctor and marital status. There is a significant difference between education level and life satisfaction, compulsion, trust in doctor and cyberchondria. There is statistically significant difference between life satisfaction and trust in doctor and income level. There is a significant difference between physical activity and presence of chronic disease and life satisfaction. As a result, there are statistically significant differences between demographic variables and life satisfaction and cyberchondria and its sub-dimensions. There is also a low level of relationship between life satisfaction and cyberchondria.

**Keywords:** Pandemic, Cyberchondria, Life satisfaction

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**Received:** February 13, 2023

**Accepted:** June 13, 2023

**Published:** October 15, 2023

**Cite as:** Tunç T, Demirci HF, Şahin M. 2023. The relationship between life satisfaction and cyberchondria in the pandemic period. BSJ Health Sci, 6(4): 534-542.

### 1. Introduction

Psychological problems tend to increase along with health anxiety during the current coronavirus epidemic (Maftai and Holman, 2020). The rapid spread of information via the Internet can offer numerous advantages to both individuals and the health system in terms of preparedness for the epidemic (JukicBegiç et al., 2020). On the other hand, false information spread on social media and the internet causes anxiety disorders in individuals. Searching online about health is very important to reach accurate and up-to-date information during any crisis. In the absence of information, current uncertainty leads to increased threat assessments (Garfin et al., 2020). Developments in information and communication technology in recent years have created new opportunities for individuals to seek health-related information. However, inaccurate information in these environments causes the emergence of a health problem called cyberchondria (Bagarić and Jokić-Begić, 2019). The cyberchondria cycle is used to explain new health behaviors and results that emerge as a result of searches (Uzun, 2016). According to Taylor and Asmundson

(2004) cyberchondria is also expressed as "health anxiety increased as a result of health-related searches in online environments". The term cyberchondria refers to the negative results that occur with online health information searches (Turkiewicz, 2012). Online environments are considered triggers in the development of health anxiety (Bagarić and Jokić-Begić, 2019). Accessing health-related information via the Internet is a method used by many individuals. When this situation is repeated excessively, it can cause cyberchondria (Maftai and Holman, 2020). All these situations affect the life satisfaction of individuals. Life satisfaction is defined as the evaluation of an individual's quality of life (Meule and Voderholzer, 2020). Many factors such as individuals' health levels and health perceptions directly affect their quality of life. Incorrect information on what to do to protect from the Covid-19 pandemic spread on the internet increases people's anxiety and this causes them to display wrong behaviors about health. For this reason, the study carried out during the epidemic, it is aimed to examine the relationship between cyberchondria and the life



satisfaction of individuals together with their demographic characteristics.

## 2. Materials and Methods

### 2.1. Study Type

This research is descriptive and is cross-sectional research in terms of its application type

### 2.2. Purpose and Questions of the Research

The main purpose of this study is to explain the relationship between individuals' cyberchondria levels and their life satisfaction during the pandemic process. At the same time, it is aimed to determine whether there is a statistical difference between cyberchondria and life satisfaction and demographic characteristics of individuals. In order to achieve these objectives, answers to the following questions were sought;

- Is there a statistically significant difference between cyberchondria and sociodemographic characteristics of individuals?
- Is there a statistically significant difference between life satisfaction and sociodemographic characteristics of individuals?
- Is there a relationship between cyberchondria and life satisfaction?

### 2.3. Data Collection Tools

Sociodemographic information form (7 questions), Cyberchondria Severity Scale (33 items) and Life Satisfaction Scale (5 items) were used as research data collection tools. The questionnaire method was used in data collection. Data were collected online through Google Forms in January-June 2021.

#### 2.3.1. Cyberchondria severity scale

The cyberchondria severity scale, which was developed by McElroy and Shevlin (2014), consists of 33 items and consists of 5-point Likert type (1-Never, 2- Rarely, 3-Sometimes, 4-Frequently, 5- Always) and 5 sub-dimensions (Compulsion, Extreme Anxiety, Extremism, Relief, Distrust of Doctor). The Cronbach's alpha coefficient of the scale, whose validity and reliability in Turkish was made by Uzun and Zencir (2018), was 0.89, and it ranged from 0.65 to 0.85 in sub-dimensions.

#### 2.3.2. Life satisfaction scale (LSS)

The Turkish validity and reliability study of the Life Satisfaction Scale developed by Diener et al. (1985), was conducted by Dağlı and Baysal (2016). The scale is 5 point likert type. The scale consists of a single factor structure. The total number of items is 5. The Cronbach

Alpha internal consistency coefficient of the scale is 0.88.

### 2.4. Population and Sample of the Research

The population of the research is individuals between the ages of 18-70 living in Türkiye. The convenience sampling method was used in sample selection. According to the power analysis made with the G-Power program; The effect size value of the study, which will be conducted with 415 individuals and at least 5 groups with a 5% margin of error and 95% confidence, was determined as 0.2135, the test power of the study was determined as 0.9514. In this study, data were collected from 416 people against 38 scale items and the sample size was sufficient for analysis.

### 2.5. Data Analysis

Statistical analyzes were made with the data obtained from 416 people who responded to the two scales. First, total scores and sub-dimension scores were obtained from the scales of life satisfaction and caring about diagnostic information obtained from the internet. When the distribution of the scores obtained is examined, the total score of caring about diagnosis information from the internet is normally distributed ( $P=0.083>0.05$ ); it was observed that the sub-dimensions were not normally distributed ( $P<0.05$ ). In addition, the life satisfaction scale score does not show a normal distribution ( $P<0.05$ ). Structural equation modeling (SEM) to achieve the primary purpose; Mann-Whitney U test for comparison of two independent groups to achieve the secondary objective; Non-parametric statistical methods such as the Kruskal-Wallis H test were used in the comparison of more than two independent groups (Önder, 2018). Miller method was used for multi-group comparisons. Data were analyzed with SPSS and LISREL program.

## 3. Results

The margin of error in the study was determined as 5%. Findings that were found to be statistically significant are included in the tables and are marked with (\*:  $P<0.05$ ). The effect of gender on the sub-dimensions of the diagnostic information obtained from the internet and the life satisfaction score is given in Table 1.

According to Table 1, a statistically significant difference was found between life satisfaction, compulsion, and doctor confidence scores and gender ( $P<0.05$ ). No difference was found in terms of gender in other sub-dimensions of caring about diagnostic information obtained from the internet ( $P>0.05$ ).

**Table 1.** Difference analysis of cyberchondria and life satisfaction by gender

	Gender	n	Mean	Std. Dev.	P
Life Satisfaction Score	Female	273	14.54	4.08	0.000*
	Male	143	16.32	3.51	
Compulsion	Female	273	14.78	5.62	0.000*
	Male	143	16.92	5.55	
Trust the Doctor	Female	273	12.24	2.32	0.011*
	Male	143	11.76	2.13	

Mann-Whitney U Test, \*= $P<0.05$ .

The difference between life satisfaction and caring about the diagnosis information learned from the internet for age groups is given in Table 2.

**Table 2.** Difference analysis of cyberchondria and life satisfaction score by age

Age Groups**	n	Mean	Std. Dev.	P
19-28 age <sup>a</sup>	235	14.26	3.92	
29-38 age <sup>b</sup>	84	16.13	3.90	
39-48 age <sup>c</sup>	54	16.38	4.07	0.000*
49-58 age <sup>d</sup>	33	16.60	3.33	
59-68 age <sup>abcd</sup>	10	16.40	2.11	

Kruskal-Wallis H test, \*= $P < 0.05$ , \*\*=Miller Method. Each different letter indicates that the groups differ.

According to Table 2, a statistically significant difference was found between age and LSS ( $P < 0.05$ ). As the age

increases, the life satisfaction score also increases. In addition, age does not have a significant statistical effect on the sub-dimensions of caring about diagnostic information obtained from the internet ( $P > 0.05$ ). The effect of marital status on life satisfaction and caring about diagnosis information obtained from the internet is given in Table 3.

According to Table 3, a significant difference was found between life satisfaction, compulsion and doctor trust scores and marital status ( $P < 0.05$ ). LSS ( $P < 0.05$ ) and Compulsion ( $P \leq 0.05$ ) scores are higher in married (16.85±3.48; 16.04±5.43) than singles (14.14±3.91; 15.20±5.80). Trust the doctor scores ( $P < 0.05$ ) are higher in singles (12.23±2.29) than in married people (11.81±2.20). The effect of education levels on life satisfaction and the importance of diagnosis information obtained from the internet is given in Table 4.

**Table 3.** Difference analysis of cyberchondria and life satisfaction by marital status

	Marital Status	n	Mean	Std. Dev.	P
Life Satisfaction Score	Married	155	16.85	3.48	0.000*
	Single	261	14.14	3.91	
Compulsion	Married	155	16.04	5.43	0.050*
	Single	261	15.20	5.80	
Trust The Doctor	Married	155	11.81	2.20	0.041*
	Single	261	12.23	2.29	

Mann-Whitney U Test, \*= $P < 0.05$ .

**Table 4.** Difference analysis of cyberchondria and life satisfaction by education level

	Education Level**	n	Mean	Std. Dev.	p
Life Satisfaction Score	Primary Education <sup>ac</sup>	10	15.40	5.99	0.000*
	High School <sup>bc</sup>	18	17.50	3.01	
	Undergraduate <sup>a</sup>	167	13.89	3.95	
	Postgraduate <sup>bc</sup>	221	15.91	3.70	
Compulsion	Primary Education <sup>a</sup>	10	20.80	5.47	0.003*
	High School <sup>abc</sup>	18	17.89	5.33	
	Undergraduate <sup>b</sup>	167	15.26	5.71	
	Postgraduate <sup>c</sup>	221	15.28	5.56	
Trust The Doctor	Primary Education <sup>a</sup>	10	10.90	1.97	0.049*
	High School <sup>c</sup>	18	11.22	2.10	
	Undergraduate <sup>abc</sup>	167	12.07	2.21	
	Postgraduate <sup>bc</sup>	221	12.20	2.32	
Cyberchondria score	Primary Education <sup>a</sup>	10	105.30	17.93	0.046*
	High School <sup>abc</sup>	18	95.61	16.86	
	Undergraduate <sup>b</sup>	167	91.31	16.90	
	Postgraduate <sup>bc</sup>	221	90.98	16.61	

Kruskal-Wallis H test, \*= $P < 0.05$ , \*\*=Miller Method, Each different letter indicates that the groups differ.

According to Table 4, there is a statistically significant difference between education level and life satisfaction score ( $P < 0.05$ ), compulsion score ( $P < 0.05$ ), trust the doctor score ( $P < 0.05$ ) and cyberchondria ( $P < 0.05$ ). Cyberchondria is in the highest primary education degree (105.30±17.93), the least in postgraduate degree (90.98±16.61). No difference was found in terms of education level in other sub-dimensions in

cyberchondria ( $P > 0.05$ ). The effect of income level on life satisfaction and the importance of diagnosis information obtained from the internet is given in Table 5.

According to Table 5, there is a statistically significant difference between income level and LSS ( $P < 0.05$ ) and doctor confidence score ( $P < 0.05$ ). As income increases, life satisfaction and doctor trust also increase.

**Table 5.** Difference analysis of cyberchondria and life satisfaction by income level

	Income Level**	n	Mean	Std. Dev.	P
Life Satisfaction Score	Low <sup>a</sup>	105	12.733	3.780	0.000*
	Middle <sup>b</sup>	279	15.767	3.686	
	High <sup>c</sup>	32	17.750	3.473	
Trust The Doctor Score	Low <sup>a</sup>	105	11.828	2.470	0.044*
	Middle <sup>ab</sup>	279	12.064	2.215	
	High <sup>b</sup>	32	12.968	1.822	

Kruskal-Wallis H test, \*=P<0.05, \*\*=Miller Method, Each different letter indicates that the groups differ.

**Table 6.** Difference analysis of cyberchondria and life satisfaction by exercise status and presence of chronic disease

Exercise Status	n	Mean	Std. Dev.	P
Yes	169	16.01	3.696	0.000*
No	247	14.56	4.066	
Presence of Chronic Disease	n	Mean	Std. Dev.	P
Yes	74	14.094	3.653	0.008*
No	342	15.383	4.015	

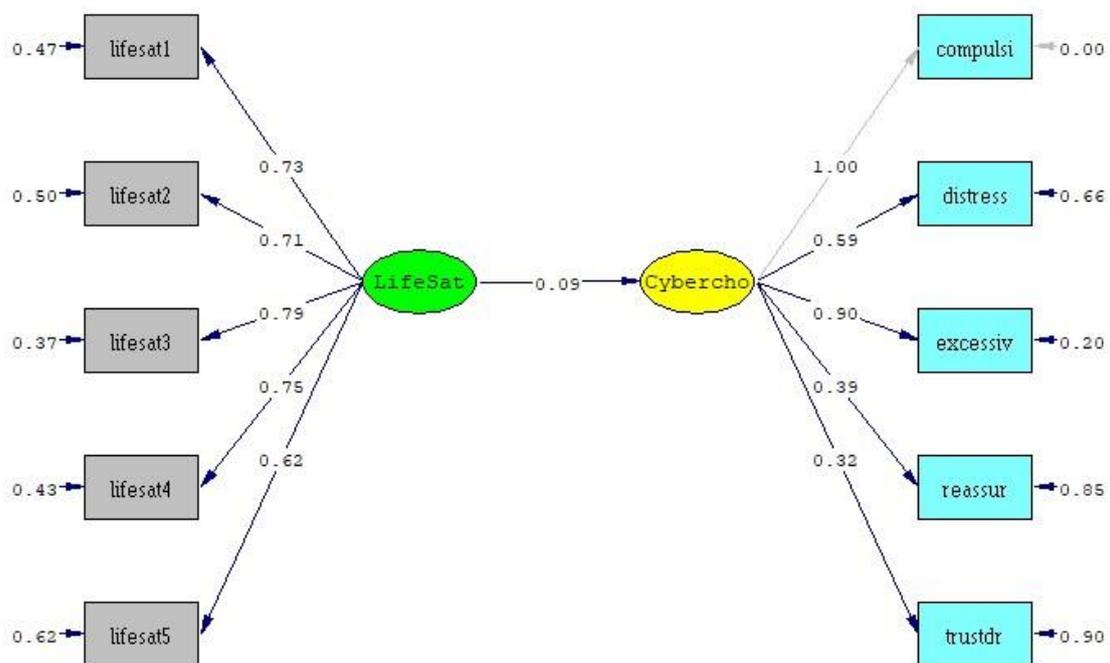
Mann-Whitney U Test, \*=P<0.05.

No difference was found in terms of income in other sub-dimensions of caring about diagnostic information obtained from the internet (p>0.05). The effect of exercise status and presence of chronic disease on life satisfaction and caring about diagnosis information obtained from the internet is given in Table 6.

According to Table 6; exercise status and the presence of chronic disease affect life satisfaction in a statistically significant way (P<0.05). Those who exercise (16.01±3.69) and those who do not have a chronic disease have (15.38±4.01) higher life satisfaction than other groups. No difference was found in terms of exercise status and presence of chronic disease in other sub-dimensions of caring about diagnostic information obtained from the internet (P>0.05). The path diagram

showing the effect of life satisfaction on caring about diagnostic information obtained from the internet and the relationship between them is given in Figure 1.

According to Figure 1, there is a statistically significant relationship between life satisfaction and caring about diagnostic information obtained from the internet (P<0.05). However, this life satisfaction explains a very small part of the change in caring about diagnostic information obtained from the internet (0.81%). According to the standardized coefficients in the Path diagram; the compulsion (1.00) and trust the doctor (0.90) sub-dimensions had the most impact on caring about diagnostic information obtained from the internet. Structural equation equations and model validity criteria of the model are given in Table 7.



**Figure 1.** Path diagram of life satisfaction and caring about diagnostic information obtained from the internet.

**Table 7.** Structural equation model coefficients and validity criteria

Factors/Substances	Path Factor (st.error)	t-value	Structural Reliability (Explained Variance)	Coefficient of Explanation
Life Satisfaction (LS)				
LS1	0.76 (0.048)	15.67	0.8441>0.70 (0.5216>0.50)	0.53
LS2	0.69 (0.047)	14.90		0.50
LS3	0.76 (0.043)	17.57		0.63
LS4	0.75 (0.045)	16.49		0.57
LS5	0.64 (0.050)	12.76		0.38
Cyberchondria (C)				
Compulsion	0.71*			1.00
Distress	0.44(0,030)	14.78	0.7983 >0.70 (0.4825<0.50)	0.34
Excessiveness	0.63(0,068)	9.20		0.80
Reassurance	0.30 (0,035)	8.57		0.15
Mistrust of medical professionals	0.24(0,035)	6.92		0.10
LS → C	0.09 (0.041)	2.19		0.01

**Table 8.** Goodness of fit criterion values of the structural model

Fit Criteria of the Model*	Good Fit Values	Acceptable Fit Values
$\chi^2=39.62$	$0 \leq \chi^2 \leq 2sd$	$2sd \leq \chi^2 \leq 3sd$
P value= 0.09033	$0.05 \leq P \leq 1.00$	$0.01 \leq P \leq 0.05$
$\chi^2 /sd = 1.366$	$0 \leq \chi^2 /sd \leq 2$	$2 \leq \chi^2 /sd \leq 3$
RMSEA=0.03	$0.0 < RMSEA \leq 0.05$	$0.05 < RMSEA \leq 0.08$
GFI = 0.98	$0.95 < GFI < 1.00$	$0.90 < GFI < 0.95$
AGFI = 0.96	$0.90 < AGFI < 1.00$	$0.85 < AGFI < 0.90$
NFI = 0.98	$0.95 < NFI < 1.00$	$0.90 < NFI < 0.95$
NNFI = 0.99	$0.95 < NNFI < 1.00$	$0.90 < NNFI < 0.95$
CFI = 0.99	$0.95 < CFI < 1.00$	$0.90 < CFI < 0.95$
SRMR = 0.029	$0.0 < SRMR \leq 0.05$	$0.05 < SRMR \leq 0.10$

\*  $\chi^2 /sd$ = Chi-Square test, RMSEA= root mean square error of approximation, GFI= goodness of fit index, AGFI= adjusted goodness of fit index, NFI= normed fit index, NNFI= non-normed fit index, CFI= comparative fit index, SRMR= standardized-root mean square residual (Schermelleh-Engel et al., 2003).

The structural model obtained according to Table 7 has statistically significant loads and statistically significant relationships. The structural model established between the variables of Life Satisfaction and Cyberchondria in the table is statistically significant ( $P < 0.05$ ;  $t > 1.96$ ). A 1-unit increase in Life Satisfaction increases Cyberchondria by 0.09 units, but this effect is very weak. To demonstrate that the observed variables that make up the latent variables support the relevant constructs, the estimates of the latent constructs' reliability and the explained variance measures should be calculated. Accordingly, the predictive value for scale reliability is greater than 0.70; the explained variance criterion should be greater than 0.50 (Nunnally, 1978; Hair et al., 1998). It can be said that the explained variance and construct reliability coefficients are at a good level. Although the variance explained for the latent variable of ignoring the diagnostic information is less than 0.50, it is very close to this value. Goodness-of-fit criteria of the model are given in Table 8.

The goodness of fit criteria of the structural model given in the path diagram is shown in Table 8. According to this;  $\chi^2 /sd$ , RMSEA, GFI, AGFI, NFI, NNFI (TLI), CFI and SRMR criteria the model has a very good fit.

#### 4. Discussion

In this study, which was carried out during the pandemic process, the relationship between individuals' caring about health information obtained from the internet and their life satisfaction was examined together with demographic characteristics.

In the study, a significant difference was found between life satisfaction and gender. Men's life satisfaction is higher than that of women. This may have been caused by the fact that the men in the sample had achieved the life standards they aimed for. However, in general, contrary to the findings of the study, women's life satisfaction was found to be higher than men's in the literature. In the study by in the study conducted by Atkinson et al. (2009), it was found that women's life satisfaction scores were higher than men's. Ural Usulan (2016) concluded in their study that life satisfaction was related to gender and that life satisfaction was higher in women than in men. While it was seen that the findings of the study related to life satisfaction and gender showed similar results to some aspects of the studies in the literature, different results were obtained in some studies and no difference could be found between life satisfaction and gender (Işık and Koçak, 2014; Ngoo et al.,

2015; Sönmez Benli and Yıldırım, 2017; Taşhyan et al., 2018). These different results in the literature show that there is no consensus on the difference between gender and life satisfaction and that a generalization cannot be made on the subject.

In the current study, a significant difference was found between life satisfaction and age. As age increases, life satisfaction increases. As the age progresses, the increase in health promotion activities (Tambağ, 2015) and the increase in the interpersonal social interaction of the elderly also have a positive effect on the level of well-being and life satisfaction (Kudo et al., 2007). In studies in the literature, however, no difference was found between age and life satisfaction (Ngoo et al., 2015; Sönmez Benli and Yıldırım, 2017; Ural Uslan, 2016). The reason for the different results in the literature on the difference between age and life satisfaction may be that the studies carried out were carried out in different countries and with different sample groups.

In this study, marital status was found to be significantly effective on life satisfaction. According to this finding, life satisfaction is higher in married people than that of the singles. This may be due to reasons such as financial comfort, the fact that the spouses meet each other's expectations at a good level, and the sense of peace in home life and having children. In their study, Cihangir and Çakır (2019) found a statistically significant difference between the years of marriage, the age of marriage, and the life satisfaction of the participants. Lin et al. (2020), reached a similar conclusion and found a difference between marital status and life satisfaction. Ngoo et al. (2015) found that marital status affected life satisfaction in Asian countries. In some studies in the literature, no difference was found between marital status and life satisfaction (Sönmez Benli and Yıldırım, 2017). The fact that there are different results for marital status and life satisfaction in the literature reveals that no generalization can be made about the difference between marital status and life satisfaction, and that different studies on the subject should be conducted with different sample groups.

According to another result obtained in the study, a significant difference was found between life satisfaction and education level. It was determined that the individuals who graduated from high school had the highest life satisfaction score, and the individuals with a bachelor's degree had the lowest. The reason why the level of life satisfaction is lower among undergraduates can be shown as the financial dissatisfaction experienced by undergraduates as a result of the problems they experience in finding a job. In studies in the literature, however, no difference was found between life satisfaction and education (Ngoo et al., 2015; Ural Uslan, 2016; Sönmez Benli and Yıldırım, 2017). In some studies in the literature, a difference was found between education and life satisfaction (Wang et al., 2018; Papi and Cheraghi, 2021). It can be said that the findings in the literature regarding the difference between education

and life satisfaction have similar and different results with the study.

As income increases, life satisfaction increases. Today, in a world where individuals are increasingly lonely, getting good health care (Doraiswamy et al., 2020) and nutritional needs (Calder, 2021), especially during the pandemic, have emerged as the most important arguments for the sense of survival. In addition, individuals with high incomes may have higher life satisfaction due to their high participation in sports and social activities, their easier access to quality health services, and their more advantageous position in meeting social needs (Şantaş, 2017). Similarly, some studies in the literature found a difference between income and life satisfaction. (Sönmez Benli and Yıldırım, 2017; Taşhyan et al., 2018; Lin et al., 2020). In some studies, no difference was found between income and life satisfaction (Işık and Koçak, 2014; Ural Aslan, 2016). These findings in the literature show that the results of study contain similar and different results from the literature.

Although individuals' giving importance to the diagnostic information (Cyberchondria Severity Scale) obtained from the internet does not change according to gender; there is a significant difference between gender and sub-dimensions of compulsion and doctor confidence scores. Women tend to learn their health diagnoses from the doctor and rely more on the doctor's diagnostic information. The reason for this situation may be that hospital use varies according to gender. Studies have revealed that women use more health services than men (Erdem and Pirinçci, 2003). This may have led women to trust doctors in obtaining health information more than that of men. Deniz (2020) reached a similar conclusion and stated that there was no significant difference between gender and cyberchondria. There are also studies in the literature stating that there is a difference between gender and cyberchondria and that women have higher levels of cyberchondria than men. Laato et al. (2020) found that gender had significant effects on cyberchondria. According to this study, it was found that women experience higher levels of cyberchondria than men. Barke's (2016) study found a difference between gender and cyberchondria, and the scores of women were higher than men. In another study, in general, women's health information-seeking behavior on the internet is higher than men's (Atkinson et al., 2009). In the study of Akhtar and Fatima (2020), gender was found to be associated with cyberchondria, and the scores of men were in the sub-dimensions of compulsion, excessive anxiety, extremism, and reassurance; women's scores were higher in the distrust sub-dimension. In the studies of Güzel and Özer (2021), the compulsion sub-dimension score of men was calculated as higher than that of women. As can be seen, the findings regarding the difference between cyberchondria and gender show that gender affects the sub-dimensions of cyberchondria. Therefore, the findings in the literature and the findings

of study show parallelism.

No statistical difference was found between age and caring about diagnostic information obtained from the internet. Laato et al. (2020), similarly state that there is no difference between age and cyberchondria. Barke (2016) did not find a direct difference between age and cyberchondria but found a low level of the positive difference between age and distrust of the doctor. Maftai and Holman (2020) found a difference between age and cyberchondria. Doherty et al. (2016), stated that the elderly experienced less anxiety than younger participants due to seeking medical information. The different results in the literature regarding the difference between age and cyberchondria may be due to many reasons. Conducting studies on the subject with different sample groups and in different countries will enlighten the subject. In the study, there are similar and different results from the literature.

A significant difference was found between marital status and the sub-dimensions of caring about the diagnostic information obtained from the internet, compulsion and trust the doctor. In these sub-dimensions, the scores of those who are single are higher than those who are married. Yılmaz et al. (2021) could not detect a difference between marital status and cyberchondria. Deniz (2020) reaches a similar conclusion and states that there is no difference between cyberchondria and marital status. Contrary to these findings, there was a statistically significant difference between the marital status variable and the cyberchondria level and the cyberchondria sub-dimensions of extreme anxiety, exaggeration, and reassurance (Doherty et al., 2016). As a result, in the study findings on the difference between marital status and cyberchondria are in parallel with the literature.

A significant difference was found between the education level and the total score of caring about the diagnostic information obtained from the internet, compulsion and trust the doctor sub-dimensions. While doctor distrust is at a high level among primary school degree; as the level of education increases, the level of trust in the doctor increases. Accordingly, as the education level decreases, the cyberchondria score also increases. The general reason for this situation may be the low level of health literacy of individuals. In the study of Ertaş et al. (2019) digital literacy and e-health literacy status of individuals differed according to educational status, and it was found that those who graduated from high school and primary school were lower than those with another educational status. Deniz (2020) found a difference between education status and cyberchondria in his study. According to this study, the cyberchondria score of the participants with high school or lower education levels is higher. In another study, it was determined that all sub-dimensions of cyberchondria differed significantly according to educational status (Güzel and Özer, 2021). The findings in the literature show parallelism with the results obtained in the study.

A significant difference was found between the level of

income and trust in the doctor, one of the sub-dimensions of caring about the diagnostic information obtained from the internet. As the income increases, the trust in the doctor increases. Individuals with higher incomes may rely on doctors' information instead of relying on the diagnostic information they obtain from the internet, as a result of the fact that they have the opportunity to receive better health services and are in a better position in accessing health (Şantaş, 2017). No difference was found between the total score and other sub-dimensions and income levels. In the study of Güzel and Özer (2021), a difference was determined between income and cyberchondria. Altındış et al. (2018) state that there is no difference between income and cyberchondria. As can be seen, the findings in the literature on the difference between income and cyberchondria contain similar and different results from the results of the study.

In the study, a low level correlation was found between cyberchondria and life satisfaction. When the literature is examined, it is seen that there are limited number of studies dealing with the relationship between cyberchondria and life satisfaction. Studies on the subject have mostly focused on cyberchondria and issues such as health anxiety, psychological well-being, fear of Covid-19, general mental health problems and quality of life. When the limited number of studies on the subject in the literature are examined, it can be said that the findings are similar to the current study. In the study conducted by Mathes et al. (2018), a relationship was found between cyberchondria and perceived low quality of life. In another study, it was found that life satisfaction affects problematic internet use, albeit at a low level (Mahamid et al., 2022). Another finding highlighted in the literature is on the relationship between trait anxiety and cyberchondria. It is stated that trait anxiety is an important factor as a factor that increases cyberchondria (Başoğlu, 2019). In another study, a significant and positive relationship was found between health anxiety and cyberchondria (Doğanyığıt and Keçelgil, 2022). In another study, health anxiety was determined as a variable that predicts life satisfaction of individuals (Şenol, 2022). Therefore, the findings in the literature show that cyberchondria and life satisfaction are related to many factors. It is anticipated that the present study will contribute to the literature in terms of focusing on the relationship between cyberchondria and life satisfaction.

### 5. Conclusion

In this study, a relationship was determined between cyberchondria and life satisfaction and it was concluded that some sociodemographic variables had statistically significant differences with both cyberchondria and life satisfaction. Therefore, to prevent individuals from obtaining negative health information from the internet, training and health education activities can be carried out to increase the health literacy and digital literacy

levels of individuals. In addition, necessary studies can be carried out to eliminate the barriers and health inequalities in individuals' access to health services. In health institutions such as family medicine, which are the basis of preventive health services, it can be ensured that necessary training studies are carried out for the patient-physician relationship to have informative documents about how to search for health information on the internet, which sources are reliable, and to increase the trust of individuals in health institutions. Inspections against false health information on the internet can be increased by relevant stakeholders. In addition, health literacy, e-health literacy, digital literacy, perception of data in the digital health environment, individuals' access to quality health services, health anxiety, health perception, health anxiety, some behaviors towards a healthy lifestyle, conditions such as depression and loneliness, and cyberchondria and Studies examining life satisfaction together can be carried out.

This research is an original study in terms of dealing with cyberchondria and life satisfaction in the pandemic process. It is thought that the study will contribute to the literature due to the scarcity of studies on the subject.

#### Limitations

The research is limited to 416 participants between the ages of 18-70 across Türkiye. The data obtained within the scope of the research were collected only through the online environment.

#### Author Contributions

The percentage of the author(s) contributions is present below. All authors reviewed and approved final version of the manuscript.

	T.T.	H.F.D.	M.Ş.
C	34	33	33
D	34	33	33
S	40	40	20
DCP	50	30	20
DAI	100		
L	40	40	20
W	40	40	20
CR	50	30	20
SR	40	40	20

C=Concept, D= design, S= supervision, DCP= data collection and/or processing, DAI= data analysis and/or interpretation, L= literature search, W= writing, CR= critical review, SR= submission and revision.

#### Conflict of Interest

The authors declared that there is no conflict of interest.

#### Ethical Approval/Informed Consent

To carry out the study, the permission from the Social and Human Sciences Ethics Committee of Ondokuz Mayıs University (approval date: January 29, 2021 and protocol code: 2021/32). The permission numbered 2021-01-11T12\_48\_23 from the Scientific Research Studies

Committee of the Ministry of Health Scientific Research Platform on Covid-19 were obtained. In addition, the participants included in the study were informed.

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