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PREFACE / ÖNSÖZ

Mehmet Çakıcı¹

Değerli Okuyucular,

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi olarak 2026 yılının haziran sayısının yayınlanmasından büyük mutluluk duyuyoruz. Dünyada meydana gelen savaşlar ve ekonomik sorunlar insanlığı olumsuz yönde daha da zorlaştırmıştır. Bu güç mücadelesi, insanlığın medeni bir dünyaya yolculuğunu tabii ki etkiliyor. Daha barışçıl bir dünya yerine daha sorunlu bir dünyaya doğru evriliyor. Bu şiddete yönelmiş dünyada ölümler artıyor ve acılar büyüyor. Elbette, geçmişten günümüze insanlık gelişme kaydetmiş olsa da, gelecekteki insanlar bizlerin daha geri olduğunu düşünecektir. Bizden önceki dünyanın, bize göre daha ilkel olduğunu düşünsek dahi, bizden sonrakiler de bizim onlardan daha ilkel olduğumuzu iddia edecektir. Ancak insanlığın gelişimi yine de durmayacaktır. Bilim ve bilgi gelişmeye devam edecektir. Teknolojik gelişim de bu karmaşa içinde devam edecektir. Ruh sağlığı alanı, tüm bu zorluklara ve karmaşaya rağmen kendini geliştirmek zorundadır. Ruh sağlığı bilimi ve uygulamalarını, insanlığa daha yararlı olabilmek için geliştirmeye devam etmeliyiz. Çünkü bu alan, insan sağlığı için vazgeçilmezdir. Ruh sağlığı alanındaki bilimsel gelişmelere dergimiz katkı sağlamaya devam edecektir. Dergimiz Kıbrıs'ta tüm alanlarda en yüksek etki faktörüne sahip dergi konumundadır. Web of Science'in açıkladığı son değerler incelendiğinde, Journal Impact Factor'ın (JIF) 0,5 ve yüzde 15,8 percentile olarak açıklanması, derginin en yüksek değere ulaştığını göstermektedir. Scimago'da ise 0,215 değeriyle Türkiye dergileri arasında Klinik Psikoloji alanında birinci, Orta Doğu Bölgesi'nde ise ikinci sırada yer almaktadır. Dergimizin, SCOPUS ve Web of Science'da ESCI listelerinde bulunması da bizleri gururlandırmaktadır. Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nin Haziran 2026 sayısının yayımlanmasına katkı sağlayan herkese çok teşekkür ederiz.

Dear Readers,

We, the Cyprus Turkish Journal of Psychiatry and Psychology, are delighted to publish our June 2026 issue. Wars and economic problems worldwide have made life even more difficult for humanity. This power struggle naturally affects humanity's journey towards a civilized world. Instead of a more peaceful world, we are evolving towards a more problematic one. In this world oriented towards violence, deaths are increasing, and suffering is growing. Of course, although humanity has made progress from the past to the present, future generations will look back on us as more backward. Even if we consider the world before us to be more primitive than ours, those after us will claim that we are more primitive than they are. However, humanity's progress will not stop. Science and knowledge will continue to develop. Technological development will also continue amidst this chaos. Despite all the challenges and complexities, the field of mental health must continue to evolve. We must continue to develop mental health science and practice to better benefit humanity, because this field is indispensable for human health. Our journal will continue to contribute to scientific advancements in mental health. Our journal has the highest impact factor in Clinical Psychology and Psychiatry in Cyprus. According to the latest values published by Web of Science, the Journal Impact Factor (JIF) of 0.5 and the 15.8 percentile indicate that the journal has reached the highest value. In Scimago, with a value of 0.215, it ranks first among Turkish journals in Clinical Psychology and second in the Middle East. We are also proud that our journal is listed in SCOPUS and Web of Science's ESCI databases. We would like to thank everyone who contributed to the publication of the June 2026 issue of the Cyprus Turkish Journal of Psychiatry and Psychology.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Investigation of Psychological Symptoms, Depression, and Anxiety Levels of Women with and without Polycystic Ovary Syndrome

Polikistik Over Sendromu Tanısı Alan ve Almayan Kadınların Psikolojik Belirti, Depresyon ve Anksiyete Düzeylerinin İncelenmesi

Merve Karafistan¹ , Sözen İnak Gönyeli² 

Abstract:

The study employed a causal comparison design to examine differences in psychological symptoms, depression, and anxiety levels between women diagnosed with PCOS and those without the diagnosis. The sample consisted of women aged 18–50 living in the TRNC, totaling 824 participants. Of these, 412 were women who reported having previously been diagnosed with PCOS by a physician, while 412 had no PCOS diagnosis. Due to limited access to the PCOS group, purposive sampling was used for this group, and convenience sampling was applied for the control group to facilitate participation. Data were collected using the Sociodemographic Information Form, Beck Depression Inventory, Beck Anxiety Inventory, and SCL-90-R. The data were analyzed with SPSS 26.0. Findings indicated that women diagnosed with PCOS had significantly higher levels of depression, anxiety, and overall psychological symptoms than those without PCOS. Model analyses showed that 66.9% of the variation in depression levels was explained by general symptom level, anxiety level, and PCOS diagnosis. Additionally, women with PCOS scored higher on the Beck Anxiety Inventory and on the somatization, obsessive-compulsive symptoms, interpersonal sensitivity, depression, anxiety, phobic anxiety, hostility, paranoid ideation, and psychoticism subscales of the SCL-90-R compared to the control group. Within-group effects and multiple comparison tests also demonstrated significantly higher depression levels among women diagnosed with PCOS. Overall, these findings suggest that PCOS has a notable impact on psychological well-being and highlight the need for further comprehensive research on this relationship.

Keywords: Polycystic ovary syndrome, Psychological symptoms, Depression, Anxiety.

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Öz:

Araştırma, PKOS tanısı alan ve almayan kadınların psikolojik belirti, depresyon ve anksiyete düzeylerini karşılaştırmak amacıyla nedensel karşılaştırma deseninde yürütülmüştür. Çalışmanın örneklemini KKTC’de yaşayan 18–50 yaş arası kadınlar oluşturmuş ve toplam 824 katılımcı araştırmaya dahil edilmiştir. Bunların 412’si, öz bildirim yoluyla daha önce hekim tarafından PKOS tanısı aldığı belirtilen kadınlardan; 412’si ise PKOS tanısı olmayan kadınlardan oluşmaktadır. PKOS grubuna ulaşmanın güç olması nedeniyle bu grup amaçsal örnekleme yöntemiyle seçilmiş; kontrol grubu ise erişim kolaylığı sağlamak amacıyla elverişlilik örneklemeyle belirlenmiştir. Veri toplama sürecinde Sosyodemografik Bilgi Formu, Beck Depresyon Envanteri, Beck Anksiyete Envanteri ve SCL-90-R kullanılmıştır. Toplanan veriler SPSS 26.0 aracılığıyla analiz edilmiştir. Bulgular, PKOS tanısı olan kadınların depresyon, anksiyete ve genel psikolojik belirti düzeylerinin PKOS olmayanlara göre belirgin şekilde daha yüksek olduğunu göstermiştir. Model analizlerine göre depresyon düzeyindeki değişimin %66,9’unun genel belirti düzeyi, anksiyete düzeyi ve PKOS tanısı tarafından açıklandığı bulunmuştur. Ayrıca PKOS grubunun Beck Anksiyete Envanteri puanları ile SCL-90-R’in somatizasyon, obsesif-kompulsif belirtiler, kişilerarası duyarlılık, depresyon, anksiyete, fobik anksiyete, hostilite, paranoid düşünce ve psikotizm alt ölçeklerinde kontrol grubundan daha yüksek puanlar aldığı belirlenmiştir. Grup içi etki ve çoklu karşılaştırma testleri de PKOS tanısı alan kadınlarda depresyon düzeylerinin anlamlı biçimde arttığını ortaya koymuştur. Genel olarak sonuçlar, PKOS’un psikolojik iyi oluş üzerinde önemli etkileri olduğunu ve bu ilişkinin daha kapsamlı biçimde araştırılmasına ihtiyaç olduğunu göstermektedir.

Anahtar Kelimeler: Polikistik over sendromu, Psikolojik belirti, Depresyon, Anksiyete.

Introduction

Polycystic ovary syndrome (PCOS), observed in women of reproductive age, is an endocrine disorder characterized by excess androgens, chronic ovulation disorder, and a polycystic appearance of the ovaries (Aydos et al., 2016). It is noted that in each menstrual cycle, the ovum that should rupture does not rupture, and within this unruptured ovarian tissue, cysts with a diameter of 3-10 mm form (Jonard and Dewailly, 2004). However, PCOS can affect not only reproductive health but also an individual's mental and metabolic state (Baykara et al., 2020). Nearly half of women diagnosed with PCOS have been reported to experience a psychiatric disorder alongside the condition (Baykara et al., 2020). The diagnosis of PCOS can have serious emotional effects on women. It is emphasized that feelings such as hopelessness, anxiety, and sadness are commonly experienced in these individuals (Baykara et al., 2020).

Although the exact causes of the psychological symptoms associated with PCOS are not yet fully understood, it is thought that increased androgen levels may have negative effects on mental health (Erol and Kadioğlu, 2021). Various studies have also shown that excess androgen contributes to the development of certain mental illnesses (Subaşı Harmanacı and Okray, 2021). Additionally, symptoms frequently accompanying PCOS, such as hirsutism, oily skin, acne, weight gain, and infertility, can undermine an individual's psychological well-being and femininity, thereby creating a foundation for the development of mental health issues (Erol and Kadioğlu, 2021). Therefore, detailed information about the history of women who may have this syndrome should be obtained (Aydos et al., 2016). It is also stated that some negative experiences and illnesses during childbirth can predispose individuals to depression (Ocak Aktürk and Yılmaz, 2023). In this context, depression is defined as being deeply sad, feeling worthless, lacking motivation, feeling hopeless, and being slow in speech, movement, and thought (Helvacı Çelik and Hocoğlu, 2016). It is already known that negative life events can cause significant distress and lead to multiple psychological disorders, primarily depression and anxiety (Helvacı Çelik and Hocoğlu, 2016). In this context, the concept of anxiety is seen as a feeling of negative mood related to external or

internal factors, and it is also described as a situation that threatens or is perceived as threatening the individual's future and life (Grupe and Nitschke, 2013).

Polycystic Ovary Syndrome (PCOS) is not only a hormonal disorder but also has serious effects on women's body perception, reproductive health, sexual life, and social roles; this situation can lead to an increase in psychological symptoms, depression, and anxiety levels. Especially the changes in appearance, infertility issues, and weight gain observed in women diagnosed with PCOS can negatively affect their social relationships, marital life, and self-perception. In this context, the main problem of the study is to compare the levels of depression, anxiety, and other psychological symptoms in women diagnosed with PCOS, considering sociodemographic characteristics, with those of women who are not diagnosed with PCOS.

Method**Research Model**

The main purpose of this research is to examine the psychological symptoms, depression, and anxiety levels of women diagnosed with polycystic ovary syndrome and those without the diagnosis. In line with this aim, two groups—those diagnosed and those not diagnosed—were compared using a causal-comparative method. This method allows for the identification of possible cause-and-effect relationships between groups without intervention (Mazlum and Atalay Mazlum, 2020). However, an important limitation of this method is that the findings cannot establish a strong cause-and-effect relationship as in intervention studies. It should also be remembered that other uncontrolled variables may also influence the results.

Participants

The study population consists of individuals aged 18-50 living in the Turkish Republic of Northern Cyprus (TRNC). A total of 824 women were included in this study, with 412 women diagnosed with Polycystic Ovary Syndrome (PCOS) and 412 women without a PCOS diagnosis. The PCOS group was purposively selected, while the control group was selected through convenience sampling. Additionally, individuals with a PCOS

diagnosis were included based on self-report. Participants were asked whether they had previously been diagnosed with PCOS by a physician, and those who answered 'yes' were included in the PCOS group. The use of different sampling methods across groups may have introduced initial differences, which should be considered a factor limiting the study's internal validity. However, due to limited access to individuals diagnosed with PCOS, purposive sampling was preferred. In the control group, convenience sampling was used because it was easier to access a broader population.

Among the participants diagnosed with PCOS, 50% were aged 18-25, 39.32% were aged 26-33, 8.25% were aged 34-41, and 2.43% were aged 42 and above. Regarding education levels, 2.43% had primary education, 11.89% had high school education, and 85.68% had university education or higher. In terms of occupation, 19.66% were housewives, 37.62% worked in the private sector, 13.35% were civil servants, and 29.37% were students. Marital status showed that 42.48% were married, 50.49% were single, 4.85% were engaged, and 2.18% were divorced/separated. Family history revealed that 30.34% had a family member with PCOS, 32.52% did not, and 37.14% did not know whether their family had PCOS. Regarding medication use, 45.87% were taking medication, while 70.87% were not.

In the PCOS group, 29.13% used alcohol, and 70.87% did not. Additionally, 31.31% smoked, 60.44% did not, and 8.25% had quit smoking. Regarding physical activity, 17.23% exercised regularly, while 82.77% did not. Furthermore, 29.61% used herbal supplements specific to PCOS, whereas 70.39% did not.

In the non-PCOS group, 61.65% were aged 18-25, 17.23% were aged 26-33, 12.62% were aged 34-41, and 8.50% were aged 42 and above. Education levels included 3.40% with primary education, 10.92% with high school, and 85.68% with university education or higher. Regarding occupation, 8.01% were housewives, 30.83% worked in the private sector, 15.05% were civil servants, and 46.12% were students. Marital status showed 26.94% married, 62.38% single, 8.50% engaged, and 2.18% divorced/separated. Family history indicated that 11.41% had a family member with PCOS, 49.03% did not, and 39.56% were unsure. Medication use was reported by 21.36%, while 78.64% did not use medication.

In the non-PCOS group, 41.02% used alcohol, and 58.98% did not. Additionally, 29.13% smoked, 64.32% did not, and 6.55% had quit smoking. Regarding exercise, 26.21% exercised regularly, 73.79% did not, and 1.70% used PCOS-specific herbal supplements; 98.30% did not.

Data Collection Tools

In this study, data were collected online via Google Forms. While this method offers the opportunity to reach a wide range of participants quickly and at low cost, it has limitations regarding response accuracy, participant care, and clinical assessment.

To collect data for the study, participants were given a Socio-demographic Information Form prepared by the researcher, the Beck Depression Inventory (BDI), the Beck Anxiety Inventory (BAI), and the Symptom Checklist (SCL-90-R).

Socio-demographic Information Form

This form includes 11 questions assessing factors such as age, education level, occupation group, marital status, family history of polycystic ovary syndrome, and whether the participant has been diagnosed with polycystic ovary syndrome.

Beck Depression Inventory (BDI)

BDE, developed by Beck and colleagues (1961), was created to determine whether individuals exhibit depressive symptoms. This inventory consists of 21 items on a 4-point Likert scale, with scores ranging from 0 to 3. Items numbered "0" indicate no depressive symptoms, while higher numbers reflect increasing severity of depressive symptoms. It was adapted to Turkish culture by Erten and Hisli Şahin (1984), and its validity was confirmed on a clinical population. Subsequently, reliability and validity studies were conducted with university students (Hisli, 1988). Cronbach's alpha was reported as 0.80.

Beck Anxiety Inventory

The Beck Anxiety Inventory, developed by Beck and colleagues (1988), consists of 21 items that measure the severity of anxiety. Scoring is on a 4-point Likert scale: none (0), mild (1), moderate (2), and severe (3). Nesrin Hisli Şahin translated the text into Turkish, and the validity and reliability of this Turkish version were assessed by Ulusoy and colleagues (1998). The internal consistency coefficient (Cronbach's alpha) was reported as 0.93.

Symptom Screening List (SCL-90-R)

This inventory was developed by Derogatis and Cleary (1977), and its adaptation study was conducted by Dağ (1991). The Cronbach's alpha value is reported as 0.97. This inventory consists of 90 items and includes nine subscales: somatization, obsessive-compulsive, anxiety, depression, phobic anxiety, hostility, interpersonal sensitivity, paranoid thinking, and psychosis. Additionally, this inventory uses a 5-point Likert scale with the following options: none (0), very little (1), moderate (2), quite a lot (3), and severe (4).

Data Analysis

Statistical analysis of the research data was conducted using the Statistical Package for the Social Sciences (SPSS) version 26.0.

Cronbach's Alpha test was applied to the responses of the participants diagnosed with PCOS and those not diagnosed, for the Beck Depression Inventory, Beck Anxiety Inventory, and Symptom Checklist-90-Revised (SCL-90-R). The reliability coefficients were 0.919 for the Beck Depression Inventory, 0.929 for the Beck Anxiety Inventory, and 0.986 for the Symptom Checklist-90-Revised (SCL-90-R).

Before proceeding with data analysis, the dataset's skewness and kurtosis were examined. Scores for participants diagnosed with PCOS and those not diagnosed with PCOS on the Beck Depression Inventory, Beck Anxiety Inventory, and Symptom Checklist-90-Revised (SCL-90-R) were analyzed using the Kolmogorov-Smirnov test, and skewness and kurtosis were assessed. Since the skewness/kurtosis values were within ± 1.5 , parametric tests were used.

The scores of participants diagnosed with PCOS and those not diagnosed on the Beck Depression Inventory, Beck Anxiety Inventory, and Symptom Checklist-90-Revised

(SCL-90-R) were compared using an independent samples t-test. Pearson correlation analysis was applied to examine relationships between variables.

The socio-demographic characteristics of participants with and without PCOS were presented in cross-tabulations, and the two groups were compared using the Pearson chi-square test. Additionally, MANCOVA and regression analyses were also conducted.

Process

Necessary permissions have been obtained from the owners to use the inventories included in this research. Ethical approval to conduct the study was obtained from the Cyprus Health and Society Sciences University Ethics Committee (project code 2022/047)

on 07/15/2022. The data collection process was carried out between November 2022 and April 2023. Due to the authors' academic/personal commitments and institutional changes, the submission process of this study was delayed by 2 years. However, it is believed that the relevant topic and findings remain current in the literature and make original contributions.

Questions were prepared via Google Forms and distributed online to participants. Before answering the questions, participants were provided with an informed consent form and a participant information form that outlined the purpose, scope, confidentiality, limitations, and voluntary nature of the study.

Findings

Table 1. Comparison of the socio-demographic characteristics of participants with and without PCOS

	PCOS Present		PCOS Absent		X ²	p
	n	%	n	%		
Age						
18-25	206	50,00	254	61,65	58,206	0,000*
26-33	162	39,32	71	17,23		
34-41	34	8,25	52	12,62		
42 and above	10	2,43	35	8,50		
Education						
Primary school	10	2,43	14	3,40	0,837	0,658
High school	49	11,89	45	10,92		
University	353	85,68	353	85,68		
Occupation						
Housewife	81	19,66	33	8,01	38,718	0,000*
Private sector	155	37,62	127	30,83		
Government employee	55	13,35	62	15,05		
Student	121	29,37	190	46,12		
Marital status						
Married	175	42,48	111	26,94	23,576	0,000*
Single	208	50,49	257	62,38		
Engaged	20	4,85	35	8,50		
Divorced/Separated	9	2,18	9	2,18		
Family member with PCOS						
Yes	125	30,34	47	11,41	49,450	0,000*
No	134	32,52	202	49,03		
I don't know	153	37,14	163	39,56		
Medication use						
Yes	189	45,87	88	21,36	55,476	0,000*
No	223	54,13	324	78,64		
Alcohol use						
Yes	120	29,13	169	41,02	12,796	0,000*
No	292	70,87	243	58,98		
Smoking status						
Yes	129	31,31	120	29,13	1,627	0,443
No	249	60,44	265	64,32		
Quit	34	8,25	27	6,55		
Regular exercise status						
Yes	71	17,23	108	26,21	9,771	0,002*
No	341	82,77	304	73,79		
Use of herbal supplements specific to PCOS						
Yes	122	29,61	7	1,70	121,548	0,000*
No	290	70,39	405	98,30		

*p<0,05

Table 1 presents the results of the Pearson chi-square test comparing the sociodemographic characteristics of participants diagnosed with PCOS and those without.

It was observed that there are statistically significant differences between participants diagnosed with PCOS and those not diagnosed, based on age group, occupation, marital status, whether there is a family member with

PCOS, medication and alcohol use, regular exercise, and use of herbal supplements specific to PCOS ($p < 0.05$). The proportion of participants with PCOS in the 26-33 age group, housewives, married individuals, those with a

family member with PCOS, medication users, and those using herbal supplements specific to PCOS was higher compared to those without PCOS. Additionally, the rate of

alcohol use and regular exercise was higher among participants without PCOS than those with the diagnosis. Existing studies already report that alcohol consumption further negatively affects PCOS (Norman et al., 2002). However, it is well established that regular exercise is important for patients with PCOS, and weight loss associated with exercise reduces symptoms and helps maintain hormonal balance (Gündoğan and Arıkan, 2022).

Table 2. Comparison of Beck Depression Inventory, Beck Anxiety Inventory, and SCL-90-R scores between participants diagnosed with and without PCOS

	PCOS	N	\bar{x}	s	t	p
Beck Depression Inventory	PCOS present	412	42,19	11,06	9,895	0,000*
	PCOS absent	412	34,63	10,87		
Beck Anxiety Inventory	PCOS present	412	20,14	12,14	7,000	0,000*
	PCOS absent	412	14,35	11,57		
Somatization (SOM)	PCOS present	412	1,21	0,83	6,702	0,000*
	PCOS absent	412	0,84	0,77		
Obsessive-Compulsive (OBKO)	PCOS present	412	1,63	0,87	7,476	0,000*
	PCOS absent	412	1,17	0,87		
Interpersonal Sensitivity(KADU)	PCOS present	412	1,64	1,00	8,510	0,000*
	PCOS absent	412	1,06	0,95		
Depression (DEP)	PCOS present	412	1,66	0,93	7,886	0,000*
	PCOS absent	412	1,14	0,96		
Anxiety (ANX)	PCOS present	412	1,20	0,92	6,540	0,000*
	PCOS absent	412	0,80	0,82		
Hostility (HOST)	PCOS present	412	1,36	0,97	6,691	0,000*
	PCOS absent	412	0,92	0,91		
Phobic Anxiety (FOB)	PCOS present	412	0,90	0,89	6,614	0,000*
	PCOS absent	412	0,54	0,68		
Paranoid Ideation (PAR)	PCOS present	412	1,48	0,92	5,749	0,000*
	PCOS absent	412	1,12	0,90		
Psychoticism (PSIK)	PCOS present	412	0,98	0,83	5,992	0,000*
	PCOS absent	412	0,65	0,75		
Additional Scale (EK)	PCOS present	412	1,28	0,79	6,313	0,000*
	PCOS absent	412	0,95	0,75		
SCL90R Inventory Overview	PCOS present	412	1,33	0,80	7,709	0,000*
	PCOS absent	412	0,92	0,75		

* $p < 0,05$

Table 2 presents the results of the independent-samples t-test comparing scores on the Beck Depression Inventory, Beck Anxiety Inventory, and Symptom Checklist-90-Revised (SCL-90-R) between participants with PCOS and those without PCOS. According to Table 2, a statistically significant difference in Beck Depression Inventory scores was observed between participants with and without PCOS ($p < 0.05$). Participants with PCOS had higher scores on the Beck Depression Inventory than those without PCOS. While participants' scores on the 'Symptom Checklist-90-Revised (SCL-90-R)' are kept under control, it is planned to determine whether there are significant

differences in scores between participants diagnosed with PCOS and those without it on the 'Beck Depression Inventory' and 'Beck Anxiety Inventory.' For this purpose, MANCOVA analysis was applied to the data. To perform MANCOVA, assumptions such as normality and homogeneity of the variance-covariance matrix must be met (Tabachnick & Fidell, 2007).

The homogeneity of variances is examined with Levene's Test, and the equality of covariance matrices is checked with Box's M test (Kumandaş & Kutlu, 2011). In large-sample studies, Box's M test can yield significant results

(Tabachnick & Fidell, 2007). According to the results of Box's M test, which is used to assess the equality of covariance matrices among dependent variables, the assumption of covariance equality in this study is satisfied (Box's M= 3.462, $p=0.327 > 0.05$). Levene's test is a method for testing the equality of variances between two independent samples without assuming normality (Lee et

al., 2010). For homogeneity to be achieved in Levene's test, the p-value should be greater than 0.05. Based on the Levene's Test results for the dependent variables, which are the Beck Depression Inventory and Beck Anxiety Inventory, the assumption of equal variances ($p>0.05$) was satisfied.

Table 3. Multivariate tests

		Value	F	df	Error df	p	Eta Squared
Intercept	Pillai's Trace	,825	1930,514	2,000	820,000	,000*	,825
	Wilks' Lambda	,175	1930,514	2,000	820,000	,000*	,825
	Hotelling's Trace	4,709	1930,514	2,000	820,000	,000*	,825
	Roy's Largest Root	4,709	1930,514	2,000	820,000	,000*	,825
SCL90R	Pillai's Trace	,800	1642,796	2,000	820,000	,000*	,800
	Wilks' Lambda	,200	1642,796	2,000	820,000	,000*	,800
	Hotelling's Trace	4,007	1642,796	2,000	820,000	,000*	,800
	Roy's Largest Root	4,007	1642,796	2,000	820,000	,000*	,800
With and without a PCOS diagnosis	Pillai's Trace	,041	17,385	2,000	820,000	,000*	,041
	Wilks' Lambda	,959	17,385	2,000	820,000	,000*	,041
	Hotelling's Trace	,042	17,385	2,000	820,000	,000*	,041
	Roy's Largest Root	,042	17,385	2,000	820,000	,000*	,041

* $p<0,05$

Multivariate tests conducted in the study are shown in Table 3. Eigenvalues indicate the amount of variation explained by each eigenvector. In MANOVA, Wilks' Lambda, Pillai's Trace, and Hotelling-Lawley trace are based on the sum of all eigenvalues. However, Roy's Largest Root test is based on the first eigenvalue (Scheiner,

2001). According to the MANCOVA results, there are significant differences among the groups examined in the study ($F = 17.385, p = 0.001$, as indicated by Roy's Largest Root test). Because Roy's Largest Root test allows for post hoc testing and yields strong test statistics (Scheiner, 2001), it was considered in this analysis.

Table 4. Tests of within-subjects effects

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	p	Partial Eta Squared
Corrected Model	Beck Depression	73693,645	2	36846,822	819,028	,000*	,666
	Beck Anxiety	90959,931	2	45479,966	1183,637	,000*	,742
Intercept	Beck Depression	173857,851	1	173857,851	3864,498	,000*	,825
	Beck Anxiety	1606,227	1	1606,227	41,803	,000*	,048
SCL-90R	Beck Depression	61917,886	1	61917,886	1376,306	,000*	,626
	Beck Anxiety	84068,318	1	84068,318	2187,916	,000*	,727
Participants with and without a PCOS diagnosis	Beck Depression	1564,907	1	1564,907	34,785	,000*	,041
	Beck Anxiety	17,483	1	17,483	,455	,500	,001
Error	Beck Depression	36935,529	821	44,988			
	Beck Anxiety	31546,038	821	38,424			
Total	Beck Depression	1326235,000	824				
	Beck Anxiety	367525,000	824				
Corrected Total	Beck Depression	110629,174	823				
	Beck Anxiety	122505,970	823				

* $p<0,05$

To evaluate the effect of each independent variable on each dependent variable, intra-group effect tests were conducted following the MANCOVA test, as shown in Table 4. The intra-group effect tests revealed that the diagnosis of PCOS has a statistically significant effect on women's depression levels ($F(1,821) = 34.785, p < .001$). However, the diagnosis of PCOS did not create a

significant difference in terms of anxiety levels ($F(1,821) = 0.455, p = .500$). Additionally, individuals' overall psychological symptom levels (SCL-90-R) showed strong and significant effects on both depression and anxiety. These findings support the psychological effects of PCOS related to depression, but do not differentiate in terms of anxiety levels. Multiple comparison tests are presented in Table 5.

Table 5. Multiple comparison tests

Dependent Variable	PCOS-diagnosed and non-PCOS	PCOS-diagnosed and non-PCOS	Mean Difference (I–J)	Std. Error	p
Beck Depression	Yes	No	2,856	0,484	0,001*
	No	Yes	-2,856	0,484	0,001*
Beck Anxiety	Yes	No	0,302	0,448	0,500
	No	Yes	-0,302	0,448	0,500

*p<0,05

As a result of multiple comparison tests, it was found that women diagnosed with PCOS have significantly higher levels of depression ($p < .001$). This finding supports the association between PCOS and depressive symptoms. However, no significant difference was observed between the groups in terms of anxiety levels ($p = .500$), indicating that PCOS does not have a notable effect on anxiety.

In this study, multiple linear regression analysis was preferred in line with the necessity of evaluating psychological and clinical factors that may affect individuals' depression levels. The analysis conducted aims to test the effect of PCOS diagnosis statistically, overall psychological symptom level (SCL-90-R), and anxiety level on depression, and to reveal the predictive power of these variables (Table 6).

Table 6. The predictive role of participants' Beck Anxiety scores, PCOS Diagnosis Status, and SCL-90-R scores on Beck Depression scores

Variable	B	SE	β	t	p
(Constant)	29,744	,914		32,533	,000*
Beck Anxiety	,093	,038	,098	2,477	,013*
PCOS Diagnosis Status (Yes / No)	-2,828	,483	-,122	-5,856	,000*
SCL-90-R	9,943	,574	,691	17,327	,000*
R=0,509	R ² =0,669		F(3;820)=551,478		*p<0,05

Dependent variable: Beck Depression Scale

Table 6 shows the statistical values related to the results of the regression analysis conducted to examine the predictive effect of participants' scores on the 'Beck Anxiety Inventory,' 'PCOS Diagnosis Status,' and 'SCL-90-R Scale' on the 'Beck Depression Inventory' scores. While the SCL-90-R scores positively and strongly predict depression levels ($\beta = 0.691$; $p < .001$), the Beck Anxiety scores also significantly predict depression levels in a positive direction ($\beta = 0.098$; $p = .013$). The PCOS diagnosis, on the other hand, negatively predicts depression levels, and individuals diagnosed with PCOS tend to have significantly higher depression scores ($\beta = -0.122$; $p < .001$). The combined predictive power of these three variables for depression levels (R^2) is 66.9%. This means that the overall symptom level, anxiety level, and PCOS diagnosis explain 66.9% of the variation in depression levels. The regression formula can be written as follows:

$$\text{Beck Depression Score} = \text{Beck Anxiety Scale} \times 0.093 + \text{PCOS Diagnosis Status} \times -2.828 + \text{SCL90R Scale} \times 9.943 + 29.744$$

Discussion

Although the literature suggests that cigarette use can affect hormonal balance and disrupt menstrual regularity (Mazlumoğlu et al., 2024; Hahn et al., 2013; Palm-

Fischbacher and Ehlert, 2014), this study did not find a connection between smoking and PCOS. The fact that the majority of participants were young adults, the short duration of their smoking, and the biological effects not yet being prominent could explain this result. The lack of difference in PCOS prevalence by education level is consistent with prior literature, and biological factors and lifestyle-related conditions are thought to have a greater impact on the development of the syndrome than sociodemographic variables such as education.

The differences observed between groups in variables such as age, marital status, and occupation do not fully align with previous research (Özsoy and Doğru, 2021; Sharma et al., 2025), suggesting that the demographic distribution of PCOS may vary across societies. Geographic differences, sample structure, or group comparability can be among the possible reasons for such discrepancies. The higher rates of medication and herbal supplement use, as well as exercise among women diagnosed with PCOS, indicate that this group has increased health awareness and is making efforts to improve their quality of life. This trend is consistent with studies in the literature emphasizing the importance of healthy lifestyle habits in managing PCOS (El Hayek et al., 2016; Nicolucci, 2012). On the other hand, the finding related to alcohol use has no direct counterpart in the literature. The limited number of studies explaining the relationship between PCOS and alcohol

(Norman et al., 2002) indicates that this topic requires further research.

One of the important findings of the study is that women with PCOS have significantly higher levels of psychological symptoms. It has long been emphasized in the literature that a wide range of psychological symptoms, including anxiety and depression, may be associated with PCOS. Hofmann et al. (2025) and Percy et al. (2009) indicate that PCOS increases depression, anxiety, and body image issues in women; Snyder (2006) shows that depression rates are significantly higher in women with PCOS. Similarly, Cipkala et al. (2011) reported that women with PCOS have higher levels of depression. Overall, these studies suggest that the physical symptoms of PCOS can have serious effects on psychosocial functioning.

Studies indicating that disruption of hormonal balance can affect neurotransmitter systems (Balıkçı et al., 2014) shed light on the biological basis of mood disorders in women with PCOS. On the other hand, numerous studies have demonstrated that depression, anxiety, stress, and various psychosocial difficulties often accompany PCOS and negatively impact quality of life (Jalnapurkar and Findley, 2018; Yin et al., 2021; Shannon and Wang, 2012; Rassi et al., 2010; Deeks et al., 2010; Barry et al., 2011). Additionally, broader symptoms such as somatization, eating disorders, phobias, and aggression have been reported to be associated with PCOS in various studies (Brutocao et al., 2018; Cinar et al., 2011; Dokras et al., 2012).

In this study, the higher levels of depression in women with PCOS are consistent with findings in the literature that suggest depression is an important psychological risk factor for PCOS (Cooney et al., 2017; Sulaiman et al., 2017). However, the differing results regarding anxiety levels imply that the psychological effects of PCOS may be context-dependent. Factors such as sample characteristics, measurement tools, cultural dynamics, and symptom expression can explain these differences. Therefore, further research with different samples is needed to better understand the relationship between PCOS and anxiety.

The clear relationship between overall psychological symptom levels and depression indicates that mental symptoms develop through mutual interactions and have a multi-layered structure. This situation demonstrates that PCOS is a holistic phenomenon that should be addressed not only in terms of its biological aspects but also considering its psychological and social dimensions.

Results and Recommendations

Research findings indicate that women diagnosed with PCOS are mostly between the ages of 26 and 33, married, housewives, using medication, and receiving herbal supplements. This group is at a higher risk for anxiety, depression, and other psychological symptoms. This situation highlights the importance of implementing educational programs to improve the quality of life for individuals with PCOS and to support them in coping with psychological issues. Additionally, lifestyle measures such as regular exercise, balanced nutrition, routine medical check-ups, and medication use when necessary are recommended. To increase awareness starting from adolescence, informative seminars should be organized in schools, and it is essential to consider the high psychological risk when working with individuals with PCOS, with treatment plans tailored to this condition. Although considering demographic and environmental variables is seen as a limitation of the study, regression analysis shows a relationship between general symptoms and anxiety and depression. These results emphasize that the psychological impact of PCOS should not be overlooked and that further comprehensive research is necessary to explore this relationship.

Declarations

Ethical Approval and Consent to Participate

Participants in the study were informed and gave their consent. Additionally, approval was obtained from the Scientific Research Ethics Committee of the Graduate Education, Teaching, and Research Institute of Cyprus Health and Society Sciences University (KSTU//2022/047, Date: 15.07.2022).

Publication Permission

Not applicable.

Availability of Data and Materials

Not applicable.

Conflict of Interest

The authors declare no conflict of interest.

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Author Contributions

This study is part of a master's thesis. MK conducted all stages of the article. MK was involved in preparing the thesis topic, introduction, methods, and discussion sections, collecting data, and writing the abstract and summary. The thesis advisor contributed to the review and editing of the work. Author MK analyzed and interpreted the research data. Both authors reviewed and approved the final versions of the manuscript

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Psychosocial Interaction between Social Media, Personal Care, and Communication

Sosyal Medya ile Kişisel Bakım ve İletişim Arasındaki Psikososyal Etkileşim

Dursun Yılmaz¹ 

Abstract:

This study investigates the psychosocial relationship between social media engagement, personal care routines, and social communication practices. Using a quantitative cross-sectional survey design, data were collected online from 400 participants aged 18 and over in Turkey. An original scale comprising three dimensions-personal care routines, appearance satisfaction, and social communication effects-demonstrated strong reliability and construct validity. The findings indicate that social media significantly influences both grooming frequency and satisfaction with appearance. While 68.2% of women reported being affected by social media content, the rate among men was 38.3%. Women engaged more frequently in personal care practices, whereas men reported higher levels of social anxiety related to skin concerns. Higher educational attainment was associated with lower susceptibility to social media influence, suggesting a protective role of media literacy. Occupational identity and income level further shaped perceptions of appearance, with teachers and beauty-sector professionals reporting more regular self-care routines. The results are consistent with theories of self-presentation, social comparison, social learning, and bodily capital. Overall, the study demonstrates that social media reshapes body image, self-presentation strategies, and confidence in social communication, while the emergence of appearance-related anxiety among men points to shifting gender norms in digital culture.

Keywords: Social media, Personal care, Gender, Social communication, Self-presentation, Body image.

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Öz:

Bu araştırma, bireylerin sosyal medya etkileşimi, kişisel bakım alışkanlıkları ve sosyal iletişim pratikleri arasındaki psikososyal ilişkiyi incelemektedir. Türkiye genelinde 18 yaş ve üzeri 400 katılımcıyla gerçekleştirilen çalışmada betimsel tarama modeli kullanılmış, veriler çevrim içi anket yöntemiyle toplanmıştır. Araştırmada geliştirilen özgün ölçek üç alt boyuttan oluşmaktadır: kişisel bakım rutinleri, görünüm memnuniyeti ve sosyal iletişim etkileri. Ölçeğin güvenilirlik katsayısı ($\alpha = .82$) ve KMO değeri (.88) yüksek bulunmuştur. Bulgular, sosyal medya içeriklerinin bireylerin kişisel bakım sıklığı ve görünüm memnuniyeti üzerinde anlamlı etkiler yarattığını göstermiştir. Kadın katılımcıların %68,2'si sosyal medya içeriklerinden etkilendiğini belirtirken, erkeklerde bu oran %38,3'tür. Kadınların daha sık bakım uyguladığı, erkeklerin ise cilt sorunlarına bağlı olarak sosyal kaygı yaşadığı saptanmıştır. Eğitim düzeyinin artmasıyla sosyal medya etkileniminin azaldığı, lisansüstü grubun medya okuryazarlığı sayesinde eleştirel bir tutum geliştirdiği belirlenmiştir. Mesleki kimlik ve gelir düzeyi de görünüm algısını şekillendirmekte; özellikle öğretmenler ve güzellik sektörü çalışanlarında düzenli bakım oranı yüksek seyretmektedir. Sonuçlar, Goffman'ın benlik sunumu, Festinger'in sosyal karşılaştırma, Bandura'nın sosyal öğrenme ve Bourdieu'nün bedensel sermaye kuramlarıyla tutarlılık göstermektedir. Sosyal medya, bireylerin beden algısını, benlik sunum stratejilerini ve sosyal iletişimdeki özgüvenini yeniden biçimlendirmektedir. Çalışma, görünüm kaygısının erkeklerde de yükseldiğini ortaya koyarak toplumsal cinsiyet normlarının dijital ortamda dönüşümüne işaret etmektedir. Araştırma, sosyal medya kültürünün bakım davranışlarını, beden memnuniyetini ve iletişim biçimlerini Türkiye bağlamında çok boyutlu olarak ele almasıyla literatüre özgün bir katkı sunmaktadır. Ayrıca medya okuryazarlığı programlarının geliştirilmesi ve çeşitlilik temsiline dayalı dijital politika önerileriyle uygulamaya dönük sonuçlar üretmektedir.

Anahtar Kelimeler: Sosyal medya, Kişisel bakım, Toplumsal cinsiyet, Sosyal iletişim, Benlik sunumu, Beden imajı.

Introduction

In the contemporary period, digital and social media shape not only individuals' access to information but also their health-related decisions, social interactions, and everyday self-care practices (Yılmaz & Sezgin, 2023). By continuously reproducing appearance-related norms, social media platforms intensify appearance-oriented cultures, encouraging individuals to evaluate themselves through social comparison and to align their grooming behaviors with mediated ideals (Aydemir, 2024; Festinger, 1954; Perloff, 2014; Tiggemann & Zaccardo, 2015).

Personal care extends beyond hygiene and serves as a key mechanism through which individuals construct social identity and manage self-presentation. Within Goffman's (1959) framework, outward appearance operates as a strategic resource on the "front stage" of social life, facilitating social acceptance and status attainment. Grooming practices, particularly for women, are closely intertwined with gendered expectations, while the body itself becomes a site for the accumulation of both symbolic and social capital in contemporary societies (Bartky, 1990; Bourdieu, 1984; Wolf, 1991).

Grounded in Goffman's theory of self-presentation (1959) and Festinger's social comparison theory (1954), this study examines how digital media environments shape individuals' personal care practices, perceptions of appearance, and processes of self-construction. Social comparison theory posits that individuals evaluate themselves by comparing themselves with others (Festinger, 1954), a process that is particularly intensified in social media contexts. Idealized body images circulating on digital platforms continuously reproduce appearance norms, amplifying social appearance anxiety and operating as a pressure mechanism that encourages engagement in personal care behaviors. Empirical research with Instagram users supports this dynamic, demonstrating that exposure to idealized online selves undermines subjective well-being and increases body dissatisfaction and grooming-related anxiety, particularly among young women (Fardouly et al., 2015; Güler et al., 2022).

Recent research conducted in Turkey reveals comparable patterns. Studies indicate that influencer-generated content on social media and online shopping platforms significantly increases consumer interest in cosmetic and personal care products, while prevailing appearance norms substantially shape university students' grooming habits and purchasing behaviors (Karakuş, 2022; Samırkaş Komşu et al., 2024; Genç & Kayalar, 2024). Moreover, idealized beauty images disseminated through social media and advertising are emphasized as encouraging female consumers to associate being "well-groomed" with social approval, thereby reinforcing the media's regulatory role in shaping cosmetic preferences (Yılmaz, 2025). Such representations are also reported to influence women's social roles and self-esteem, as well as to reframe concepts such as naturalness and ethical production (Yılmaz & Yıldırım, 2025). In addition, a significant relationship has been identified between social appearance anxiety and social media literacy, suggesting that physical appearance plays a decisive role in social communication, particularly among young individuals (Özer & Güzel, 2023).

Studies indicate that higher levels of education foster more critical engagement with social media content, thereby strengthening individual resistance mechanisms (Saeed et al., 2023). Among young adults, digital media use is significantly associated with appearance-based self-worth, while social media influencers guide personal care and cosmetic consumption by promoting conformity to aesthetic norms (Şengönül & Aydın, 2021; Sokolova & Kefi, 2020). Moreover, the effects of social media on body image anxiety and grooming behaviors among young individuals have been well documented (Tiggemann & Slater, 2014).

Although studies examining the relationship between social media and appearance perception in Turkey remain limited, existing findings demonstrate significant associations between social media addiction and social appearance anxiety (Özer & Güzel, 2023). Social media use has been linked to increased appearance-related

anxiety across different attachment styles (Aydoğan, 2024) and to heightened concerns about physical appearance among adolescents, alongside perceived social support (Çakıcı, 2021; Abat, 2024). Moreover, the influence of social media influencers on cosmetic brand preferences among individuals aged 18–25 has been reported to be notably high (68.4%) (Sönmez & Taşkıran, 2019), and recently developed measurement tools have advanced the field (Kayan, 2025). Similarly, international research indicates that exposure to idealized images on social media negatively affects appearance anxiety and self-worth, particularly among adolescent girls, and reduces body satisfaction (Meier & Gray, 2014; Perloff, 2014).

Taken together, these findings suggest that social media exerts a multidimensional influence on personal care practices, appearance satisfaction, and social communication. Accordingly, this study investigates the relationship between social media interactions and personal care practices at both theoretical and empirical levels, with particular attention to appearance satisfaction, self-presentation, and self-expression across demographic variables such as gender, age, and education.

Research Questions and Hypotheses

This study addresses the following research questions: How does susceptibility to social media influencers vary across demographic characteristics? Does exposure to social media content affect individuals' grooming frequency and appearance satisfaction? How is appearance satisfaction associated with self-expression and self-confidence in social communication?

Based on these questions, the study tests the following hypotheses:

- H1:** Women attach greater importance to personal grooming than men.
- H2:** Greater influence of social media influencers is associated with higher grooming frequency.
- H3:** Greater engagement in personal care is associated with higher self-confidence in social communication.
- H4:** Lower appearance satisfaction is associated with reduced comfort in social environments.
- H5:** Younger individuals experience stronger social communication effects of skin-related concerns.
- H6:** Susceptibility to social media content varies significantly by education level.

Methodology

This study employed a quantitative cross-sectional survey design. The population comprised individuals aged 18 and over residing in Türkiye, and the sample comprised 400 participants selected using convenience sampling. Age, gender, and education level were included as control variables.

Table 1. The impact of dermatological concerns on social interaction by gender

Variable	Category	High Impact (%)	Statistical Test
Gender	Male	25.0	$\chi^2(2) = 7.32, p = .026$
	Female	16.1	
Impact Mechanism	Anxiety	68.0	$r_s = 0.61, p < .001$

Note. χ^2 = Chi-square test; r_s = Spearman's rank correlation coefficient.

Data were collected online via Google Forms after obtaining informed consent. The questionnaire included demographic items and statements measuring personal care habits and perceptions of social communication, rated on a five-point Likert scale (1 = Strongly Disagree, 5 = Strongly Agree). The researchers' original scale was used. Content validity was established through expert review (CVI = 0.92). Construct validity was assessed using Exploratory Factor Analysis (KMO = 0.88; Bartlett's Test of Sphericity, $p < .001$), yielding a three-factor structure- Personal Care Routines (10 items), Appearance Satisfaction (7 items), and Social Communication Effects (10 items)-which explained 68.4% of the total variance. Internal consistency was satisfactory (Cronbach's $\alpha = .82$).

Data were analyzed using SPSS 25.0. As the data did not meet the assumptions of normality, nonparametric tests (Mann-Whitney U and Kruskal-Wallis) were employed. Relationships among variables were examined using Spearman's rank-order correlation, while categorical associations were tested using the Chi-square test. Statistical significance was set at $p < .05$.

Ethical approval was obtained from the Tokat Gaziosmanpaşa University Social and Human Sciences Ethics Committee (April 25, 2025; Decision No: 01-68). Participation was voluntary, informed consent was obtained, and data were collected anonymously for scientific purposes only.

Results

This section delineates the empirical findings of the study, structured around three primary thematic axes: (1) the impact of dermatological concerns on social interaction, (2) the influence of social media trends on grooming behaviors, and (3) the interplay between professional identity and appearance perception. The subsequent subsections are organized by the statistical analyses' outputs and their corresponding thematic distributions.

The Impact of Dermatological Concerns on Social Interaction

The research findings indicate that participants experienced varying degrees of impact from skin-related concerns on social communication. Specifically, 35.5% of participants reported a moderate impact, 16.8% a high impact, and 47.8% stated that dermatological concerns had no effect on their social interactions (see Table 2). This distribution suggests that social sensitivity to skin issues varies significantly among individuals. The role of physical appearance in social interaction was evaluated within the framework of Goffman's theory of self-presentation, suggesting that "front-stage" management is closely linked to skin condition

Table 2. General distribution of the impact of skin concerns on social interaction (N = 400)

Impact Level	Frequency (n)	Percentage (%)	Cumulative Percentage
No impact	191	47.8	47.8
Moderate impact	142	35.5	83.3
High impact	67	16.8	100.0
Total	400	100.0	

Analysis based on the gender variable revealed that male participants experienced social communication anxiety arising from skin concerns more intensely than females. While 25.0% of male participants reported that skin problems had a high impact on their social communication, this rate was 16.1% among female participants. The Chi-square test confirmed that this difference was statistically significant ($\chi^2(2) = 7.32, p = .026$). Although Hypothesis H1 originally posited that women would attribute greater importance to grooming practices, these findings suggest that men may experience higher levels of social anxiety related to visible skin issues, potentially due to differing social expectations or coping mechanisms.

Regarding age groups, differences in the social impact of dermatological concerns were examined using a nonparametric Kruskal-Wallis test, given the ordinal structure of the dependent variable. The results indicated a statistically significant difference across age groups ($H(3) = 12.41, p = .006$). In the 18-25 age group, 18.7% of participants reported a high impact on communication, whereas this rate declined to 11.4% in the 36-45 age group. These findings support Hypothesis H5, which posits that younger age groups are more susceptible to the social repercussions of appearance-related concerns (see Table 3).

Table 3. High impact of skin concerns by age group ("High Impact" Response Rate)

Age Group	High Impact (%)	Standard Error (\pm)
18-25	18.7	± 2.9
26-35	18.7	± 4.0
36-45	11.4	± 3.4
46 and above	16.0	± 5.2

Note. Values represent the standard error (SE).

Similarly, the impact of skin concerns varied significantly across occupational groups. The rate of high-impact responses was 22.7% among self-employed individuals, compared with only 10.0% among those working in the beauty industry. The Chi-square analysis confirmed that this difference was statistically significant ($\chi^2(6) = 15.44, p = .017$). This finding indicates that professional identity and familiarity with appearance management practices are determinants of social sensitivity, supporting Hypothesis H4. Finally, a strong positive correlation was identified between the severity of participants' skin concerns and their levels of social anxiety. Spearman's rank correlation analysis revealed a statistically significant association ($r_s = 0.61, p < .001$), indicating that as perceived skin-related problems intensify, social communication anxiety increases. This result demonstrates that physical appearance exerts a substantial influence on self-confidence in interpersonal communication, providing

empirical support for Hypothesis H3, which links appearance-related perceptions with social self-assurance.

The Impact of Social Media Trends on Personal Grooming Practices

The study's findings indicate that social media content significantly influences individuals' personal grooming practices. Overall, 53.1% of the participants reported being affected by social media trends to some extent. Among these respondents, 36.3% stated that they were "moderately" influenced, while 16.8% indicated a "high" level of influence. In contrast, 23.8% of the participants reported that social media had no effect on their grooming behaviors. This distribution demonstrates that the impact of social media content is widespread but not homogeneous across individuals. These findings provide empirical support for Hypothesis H2, which posits that exposure to social media increases the frequency of personal grooming practices (see Table 4).

Table 4. Distribution of participants according to levels of influence from social media content

Level of Influence	Frequency (n)	Percentage (%)	Cumulative (%)
No influence	95	23.8	23.8
Low influence	93	23.3	47.1
Moderate influence	145	36.3	83.4
High influence	67	16.8	100.0

Chi-square analyses, stratified by gender, revealed that the influence of social media content was significantly stronger among female participants. While 68.2% of women reported being influenced at least at a “moderate” level, this proportion was 38.3% among men. Notably, the percentage of women who reported being “highly

influenced” (22.9%) was approximately 3.5 times that of men (6.6%). This difference was statistically significant ($\chi^2 = 21.34, p < .001$). These results support Hypothesis H1, which examines the role of gender in social media influence (see Table 5).

Table 5. Levels of social media influence by gender

Level of Influence	Women (n = 292)	Men (n = 108)	p-value
No influence	31.8%	55.1%	
Low influence	19.9%	32.9%	
Moderate influence	45.2%	25.4%	
High influence	22.9%	6.6%	< .001

Figure 1 presents a comparative illustration of women’s and men’s levels of influence from social media content, based on percentage distributions across the response categories (“no,” “low,” “moderate,” and “high influence”). The data show that the proportions of

“moderate” and “high influence” responses are notably higher among women. This pattern further indicates that women are more strongly affected by social media trends than men (Figure 1), providing additional support for Hypothesis H1.

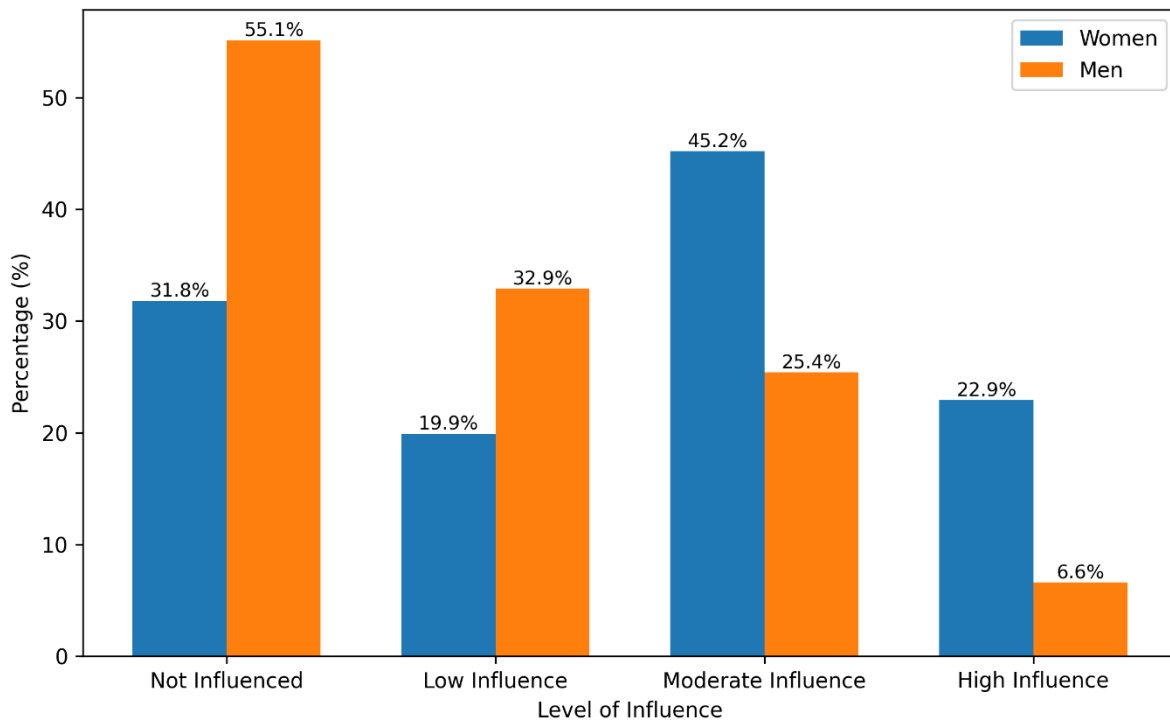


Figure 1. Levels of social media influence by gender

Source: Compiled by the authors based on calculated indices.

In addition, a positive relationship was identified between exposure to social media content and the frequency of product replacement behaviors. Spearman’s rank correlation analysis revealed a statistically significant association ($r_s = 0.47, p < .001$), indicating that social media influences not only aesthetic perceptions but also consumption-related behaviors. When evaluated within the framework of social learning theory (Bandura, 1977), this finding suggests that individuals model grooming behaviors through observational learning on social media and subsequently translate these observations into action. Accordingly, individuals appear to be receptive to trend-

driven changes in their grooming routines. These results provide both statistical and theoretical support for Hypothesis H2.

Conversely, participants who reported not being influenced by social media content were predominantly those with higher levels of education, suggesting that media literacy and critical awareness may function as buffering mechanisms in shaping grooming behaviors. The results of the Kruskal–Wallis test indicated a statistically significant difference in social media influence by educational level ($\chi^2(3) = 12.87, p = .005$).

In particular, participants with postgraduate education were more likely to report being “not influenced” by social media content. This finding is consistent with Kayan’s (2025) results from the Social Media Awareness Scale, which identified a negative correlation between educational attainment and the impact of social media on perceived appearance. Accordingly, the present findings support Hypothesis H6, which examines the effect of education level on susceptibility to social media influence.

The Interplay of Professional Identity, Income, and Appearance Perception

The research findings demonstrate meaningful associations between individuals’ professional identities and their perceptions of physical appearance.

For many participants, appearance is not merely an aesthetic preference but also a medium of professional and social representation. This association is particularly pronounced among teachers, for whom physical appearance plays a significant role in the construction of professional image and authority. Within this group, 91% of participants identified oral hygiene as important, and 88% emphasized appropriate attire as important for professional communication. Among teachers with a monthly income of 30,000 TRY or more, the rate of regular grooming behavior was 82%, whereas it declined to 47% among those earning below 20,000 TRY. These findings support Hypothesis H4, which examines the relationship between professional identity and perceptions of appearance (see Table 6).

Table 6. Primary functions of appearance and regular grooming behaviors by occupational group

Occupational Group	Sample (n)	Primary Function of Appearance	Salient Areas of Concern	Income–Grooming Relationship
Teachers	104	Authority and trust-building; professional image	Oral hygiene (91%), appropriate clothing (88%)	≥30k TRY: 82% regular grooming; <20k TRY: 47%
Beauty Industry	24	Indicator of professional competence	Skin imperfections (100%), trend conformity (93%)	Income-independent: 98% regular grooming
Students	91	Career investment: future employability	Body shape concerns (51%), skin problems (38%)	<10k TRY: 74% regular grooming
Homemakers	25	Social acceptance and protection from exclusion	Weight (68%), signs of aging	≥30k TRY: 65%; <10k TRY: 21%
Other Occupations	157	Variable (occupational diversity)	No dominant concern identified	Comparable to the sample average

These findings can be interpreted within the framework of Bandura’s (1977) social learning theory. Social media content, particularly influencer and expert representations, may shape personal grooming behaviors through observational learning, leading to modifications in individuals’ care routines. Nevertheless, the finding that 47.1% of participants reported being either not influenced or only minimally influenced highlights the role of individual resistance factors, such as media literacy and aesthetic autonomy.

Similarly, among individuals employed in the beauty industry, appearance is perceived as a direct indicator of professional competence. In this group, all participants (100%) experiencing skin-related concerns reported seeking dermatological treatment, and 98% maintained regular grooming routines. This pattern can be interpreted through Bourdieu’s (1984) concept of bodily capital, wherein appearance is directly linked to both economic and symbolic success within the field.

Among students, physical appearance is conceptualized as a preparatory tool for future professional success. In this group, 74% of low-income participants reported engaging in regular grooming practices. This finding is also consistent with Beck’s (1992) “risk society” thesis, suggesting that young individuals develop strategies to produce a “marketable body” in response to uncertainty about future employment prospects.

For homemakers, appearance was primarily positioned as a defensive strategy against social exclusion and peer pressure. Concerns about aging, weight, and body shape were particularly salient in this group. As monthly income increased, regular grooming behaviors also rose significantly: 65% of individuals in the ≥30,000 TRY income group reported regular grooming, compared with 21% among those earning below 10,000 TRY.

Overall, the findings indicate a direct relationship between appearance satisfaction and comfort levels in social interaction and communication styles. Physical appearance functions as a “social access pass,” particularly for individuals in public-facing roles. When evaluated through Goffman’s (1959) theory of self-presentation and Bourdieu’s (1984) theory of capital, these results demonstrate that appearance operates not merely as an individual aesthetic choice but also as a form of class-based and professional capital. Consequently, the determining role of professional identity in shaping perceptions of appearance provides empirical support for Hypothesis H4: satisfaction with appearance significantly influences individuals’ capacity for self-expression in social contexts (see Table 5).

Discussion

This study demonstrates that social media significantly influences individuals’ personal grooming practices, appearance satisfaction, and social communication behaviors. The findings align with theories of self-

presentation, social comparison, social learning, and bodily capital (Goffman, 1959; Festinger, 1954; Bandura, 1977; Bourdieu, 1984), indicating that physical appearance has become a central element in the construction of self-worth and social interaction within digital contexts.

Consistent with previous research linking body image to social anxiety (Güney, Aktan, & Yardımcı, 2020), the results confirm that these dynamics are salient in the Turkish context as well. Women’s greater emphasis on personal grooming (68.2%) reflects the continued regulatory role of gender norms and cultural expectations surrounding the female body (Bartky, 1990; Öztürk, 2025). Appearance thus remains a key mechanism through which women negotiate social acceptance.

At the same time, the finding that 25% of male participants reported social anxiety related to skin problems suggests a shift in traditional gender boundaries. Digitally circulated ideals of flawless, muscular male bodies increasingly challenge conventional norms of masculinity, generating new forms of appearance-related pressure on men (Özyeğin, 2015; Sancar, 2014). This supports earlier work indicating that digital culture reshapes hegemonic masculinity and reorients men’s self-presentation and social-approval strategies toward appearance (Courtenay, 2000; Connell, 2005; Subaşı Harmancı & Okray, 2021).

The study also shows that social media influences not only consumption preferences but also the frequency of grooming routines. Over half of the participants (53.1%)

reported being affected by social media trends, with stronger effects among women and younger individuals, consistent with prior findings on influencer-driven grooming behaviors (Sönmez & Taşkıran, 2019). The decline in social media influence with increasing education level ($\chi^2 = 12.87, p = 0.005$) further suggests that media literacy may function as a protective factor against appearance-based pressure.

From a professional and socioeconomic perspective, high sensitivity to appearance among teachers, particularly regarding oral hygiene (91%), underscores the cultural importance of professional image. The increase in grooming behaviors with higher income levels (82%) further supports Bourdieu’s (1984) conceptualization of appearance as bodily capital intertwined with economic resources.

Overall, this study contributes to the literature by demonstrating how predominantly Western theoretical frameworks operate within a culturally specific context such as Turkey. The influence of religious and familial norms on women’s grooming practices (Kandiyoti, 2016; Sancar, 2014) and the digital reconfiguration of masculinity constitute distinctive contributions. Nevertheless, the cross-sectional design limits causal interpretation. Future research employing longitudinal and qualitative approaches could further explore how concepts such as honor, reputation, and social status intersect with personal grooming practices. Hypothesis testing results are summarized in Table 7.

Table 7. Hypothesis–findings alignment

Hypothesis	Result	Support Status	Additional Explanation
H1: Gender differences	Higher social media influence and grooming frequency among women; higher skin-related social anxiety among men	Partially supported	Male anxiety higher than expected ($\chi^2 = 7.32, p = 0.026$)
H2: Social media influence	Positive correlation ($r_s = 0.47, p < 0.001$); 53.1% influence rate	Supported	The “Highly influenced” rate is 3.5 times higher among women
H3: Grooming–self-confidence	Strong positive correlation ($r_s = 0.61, p < 0.001$)	Supported	Inversely related to anxiety levels
H4: Professional identity	91% oral hygiene concern among teachers; 98% grooming rate in the beauty sector	Supported	Significant association with income level ($p = 0.017$)
H5: Age effect	“Highly influenced” rate 18.7% (18–25); 11.4% (36–45)	Supported	ANOVA $F = 4.18, p = 0.006$
H6: Education level	Higher “not influenced” responses among postgraduate participants	Supported	Associated with media literacy ($\chi^2 = 12.87, p = 0.005$)

Conclusion, Implications, and Limitations

This study investigated the transformation of self-presentation and body perception in the digital age at both theoretical and empirical levels, demonstrating the multidimensional influence of social media on personal grooming practices, appearance satisfaction, and social interaction. The findings reveal that appearance-related concerns—traditionally associated with women—have also increased substantially among men. Notably, 25% of male participants reported that skin-related problems

“highly affected” their social communication, compared to 16.1% of women, indicating the transformative role of digital media in reshaping gender norms and supporting theoretical perspectives linking masculinity with health-related behaviors (Courtenay, 2000).

Overall, the results are consistent with theories of self-presentation, social comparison, social learning, and bodily capital (Goffman, 1959; Festinger, 1954; Bandura, 1977; Bourdieu, 1984). While women’s stronger emphasis on grooming reflects the continued influence of gender roles, rising appearance-related anxiety among men

suggests that digital culture is actively reconstructing dominant masculinity norms. The decline in social media influence among those with higher educational attainment further indicates that media literacy fosters critical awareness, whereas the prevalence of grooming routines among teachers and beauty-sector professionals underscores the role of appearance as a form of social and symbolic capital.

In light of these findings, strengthening media literacy programs and integrating content on social media and body perception into secondary education curricula are strongly recommended. Increasing awareness of photo manipulation, filters, and algorithm-driven content flows may help young individuals critically evaluate idealized body representations (UNESCO, 2021). In parallel, social media platforms could reduce the impact of homogenized beauty standards by promoting body diversity and enhancing the visibility of varied body types, age groups, and cultural representations within their recommendation systems.

At the institutional level, reinforcing psychosocial support mechanisms is particularly important for individuals employed in the beauty sector, who may experience intensified body-image pressure and occupational burnout. Group counseling and similar interventions could strengthen psychological resilience when aligned with existing psychosocial risk assessment frameworks. Additionally, local support initiatives that improve access to personal care products and basic health services for lower-income groups may mitigate the negative effects of economic constraints on appearance satisfaction and social participation.

The study's cross-sectional design limits causal interpretation of the findings. Further limitations include reliance on self-reported data and convenience sampling, which may restrict generalizability. Future research should employ longitudinal and mixed-method designs, as well as comparative analyses across age groups, to deepen understanding of the complex relationships between social media use, body perception, and personal grooming practices.

Declarations

Ethical Approval and Consent to Participate

This study was approved by the Tokat Gaziosmanpaşa University Social and Humanities Ethics Committee on 25 April 2025 (Session No: 07, Decision No: 01-68). Informed consent was obtained from all participants.

Consent for Publication

Not applicable.

Availability of Data and Materials

Not applicable.

Conflict of Interest

The author declares no conflict of interest.

Funding

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Author Contributions

All stages of the study, including research design, data analysis, and manuscript preparation, were conducted by a single author (DY).

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

The Psychological Effects of Exposure to Earthquake-Related Content on Social Media: Emotional Contagion, Secondary Traumatic Stress, and Self-Care

Sosyal Medyada Deprem İçeriklerine Maruz Kalmanın Psikolojik Etkileri: Duygusal Bulaşma, İkincil Travmatik Stres ve Öz-Bakım

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Abstract:

This study aims to examine the relationships between exposure to traumatic images on social media, emotional contagion, secondary traumatic stress, and self-care. The research was conducted with 447 young and adult individuals. The data collection tools included a Personal Information Form, the Secondary Traumatic Stress Scale for Social Media Users, the Emotional Contagion Scale, and the Mindfulness-Based Self-Care Scale. Pearson Correlation Analysis was used to examine the relationships between the variables. Regression analysis was conducted using the PROCESS v3.4 macro developed for SPSS to examine the mediating role of self-care. The results revealed a significant positive relationship between following earthquake posts and secondary traumatic stress. A significant positive relationship was found between emotional contagion and secondary traumatic stress. In contrast, a significant negative relationship was observed between two sub-dimensions of self-care skills - physical care and supportive structure- and secondary traumatic stress. It was found that the total self-care score did not mediate the relationship between emotional contagion and secondary traumatic stress. The findings indicate that traumatic content encountered on social media can have a direct and powerful impact on individuals. The limited effect of self-care suggests that individuals' coping strategies for emotional burdens on social media may require more comprehensive psychological interventions.

Keywords: Social media, Emotional contagion, Secondary traumatic stress, Self-Care.

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Öz:

Sosyal medya aracılığıyla ortaya çıkabilen ikincil travmatik stresin farkına varılarak bireysel ve toplumsal önlemlerin alınması önem arz etmektedir. Bu çalışmanın amacı, sosyal medyada travmatik görüntülere maruz kalma, duygusal bulaşma, ikincil travmatik stres ve öz-bakım arasındaki ilişkileri incelemektir. Araştırma, Türkiye'nin çeşitli illerinde yaşayan 447 genç ve yetişkin birey ile yürütülmüştür. Veri toplama aracı olarak, Kişisel Bilgi Formu, Sosyal Medya Kullanıcıları İçin İkincil Travmatik Stres Ölçeği, Duygusal Bulaşma Ölçeği ve Bilinçli Farkındalık Temelli Öz-bakım Ölçeği kullanılmıştır. Değişkenler arasındaki ilişkilerin incelenmesinde Pearson korelasyon analizi kullanılmıştır. Özbakımın aracı rolünü incelemek için SPSS için geliştirilen PROCESS v3.4 eklentisi kullanılarak regresyon analizi yapılmıştır. Araştırma sonucunda, deprem paylaşımlarını takip etme ile ikincil travmatik stres arasında pozitif ve anlamlı bir ilişki olduğu ortaya konmuştur. Duygusal bulaşma ile ikincil travmatik stres arasında pozitif yönde anlamlı; öz-bakım becerilerinin 2 alt boyutu olan fiziksel bakım ve destekleyici yapı ile ikincil travmatik stres arasında ise negatif yönde anlamlı ilişki olduğu ortaya konmuştur. Bu anlamlı ilişkilere rağmen öz-bakım toplam puanının duygusal bulaşma ve ikincil travmatik stres arasındaki ilişkiye aracılık etmediği görülmüştür. Bulgular, sosyal medya üzerinden maruz kalınan travmatik içeriklerin bireyler üzerinde doğrudan ve güçlü bir etkisi olabileceğine işaret etmektedir. Özbakımın sınırlı etkisi, bireylerin sosyal medya üzerindeki duygusal yüklerle başa çıkma biçimlerinin daha derin psikolojik müdahalelere ihtiyaç duyduğunu göstermektedir.

Anahtar Kelimeler: Sosyal medya, Duygusal bulaşma, İkincil travmatik stres, Öz-bakım.

Introduction

Secondary traumatic stress, also known as compassion fatigue, is a type of trauma experienced by professionals who assist individuals affected by traumatic events, reflecting their emotional responses to the experiences of those they help (Bride, 2007; Figley, 1995; Rauvola et al., 2019). This form of trauma is an indirect trauma that arises through a connection based on compassion, empathy, and care (Figley & Kleber, 1995).

Indirect experiences provided by social media, especially exposure to posts about disasters such as earthquakes, may contribute to the emergence of secondary traumatic stress symptoms in individuals (Mancini, 2019). Exposure to traumatic content on social media can lead to the accumulation of psychological burdens that may negatively affect individuals' daily lives. Research shows that individuals exposed to such content may experience clinical problems such as emotional exhaustion, lack of psychological resilience, and difficulties in emotional regulation (Bride, 2007). Therefore, examining the psychological states of individuals exposed to earthquake-related content on social media is crucial for both individual and community mental health.

It is believed that the experience of secondary traumatic stress among individuals who follow earthquake images on social media is related to the mechanism of emotional contagion. Emotional contagion refers to the automatic, rapid, unconscious, and uncontrollable transmission of emotions from one person to another through the observation of verbal and nonverbal cues (Barsade et al., 2018). Emotional contagion is widely associated with emotional arousal (Hatfield et al., 1994; Prochazkova & Kret, 2017), and much of the literature on this topic is based on arousal theory (Russell, 2003). Emotional contagion generates arousal in both the mind and body (Schacter & Singer, 1962), resulting in emotional, behavioral, and cognitive reactions (Hatfield et al., 1992). When examining the symptoms of secondary traumatic stress, it becomes evident that they include feelings of reliving the traumatic event, intrusive memories, seeing the event in dreams, psychological distress triggered by reminders, avoidance behaviors, diminished affect, reduced interest in daily activities, anger and startle

reactions, sleep disturbances, concentration difficulties, and hopelessness (Figley, 1995). Given that emotional contagion also triggers emotional, behavioral, and cognitive responses, it is thought that emotional contagion may contribute to the symptoms of secondary traumatic stress. Various studies (Coviello et al., 2014; Goldenberg & Gross, 2020; Ferrara & Yang, 2015; Kramer, 2014; Lee & Theokary, 2021; Steinert, 2021) have demonstrated that emotional contagion can occur among individuals through social media platforms. These studies support the significant relationship between emotional contagion and secondary traumatic stress. Therefore, due to the effects of emotional contagion, individuals who closely follow social media accounts of those exposed to earthquakes may develop secondary traumatic stress (Balçı Çelik & Altınışık, 2021).

It is important to explore preventive and intervention approaches to mitigate the damage caused by social media, emotional contagion, and secondary traumatic stress symptoms in individuals. For instance, maintaining a regular and healthy diet, engaging in hobbies (Salston & Figley, 2003), engaging in sufficient physical exercise, prioritizing personal care, and participating in professional and personal activities (Killian, 2008; Saakvitne, 2002) are known to be preventive and restorative measures against secondary traumatic stress. These actions also fall under self-care activities. Self-care encompasses various components, including physical care, supportive relationships, mindfulness, self-compassion and purpose, intentional relaxation, and a supportive structure (Cook-Cottone & Guyker, 2018). As far as examined, there is no existing study in the literature that directly examines the relationship between self-care and secondary traumatic stress emerging through social media. However, studies have explored the relationship between self-care and secondary traumatic stress outside the context of social media (Ewer et al., 2014; Perez et al., 2010).

This study examines the relationship between exposure to earthquake-related images on social media and emotional contagion, secondary traumatic stress, and self-care. The limited number of studies addressing this issue in the literature highlights the significance of this research. By

considering the psychological effects of traumatic content, the study aims to contribute scientifically to the development of preventive and intervention strategies to protect individuals' mental health. Specifically, by considering the psychological effects of exposure to traumatic content on social media, the study seeks to identify strategies for reducing emotional contagion and secondary traumatic stress. Within the scope of the research, the following hypotheses have been formulated and tested:

H1: There is a significant positive relationship between the frequency of following earthquake-related images and secondary traumatic stress.

H2: There is a significant positive relationship between emotional contagion and secondary traumatic stress.

H3: There is a significant negative relationship between self-care and secondary traumatic stress.

H4: Self-care mediates the relationship between emotional contagion and secondary traumatic stress.

Method

In this study, the relationships between emotional contagion, secondary traumatic stress, and self-care levels among individuals who follow earthquake-related images on social media were examined using the relational survey model. The relational survey model is a research design that aims to determine the existence and/or degree of relationships among two or more variables (Büyüköztürk, 2017).

Data Collection Tools

Personal Information Form (PIF): In the information form developed by the researcher, participants were asked about their age, gender, education, and economic status, the frequency with which they followed earthquake news after the earthquake, which social media platforms they used, and how much time they spent on social media.

Secondary Traumatic Stress (STS) Scale for Social Media Users: This scale, developed by Mancini (2019), was adapted into Turkish by Balcı Çelik & Altınışık (2021). The scale measures the level of trauma caused by social media in young/adult individuals. It consists of 17 items. The original form includes three subscales: intrusion, avoidance, and arousal, while the Turkish version has a unifactorial structure. The variance explained by the unifactorial structure is 63.9%, and the factor loadings

from the exploratory factor analysis are above .50. For this study, the scale's Cronbach's alpha was .90.

Emotional Contagion Scale (ECS): This scale, developed by Doherty (1997), was adapted into Turkish by Akın et al. (2015). The scale consists of 15 items. A higher total score on the scale indicates greater emotional contagion. The corrected item-total correlations range from .27 to .51. The internal consistency reliability coefficient of the scale is .75, and the Cronbach's Alpha internal consistency coefficient is .89. For this study, the Cronbach's Alpha internal consistency coefficient of the scale was calculated as .78.

Mindfulness-Based Self-Care Scale (MBSAS): The scale developed by Cook-Cottone & Guyker (2018) was adapted into Turkish by Aydın Sunbul et al. (2018). The scale consists of 33 items and measures six sub-dimensions: mindful self-care, physical care, supportive relationships, mindfulness, self-compassion and purpose, mindful relaxation, and supportive structure. The internal consistency coefficient of the Turkish version of the scale was 0.89 for the overall scale, and for the sub-dimensions, the values were 0.72, 0.81, 0.81, 0.83, 0.66, and 0.80, respectively. In this study, the Cronbach's Alpha internal consistency coefficients for the sub-dimensions were calculated as .78, .82, .85, .81, .79, and .82, respectively.

Participants

This study was conducted following the Kahramanmaraş earthquake on February 6, 2023. The research was conducted with 447 individuals residing in various provinces of Turkey who followed earthquake-related images on social media channels, comprising 234 women (52.3%) and 213 men (47.7%). The data were collected online. Informed consent was obtained through online surveys. Ethical approval for this study was granted by the Ethics Committee of Social and Human Sciences, Van Yüzüncü Yıl University (Decision No: 2023/14-12, Date: 30.05.2023). The distribution of participants by demographic characteristics is presented in Table 1.

Analysis of Data

For the data analysis, SPSS 25.0 was used. In the first stage, descriptive statistics for the scale data were calculated, and reliability analysis was conducted. Skewness and kurtosis were calculated to assess the data's normality. Pearson Correlation Analysis was used to examine the relationships between the frequency of following earthquake images on social media, emotional contagion, secondary traumatic stress, and self-care.

Table 1. Frequency and percentage distributions of participants' demographic information

Variable	Participants (N = 447)	
	f	%
Age		
18-27	164	36.7
28-37	171	38.3
38-47	89	19.9
47	23	5.1
Gender		
Women	234	52.3
Men	213	47.7
Education		
Primary school	21	4.7
High school	60	13.4
Associate degree	44	9.8

Undergraduate	217	48.5
Postgraduate	105	23.5
Economical situation		
Low	62	13.9
Middle	352	78.7
High	33	7.4
Daily time spent on social media		
1-2 hours	125	28.0
2-4 hours	232	51.9
6-8 hours	74	16.6
8+ hours	16	3.6
Most frequently used social media tools		
Instagram	334	74.7
YouTube	212	47.4
Twitter	183	40.9
Newspaper/magazine	93	20.8
TV/radio	67	15.0
Facebook	43	9.6
Other	59	13.2
Frequency of earthquake-related posts after the earthquake		
For a large part of each day	299	66.9
A few hours every day	78	17.4
Every day, every now and then	46	10.3
Every other day	7	1.6
Every few days	17	3.8

Table 1 shows that 36.7% of participants are in the 18-27 age group, 38.3% in the 28-37 age group, 19.9% in the 38-47 age group, and 5.1% in the 47+ age group. Additionally, 52.3% of the participants are women, and 47.7% are men. Regarding educational background, 4.7% of participants have completed primary school, 13.4% have completed high school, 9.8% have completed an associate degree, 48.5% have completed a bachelor's degree, and 23.5% have completed postgraduate education. Regarding economic status, 13.9% of participants reported a low financial situation, 78.7% a medium one, and 7.4% a high one. Regarding social media use, 28% of participants use it for 1-2 hours a day, 51.9% for 2-4 hours, 16.6% for 6-8 hours, and 3.6% for more than 8 hours. The most

frequently used social media platforms are Instagram (74.4%), YouTube (47.4%), and Twitter (40.9%). Furthermore, 66.9% of participants stated that they follow earthquake-related images for most of the day every day after the earthquake, 17.4% follow them for a few hours each day, 10.3% follow them occasionally every day, 1.6% follow them every other day, and 3.8% follow them a few times a week.

Results

This section presents the findings from the analysis of the research data. First, descriptive statistics regarding the participants' scale scores are presented in Table 2.

Table 2. Descriptive statistics of scale scores of participants.

	<i>N</i>	<i>M</i>	<i>SD</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>α</i>
Secondary traumatic stress	447	2.92	.74	-.23	-.21	.90
Emotional contagion	447	3.02	.38	-.27	.39	.78
Physical care	447	2.57	.76	.50	.05	.78
Supportive relationships	447	3.26	.85	-.10	-.38	.82
Mindfulness	447	3.47	.87	-.14	-.43	.85
Self-awareness and purpose	447	3.38	.79	-.23	.05	.81
Relaxation based on mindfulness	447	3.01	.81	-.07	-.13	.79
Supportive structure	447	2.81	.94	.11	-.36	.82

When Table 2 is examined, it can be seen that the participants' secondary traumatic stress levels ($M = 2.92$, $SD = .74$) are at a moderate level. In contrast, their emotional contagion levels ($M = 3.02$, $SD = .38$) exceed the moderate threshold. The physical care level related to self-care ($M = 2.57$, $SD = .76$) is below moderate, while

the levels of supportive relationships ($M = 3.26$, $SD = .85$), self-compassion and purpose ($M = 3.38$, $SD = .79$), mindfulness-based relaxation ($M = 3.01$, $SD = .81$), and supportive structure ($M = 2.81$, $SD = .94$) are at a moderate level. The level of mindfulness ($M = 3.47$, $SD = .87$) is above the moderate level. When skewness and kurtosis are

examined, they fall within the range of -2 to +2, consistent with a normal distribution. Additionally, Cronbach's Alpha coefficients indicate that the data are sufficiently

reliable for analysis. The correlation analysis results for the participants' scale scores are presented in Table 3.

Table 3. Pearson correlation analysis results for analyzing the relationship between scale scores.

	1	2	3	4	5	6	7	8	9
1. Secondary traumatic stress	-								
2. Frequency of following earthquake posts	.25**	-							
3. Emotional contagion	.46**	.18**	-						
4. Physical care	-.12**	-.09	-.18**	-					
5. Supportive relationships	.04	.09	.15**	.31**	-				
6. Conscious awareness	-.04	.04	.04	.25**	.48**	-			
7. Self-awareness and purpose	-.03	-.01	.09	.36**	.53**	.63**	-		
8. Relaxation based on mindfulness	-.02	.00	-.03	.45**	.49**	.41**	.56**	-	
9. Supportive structure	-.13**	-.08	-.10**	.49**	.46**	.43**	.60**	.70**	-

When Table 3 is examined, it is found that there is a positive and low-level significant relationship between the frequency of following earthquake posts and secondary traumatic stress ($r = .25; p < .01$). There is a positive and moderate-level considerable relationship between emotional contagion and secondary traumatic stress ($r = .46; p < .01$). A negative and low-level statistically significant supportive relationship between physical care ($r = -.12; p < .05$) and supportive structure ($r = -.13; p < .01$) with secondary traumatic stress has been observed. No statistically significant relationship has been found

between supportive relationships, mindfulness, self-compassion, purpose, mindfulness-based relaxation, and secondary traumatic stress.

Two different models were used to test the study's mediation model. In Model 1, the direct effect of emotional contagion on secondary traumatic stress was examined. In Model 2, the mediating role of self-care in the impact of emotional contagion on secondary traumatic stress was examined. The findings of this analysis are presented in the Table.

Table 4. Investigation of the mediating role of self-care.

Variable	Model 1			Model ds2		
	B	β	SE	B	β	SE
Constant	.25		.25	.46		.29
Emotional contagion	.89**	.46	.08	.87**	.45	.08
Physical care				.00	.00	.05
Supportive relationships				.01	.01	.04
Supportive structure				-.07	-.09	.04
R ²	.21			.22		

When Table 4 is analysed, according to Model 1, emotional contagion has a 21% effect on secondary traumatic stress symptoms and this effect is statistically significant ($F_{(1, 445)} = 120.32; R^2 = .21; p < .01$). When Model 2 is analysed, it is seen that the effect of emotional contagion on secondary traumatic stress symptoms is still significant, although it is partially reduced ($\beta = .46; p < .01$). The total effect of Model 2 on secondary traumatic stress symptoms is 21.2% ($F_{(4, 442)} = 31.09; R^2 = .22; p < .01$), but this effect is quite close to Model 1. After self-care was added to Model 1 regarding the impact of emotional contagion on secondary traumatic stress symptoms, there was no significant change in the effect of

emotional contagion, so the mediation effect cannot be mentioned.

Discussion

This study aimed to examine the relationships between emotional contagion, secondary traumatic stress, and self-care levels among individuals who follow earthquake-related content via social media platforms. Additionally, the frequency of exposure to earthquake-related content on social media and its association with secondary traumatic stress were also investigated. The findings revealed a positive and significant relationship between following

earthquake posts on social media and secondary traumatic stress. Similarly, a positive correlation between emotional contagion and secondary traumatic stress was observed. On the other hand, the physical care and supportive structure subdimensions of mindfulness-based self-care were found to be negatively correlated with secondary traumatic stress. Mediation analysis revealed that while the effect of emotional contagion on secondary traumatic stress was significant, self-care did not have a significant mediating effect in this relationship. These results broadly support the research hypotheses.

Constant exposure to traumatic content on social media may lead individuals to develop trauma-related reactions even without direct exposure to the disaster. Social media has become a medium where the emotional and traumatic experiences of others can be instantly observed. During major disasters like earthquakes, painful images, videos, and personal accounts shared on social media can trigger empathetic responses, causing individuals to internalize others' traumas emotionally. This process may lead to the development of secondary traumatic stress (Lazarus & Folkman, 1984). The recent literature on the subject reports that social media use is associated with secondary traumatic stress (Chan et al., 2020; Garfin et al., 2020; Kanwal & Yousaf, 2022; Secker & Braithwaite, 2021; Zhong et al., 2021).

The positive association between emotional contagion and secondary traumatic stress suggests that intense emotional exposure to others' feelings can increase traumatic effects. In a large-scale study involving 689,003 participants (Kramer et al., 2014), it was found that emotional states are transmitted to others through emotional contagion via social media. In another study (Pinilla et al., 2020), it was demonstrated that negative situations significantly affect negative emotions. In a study conducted by Steinert (2021), it was revealed that during crisis periods (such as pandemics and natural disasters), individuals' tendencies to share feelings of anxiety, fear, and insecurity on social media increase, and these negative emotions spread among people through emotional contagion, resulting in the formation and dissemination of a negative emotional climate. Türk (2022) examined which emotions individuals most frequently felt and shared on social media during crises (e.g., COVID-19). The study found that the four emotions most strongly felt and shared, which contribute to negative emotional contagion and a negative emotional climate, were fear (40%), insecurity (22%), anger (17%), and sadness (12%). It is known that emotions such as fear, anger, sadness, insecurity, hopelessness, lack of motivation, and avoidance are symptoms of secondary traumatic stress (Figley, 1995). Therefore, these studies support the significant relationship between emotional contagion and secondary traumatic stress.

Within this context, the findings indicate that empathy capacity during social crises may act as a risk factor by intensifying emotional contagion, thereby increasing vulnerability to secondary traumatic stress. Individuals with high emotional contagion and poor emotion regulation or stress management skills may experience more intense trauma responses. The literature supports this, emphasizing the negative psychological effects of social media during crises (Koca & Eryücel, 2024). These findings are crucial for understanding the impact of social media on mental health and for developing effective coping strategies.

The study suggests that clinical interventions should focus on limiting social media use and reducing exposure to distressing content, especially during crisis periods. Strategies that promote avoidance or desensitization to traumatic content may be beneficial (Moreno et al., 2021). Mental health professionals could help individuals establish healthier relationships with social media. Furthermore, managing emotional contagion is crucial in preventing secondary traumatic stress. Therapeutic approaches such as mindfulness and emotion regulation techniques may help individuals create emotional distance from traumatic content on social media (Shapiro et al., 2006).

Another significant finding is the protective role of self-care strategies, particularly the physical care and supportive structure subdimensions of mindfulness-based self-care. The literature highlights that mindfulness-based interventions increase individuals' capacity to cope with stress and emphasize the importance of self-care in post-traumatic psychological well-being (Shapiro et al., 2006). Physical care routines, such as adequate sleep, healthy nutrition, and exercise, help regulate stress responses and support emotional regulation (Lovallo, 2016; van der Kolk, 2014). Thus, physical self-care can serve as a buffer against the traumatic effects triggered by social media (Moreno et al., 2021).

The supportive structure dimension, which refers to access to social support, plays a key role in strengthening emotional and social connections and in building resilience against trauma (Figley, 2002). Social support reduces the emotional burden and feelings of isolation in individuals, thereby alleviating stress (Cohen & Wills, 1985). Numerous studies have shown that social support is a protective factor against post-traumatic stress disorder (Kaniasty, 2012; Norris et al., 2002).

However, the mental and emotional self-care subdimensions were not significantly associated with secondary traumatic stress. Several possible explanations may account for this: these forms of self-care are more abstract and challenging to practice; individuals may lack the necessary knowledge or skills (Garland et al., 2010; Shapiro et al., 2006). Additionally, overwhelming traumatic content on social media may inhibit individuals' cognitive functioning, making it difficult to engage in emotional or mental self-care (Moreno et al., 2021). Individual differences in the preferred and practiced self-care methods may also have influenced these findings (Newell & MacNeil, 2010).

Additionally, following the Kahramanmaraş earthquake, it was observed that, as explained in Maslow's (1943) hierarchy of needs, the physiological and safety needs of individuals who directly experienced the earthquake were threatened (Karabacak Çelik, 2023). The findings of this study indicate that a similar effect occurs, both emotionally and cognitively, among individuals who follow earthquake news on social media. Therefore, although the total self-care score did not have a mediating effect on the impact of emotional contagion on secondary traumatic stress symptoms, the two subdimensions of self-care, considered distinctive for this study, provide insights into the mental states and needs of individuals experiencing secondary traumatic stress, which is important for interpreting the study's results. This finding also highlights the power of emotional contagion, showing

that individuals observing events on screens experience nearly the same feelings as those directly involved.

Conclusion and Recommendations

In conclusion, the study demonstrates that emotional contagion has a strong impact on secondary traumatic stress through social media exposure, while some self-care dimensions provide protective effects. Moreover, exposure to disaster-related content via social media appears to be a significant clinical risk factor. Therefore, post-disaster psychological support services should take into account individuals' social media usage habits, as these may impact their psychological well-being.

Clinical practices should include evaluating individuals' social media use, teaching strategies to reduce exposure to traumatic content, and enhancing self-care skills. During crises, social media platforms could implement content moderation policies to reduce the spread of traumatic material. Furthermore, psychological support programs should highlight the importance of physical care and social support (van der Kolk, 2014). Education and training on healthy sleep, nutrition, and exercise routines could be provided. Interventions that aim to strengthen social bonds, such as group therapy, crisis centers, or support networks, could also be beneficial (Cohen & Wills, 1985). Lastly, addressing the underdeveloped areas of mental and emotional self-care through programs like Mindfulness-Based Stress Reduction (MBSR) could enhance coping mechanisms and resilience (Shapiro et al., 2006).

The findings of this study offer important insights into the need to limit social media use and enhance emotional support processes in clinical interventions. However, the study has some limitations. For example, the inclusion criteria for participants were restricted to individuals aged 18 and older who followed earthquake-related images. Additionally, the participants' previous traumatic experiences were not considered, which led to a lack of information about their coping skills with stress. As a

result, this may have contributed to the weak relationship between self-care skills and secondary traumatic stress. In future studies, it is recommended to gather more information about participants, diversify participation criteria, and gain a deeper understanding of participants' emotional and behavioral skills. Additionally, in future research, it would be useful to examine secondary traumatic stress experienced through social media from a broader perspective, investigating the effects of various psychological interventions and coping strategies in more detail.

Declarations

Ethics approval and consent to participate

Ethical approval was obtained from Van Yüzüncü Yıl University Social and Humanities Sciences Publication Ethics Committee, dated 30.05.2023, decision number 2023/14-12.

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author upon reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Authors' contributions

All authors contributed equally to all stages of the manuscript. All authors have read and approved the final manuscript.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Effectiveness of Acceptance and Commitment Therapy and Social Support in Reducing Burnout Among Elderly Caregivers in Nursing Home X, North Sumatra

Kuzey Sumatra X Huzurevinde Yaşlı Bakımında Görevli Bakıcıların Tükenmişliğini
Azaltmada Kabul ve Kararlılık Terapisi ile Sosyal Desteğin Etkililiği

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Abstract:

Human development encompasses several stages, one of which is late adulthood, typically defined as the period from age 60 onward. During this stage, social interactions tend to become more selective, and maintaining social and emotional well-being becomes increasingly important. In many contexts, family members traditionally serve as the primary caregivers for older adults; however, the demands of modern life can place significant burdens on families, leading to increased reliance on institutional care facilities. Within these settings, caregivers often face excessive workloads, with one caregiver responsible for multiple residents, which can contribute to physical exhaustion and emotional burnout. This study aimed to examine the effectiveness of Acceptance and Commitment Therapy (ACT) combined with social support in reducing burnout among elderly caregivers. A purposive sampling technique was used to recruit nine participants. Data were collected using the Burnout Scale, Psychological Flexibility Scale, and Social Support Scale, and analyzed using the N-Gain test and Mann-Whitney test. The findings indicated that ACT combined with social support significantly reduced caregiver burnout. Additionally, establishing a self-help group helped sustain these positive outcomes by providing a sustained platform for participants to share experiences, express emotions, and offer mutual support. These results suggest that integrating ACT and structured social support interventions may be a valuable approach to enhancing caregivers' psychological well-being and preventing long-term burnout.

Keywords: Elderly caregiver, Burnout, Acceptance and commitment therapy, Social support, Self-help group.

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Öz:

İnsan gelişimi çeşitli evrelerden oluşur; bunlardan biri de genellikle 60 yaş ve üzerindeki olarak tanımlanan ileri yetişkinlik dönemidir. Bu dönemde sosyal etkileşimler daha seçici hâle gelme eğilimindedir ve sosyal ile duygusal iyilik hâlinin korunması giderek daha önemli hâle gelmektedir. Birçok bağlamda aile bireyleri geleneksel olarak yaşlı bireylerin birincil bakım sağlayıcıları olarak görev alır; ancak modern yaşamın talepleri nedeniyle bakım sorumlulukları ailelerde önemli bir yük yaratabilir ve bu durum yaşlı bakım kurumlarına yönelmeyi artırabilir. Bu tür ortamlarda, bir bakım verenin birden fazla sakinle ilgilenmesi sıklıkla fiziksel tükenmişliğe ve duygusal tükenmeye katkıda bulunabilir. Bu çalışma, yaşlı bakıcılar arasında tükenmişliği azaltmada Acceptance and Commitment Therapy (ACT) ile sosyal desteğin birlikte kullanımının etkinliğini incelemeyi amaçlamaktadır. Araştırma tasarımında amaçlı örnekleme (purposive sampling) kullanılarak 9 katılımcı seçilmiştir. Veriler, Tükenmişlik Ölçeği, Psikolojik Esneklik Ölçeği ve Sosyal Destek Ölçeği aracılığıyla toplanmış; N-Gain testi ve Mann-Whitney testi kullanılarak analiz edilmiştir. Bulgular, ACT ile sosyal desteğin birleştirilmesinin bakım veren tükenmişliği anlamlı şekilde azalttığını göstermiştir. Ayrıca, bir öz-yardım grubunun kurulması, katılımcıların deneyimlerini paylaşmalarına, duygularını ifade etmelerine ve birbirlerini desteklemelerine imkân vererek bu olumlu sonuçların sürdürülmesinde önemli bir rol oynamıştır. Bu sonuçlar, ACT ile yapılandırılmış sosyal destek müdahalelerinin bakım verenlerin psikolojik iyilik hâlini güçlendirmek ve uzun vadede tükenmişliği önlemek için değerli bir yaklaşım olabileceğini göstermektedir.

Anahtar Kelimeler: Yaşlı bakıcısı, Tükenmişlik, Kabul ve kararlılık terapisi, Sosyal destek, Kişisel yardım grubu.

Introduction

The elderly experience the most positive emotions when with family (Santrock, 2019; Kail et al., 2017). Families serve as the primary support system for meeting their needs and maintaining their quality of life, welfare, and safety (Triwanti et al., 2014; Flores et al., 2014). Ideally, older adults remain under family care; however, increasing life demands often burden families, leading many to place the elderly in nursing homes (Triwanti et al., 2014). The Ministry of Social Affairs of the Republic of Indonesia estimated that there are around 800 orphanages with over 25,000 elderly residents (Yunisa et al., 2025). According to the Minister of Social Affairs Decree No. 5 of 2004, the caregiver-to-elderly ratio should be 1:5, yet in reality, one caregiver may care for 15–25 elderly people (Ramadhani et al., 2024). In Nursing Home X in North Sumatra, 10 caregivers care for 226 elderly, or about 1:20. Such a workload often causes burnout among caregivers (Hunt, 2003).

Burnout cases increase annually, with over 69,2% of workers affected (Ulbrichtova et al., 2022). Interviews and the Maslach Burnout Inventory indicate that elderly caregivers also experience burnout symptoms, which hinder their ability to provide optimal care and attention. Therefore, effective interventions are needed to reduce burnout among elderly caregivers, including Acceptance and Commitment Therapy (ACT).

Previous studies have examined the effectiveness of ACT in reducing burnout. ACT is effective in reducing burnout syndrome (Montaner et al., 2021; Towey-Swift et al., 2023). However, studies report no significant impact (Watanabe et al., 2023; Reeve et al., 2018). These mixed findings indicate pros and cons regarding ACT's effectiveness. Moreover, ACT primarily strengthens internal coping mechanisms, so external factors contributing to burnout must also be addressed to achieve optimal results.

This aligns with previous research, which emphasizes social support as the primary external factor (Maslach et

al., 2022; Lamuri et al., 2023). Several studies have also found that social support significantly reduces burnout and its impact among workers (Ruisoto et al., 2021; Xie et al., 2022; Soriano et al., 2018). One effective form of social support is through social support groups. Previous research has examined ACT, social support, and burnout separately, focusing on nurses and general social workers rather than elderly caregivers.

Based on the above, this study examines the effectiveness of ACT and social support in reducing burnout among elderly caregivers at Nursing Home X. The research aims to test whether ACT and social support interventions can help caregivers provide better care, foster harmonious relationships with the elderly and colleagues, and ultimately improve the well-being of the elderly. The primary outcome of this study is burnout, measured using the Maslach Burnout Inventory (MBI), while secondary outcomes include psychological flexibility, assessed with the Acceptance and Action Questionnaire-II (AAQ-II), and perceived social support, measured using the Interpersonal Support Evaluation List (ISEL).

Method and Materials**Research Design**

This study employed a two-arm, matched, quasi-experimental pilot design to examine the effectiveness of Acceptance and Commitment Therapy (ACT) and social support in reducing burnout among elderly caregivers. Participants were selected through purposive sampling based on the following inclusion criteria: having worked as elderly caregivers for at least 2 years and exhibiting moderate to high levels of burnout. The participants were then matched based on age, years of service, and initial burnout scores before being assigned to one of two groups: (1) the ACT group, which received only the Acceptance and Commitment Therapy intervention and served as the active control condition, and (2) the ACT & SS group, which received both ACT and structured social support sessions. This quasi-experimental design was chosen to

ensure methodological rigor despite the limited population and small sample size, typical of pilot intervention studies. Given the small sample size and purposive selection, this study followed a quasi-experimental rather than a true randomized experimental design (Creswell, 2014).

Participants

The study population comprised 12 elderly caregivers working at Nursing Home X. Purposive sampling was used to recruit 9 participants who met the inclusion criteria for the intervention. Given the limited number of caregivers, participants were matched across groups to maintain comparability and minimize selection bias. A total of nine female participants were included in this study. The small sample size was determined by the limited number of eligible caregivers at Nursing Home X and the study's exploratory, pilot nature.

A post hoc power analysis using G Power indicated that, for a medium effect size ($d = 0.5$) and $\alpha = .05$, a minimum of 8 participants per group would be required to achieve 80% power. Although the present study had a smaller sample size due to population constraints, it provides preliminary evidence for the feasibility and potential efficacy of ACT and social support interventions. Given the small, homogeneous sample, the findings should be interpreted with caution, and their generalizability is limited.

Procedure

First, the researcher reviewed literature on elderly caregivers, Acceptance and Commitment Therapy, and social support, and conducted interviews to identify caregivers' challenges. Modules for ACT and social support were developed based on the literature. This study was approved by the Ethics Committee of the Ministry of Education, Culture, Research, and Technology, Universitas Sumatera Utara, Faculty of Psychology, with the approval date (May 31, 2025) and decision number (178/UN5.2.1.12.2.1/PPM/2025). In addition, this study received Approval from Nursing Home X, and informed consent was obtained from participants.

Before the intervention began, all participants completed three standardized instruments: (1) the Maslach Burnout Inventory (MBI), (2) the Acceptance and Action Questionnaire-II (AAQ-II), and (3) the Interpersonal Support Evaluation List (ISEL). The MBI served as the primary outcome measure, assessing levels of emotional exhaustion, depersonalization, and personal accomplishment. The AAQ-II and ISEL served as secondary outcome measures, evaluating psychological flexibility and perceived social support, respectively. The ACT group received structured Acceptance and Commitment Therapy focusing on mindfulness, acceptance, and values-based action. The ACT + SS group received the same ACT modules, along with structured social support sessions in which participants shared experiences, discussed coping strategies, and received peer validation in a self-help format. After the intervention, all participants completed the same set of instruments (MBI, AAQ-II, and ISEL) to measure post-test changes. The following is a description of the interventions carried out:

Acceptance and Commitment Therapy (ACT) Group

The ACT intervention consisted of 5 sessions, each lasting approximately 2 hours, conducted in small groups of caregivers. The intervention was delivered by a licensed clinical psychologist who had received formal training and supervision in ACT. Session 1: Orientation, explanation of intervention procedures, and establishment of group rules. Session 2: Functional analysis, introduction to cognitive defusion and acceptance techniques. Session 3: Exercises focusing on present-moment awareness and self-as-context. Session 4: Exploration of personal values and committed action planning. Session 5: Evaluation and follow-up discussion to reinforce learned strategies and address barriers to implementation. Fidelity was maintained through adherence to an ACT manual adapted from Hayes et al. (2012), and facilitators completed session checklists after each meeting.

Acceptance and Commitment Therapy Combined with Social Support (ACT & SS)

Group The ACT & SS intervention consisted of eight sessions (each lasting 2 hours). The first five sessions followed the same ACT structure described above. The three additional sessions incorporated structured social support components designed to enhance interpersonal connectedness and perceived support among participants. Session 6: Psychoeducation on the forms and importance of social support in caregiving. Session 7: Group sharing activities to encourage participants to talk about their experiences, listen to others, and offer social support to peers. Session 8: Follow-up and evaluation, focusing on maintaining social connections and integrating ACT principles into daily caregiving routines. Sessions were facilitated by the same psychologist with co-facilitation by a social worker experienced in group support interventions. No concurrent psychological interventions were administered during the study period.

Instruments

All research instruments were adapted from validated instruments used in previous studies.

Acceptance and Action Questionnaire: Used to measure psychological flexibility, the AAQ-II was initially developed by Hayes et al. (2004) and refined by Bond et al. (2011). This study used the Indonesian version, validated by Saniatuzzulfa & Retnowati (2015), which showed good reliability (Cronbach's $\alpha = .719$).

Social Support Evaluation List: The Indonesian version tested by Hotmauli et al. (2024) showed good reliability (Cronbach's $\alpha = .923$).

The Maslach Burnout Inventory, adapted to Indonesian by Yulianto (2020), showed good reliability (Cronbach's $\alpha = .835$).

Measurements of Module

The Acceptance and Commitment Therapy and social support modules were developed based on relevant literature and analyzed through expert judgment (Azwar, 2013). In this study, four psychologists served as expert judges to ensure the module's validity. The module assessment results, calculated using Aiken's V, are presented in Table 1.

Table 1. Module content validity results

No	Assessment Components	V Value	Information
1	Alignment between session 1 objectives and content	.75	Moderate
2	Alignment between session 2 objectives and content	.92	High
3	Alignment between session 3 objectives and content	.75	Moderate
4	Alignment between session 4 objectives and content	.92	High
5	Alignment between session 5 objectives and content	.92	High
6	Alignment between session 6 objectives and content	.83	High
7	Alignment between session 7 objectives and content	.92	High

Statistical Analysis

The primary outcome of this study was the Maslach Burnout Inventory (MBI), which measured burnout levels among elderly caregivers. The secondary outcomes included the Acceptance and Action Questionnaire-II (AAQ-II), which assessed psychological flexibility, and the Interpersonal Support Evaluation List (ISEL), which measured perceived social support. Data analysis was conducted using non-parametric methods due to the small sample size and non-normal data distribution. The within-group pretest-posttest differences were analyzed using the Wilcoxon signed-rank test (exact), and between-group comparisons were examined using the Mann-Whitney U test (exact). Effect sizes were calculated using Cliff’s delta for non-parametric comparisons, with 95% confidence intervals reported to estimate effect precision (Field, 2009; Nismalasari et al., 2016). Statistical significance was set at $p < .05$.

Results

Descriptive Results

This study involved 9 elderly female caregivers. Participants’ ages were distributed as follows: 22.2% aged 43 years, and 11.1% each aged 35, 39, 40, 41, 53, and 54 years. Most participants (77.7%) had a junior high school education, while 22.2% had completed high school. Marital status was evenly divided between married (44.4%) and divorced (44.4%), with 11.1% unmarried. Work experience ranged from 2 to 12 years, with 22.2% having 12 years and 33.3% having 10 years. The interventions Acceptance and Commitment Therapy and Social Support were effective in reducing burnout, with large effect sizes. Psychological flexibility scores decreased in the high category following ACT, while perceived social support scores increased moderately in the ACT & SS group.

Table 2. Mann-Whitney, Median, Effect Size, N-Gain, and Effectiveness among the research variables

	Results
Mann-Whitney	.032*
Median ACT Group	57.000
Median ACT & SS Group	38.000
Effect Size ACT & SS Group	.89**

Hypothesis Testing Results

Effectiveness testing was conducted using nonparametric analyses in JASP v.19.1.0. Participants in the ACT and

ACT & SS groups were matched on MBI-measured burnout levels. The score results for each group are presented in Table 3.

Table 3. Change in burnout score (MBI)

Group	Pseudonym	Pre-test score	Category	Post-test score	Category	Mean	Z	p-value	Effect Size (r)	
ACT	Sar	87	High	56	Moderate	31	-1.826	.034	.65	
	Vin	72	Moderate	45	Low	27				
	Lil	88	High	58	Moderate	30				
	Suw	91	High	61	Moderate	30				
	Average Score ACT & SS		84.5		55		29.5			
	Mal	82	High	36	Low	46	-2.023	.021		
	Ic	74	Moderate	32	Low	42				
	Ern	93	High	47	Low	46				
Sai	86	High	41	Low	45					
	Lan	83	High	38	Low	45				
Average Score		83.6		38.8		44.8			.72	
Mann-whitney U							4.00	.041	Cliff’s $\delta = 0.46$	

Changes in participants' total MBI scores before and after the intervention in each group were analyzed using the Wilcoxon signed-rank test. The results indicated a significant reduction in burnout within both groups ($p < .05$). Furthermore, the Mann-Whitney U test revealed that the reduction in burnout was significantly greater in the ACT & SS group compared to the ACT-only group ($p < .05$). The effect size (Cliff's delta = 0.46) suggested a moderate practical difference between the two interventions, indicating that combining acceptance and commitment therapy with social support yielded stronger improvements in reducing burnout levels. Both groups showed significant reductions in burnout levels from pretest to posttest based on the Wilcoxon signed-rank test ($p < .05$). The Mann-Whitney U test further revealed that participants in the ACT & SS group experienced

significantly greater improvements compared to the ACT-only group ($U = 4.00$, $p = .041$, Cliff's $\delta = 0.46$), representing a moderate effect. Based on the Mann-Whitney U test results presented in Table 3, the obtained p-value was .041 ($p < .05$), indicating a significant difference in burnout reduction between the two groups. The median MBI score in the ACT & SS group decreased more substantially than in the ACT-only group, suggesting that the combined intervention was more effective. The effect size (Cliff's $\delta = 0.46$) indicated a moderate practical difference between the groups. These findings support the major hypothesis (H_a), confirming that acceptance and commitment therapy, combined with social support, is more effective than ACT alone in reducing burnout among elderly caregivers.

Table 4. Change in Psychological Flexibility Score (AAQ-2)

Group	Pseudonym	Pre-test score	Post-test score	Z	p-value	Effect Size (r)
ACT	Sar	39	17	1.83	.0625	.91
	Vin	25	13			
	Lil	40	20			
	Suw	44	23			
Average Score		37.8	18.5			
ACT & SS	Mal	31	15	2.02	.0313	.90
	Ic	28	11			
	Ern	46	25			
	Sai	37	17			
	Lan	34	15			
Average Score		35.2	16.6			

Based on the data in Table 4, within-group analysis using the exact Wilcoxon signed-rank test showed a statistically significant increase in psychological flexibility among participants receiving both Acceptance and Commitment Therapy and social support ($W = 15.00$, $p = .031$, $r = .90$), indicating a large effect. In contrast, the ACT-only group

showed a non-significant improvement ($W = 10.00$, $p = .063$, $r = .91$), although the effect size was large. These results suggest that adding social support enhanced ACT's effectiveness in improving psychological flexibility among elderly caregivers.

Table 5. Change in Perceived Social Support Score (ISEL)

Group	Pseudonym	Pre-test score	Post-test score	Z	p-value	Effect Size (r)
ACT	Sar	66	67	-1.34	.125	.67
	Vin	56	58			
	Lil	51	53			
	Suw	54	58			
Average Score		56.8	58.5			
ACT & SS	Mal	68	88	-2.02	.031	.90
	Ic	60	77			
	Ern	49	72			
	Sai	63	81			
	Lan	68	85			
Average Score		61.5	80.6			

Based on the data in Table 5, the Wilcoxon signed-rank test revealed a non-significant increase in perceived social support among participants in the ACT group ($Z = -1.34$, $p = .125$, $r = .67$, large effect). In contrast, a significant improvement was observed in the ACT & SS group ($Z = -2.02$, $p = .031$, $r = .90$, large effect), indicating that adding social support components to ACT substantially increased participants' perceived social support.

Discussion

The results showed that the major hypothesis (H_a) was accepted, indicating that ACT and SS were effective in reducing burnout among elderly caregivers. These findings align with previous studies showing the effectiveness of ACT in reducing burnout, including Montaner et al. (2021) among professional dementia caregivers and Towey-Swift et al. (2023) among professional workers. Similarly, prior research supports the role of social support in reducing burnout. Ruisoto et al. (2021) found that social support reduces exhaustion, cynicism, and feelings of inadequacy among nurses, while Xie et al. (2022) reported that coworker support decreases burnout among social workers. Soriano et al. (2018) also found that support from supervisors and colleagues plays a critical role in preventing burnout. These findings confirm that social support provides essential external reinforcement that complements ACT in lowering burnout.

The minor hypothesis (H_{a1}) posits that psychological flexibility (acceptance and commitment) differs before and after the intervention. The results showed that H_{a1} was accepted, indicating an increase from inflexibility before treatment to flexibility after acceptance and commitment therapy in both the ACT and ACT & SS groups, resulting in a reduction in burnout from high to moderate levels. Acceptance and commitment therapy enhances internal strength through psychological flexibility, thereby reducing burnout. Biglan et al. (2013) also found that teachers with higher psychological flexibility experience lower levels of burnout despite stressful working conditions, as they employ more adaptive coping strategies.

The results of this study show that psychological flexibility reduces exhaustion, cynicism, and ineffectiveness. Elderly caregivers can work in accordance with their values, such as compassion, responsibility, and social concern, allowing them to enjoy their work despite heavy workloads, limited control, and a lack of appreciation. These findings are consistent with those of Puolakanaho et al. (2020), who found that psychological flexibility enables individuals to accept internal experiences (e.g., unpleasant thoughts and feelings) while continuing to act in accordance with their values.

The results showed that H_{a2} was accepted, indicating a significant increase in perceived social support in the ACT & SS group compared to the ACT-only group. The ACT & SS group demonstrated a moderate increase in perceived social support following the intervention. Consequently, the ACT & SS group experienced a reduction in burnout from moderate to low levels. The results of this study are consistent with those of Shahwan et al. (2024), which demonstrated that perceived social support significantly reduces burnout among postgraduate students, with this effect mediated by improved coping skills. Similarly,

Ruisoto et al. (2021) revealed that perceived social support not only reduces burnout but also mitigates the negative impact of stress and enhances coping abilities. These findings indicate that perceived social support substantially reduces burnout and plays a crucial role in psychological health (Eagle et al., 2019).

Based on demographic data, all participants were women. The findings indicate gender bias, where participants experienced burnout due to dual roles as mothers and workers, work-life imbalance, low salaries, and limited social support. This aligns with Matsuo et al. (2020) and Jalili et al. (2021), who found higher burnout among women due to the dual demands of domestic and professional roles, feelings of overwhelm at work, and a lack of support. Similarly, Ely et al. (2011) highlighted that low salaries and limited opportunities for promotion contribute to women's burnout.

Participants were aged 35–54 years, which corresponds to adulthood (Santrock, 2019). Mendes & Miguel (2024) also found that burnout is more common in adults than in older age groups. Several participants were married, consistent with Purvanova & Muros (2010), who reported that married women experience higher burnout due to additional household demands. Furthermore, Ahola & Hakanen (2007) found that individuals with lower levels of education are more prone to burnout due to monotonous jobs, limited autonomy, and few career opportunities, which aligns with this study's finding that participants with middle- to high-school education experienced burnout.

Acceptance and commitment therapy, combined with social support, effectively reduces burnout among elderly caregivers. This effectiveness is supported by the Mann-Whitney analysis, participants' average scores across burnout dimensions, and observed behavioral and perceptual changes after the intervention. This aligns with Montaner et al. (2021), who found that individuals without burnout experience greater job enjoyment, positive emotions, and life satisfaction. The findings also show that the combination of acceptance and commitment therapy and social support produces a significantly greater reduction in burnout than acceptance and commitment therapy alone. Although the large effect size cannot be generalized due to the small sample, both interventions may serve as valuable references or alternatives for reducing caregiver burnout.

Limitations

This study has several limitations that warrant consideration in future research. First, the post-test in the experimental group was conducted a week after treatment, which could have allowed external variables to affect the results. Participants might have received other interventions beyond ACT and social support; therefore, future studies should administer post-tests immediately after treatment. Second, all participants were female, limiting generalization across genders and preventing representation of male caregivers, who may differ in aspects such as promotion and salary, which may influence burnout. Third, this study did not control for work duration or workload, which could affect burnout levels. Lastly, the study did not consider caregivers' lack of control or appreciation at work, factors that may also contribute to burnout and warrant further examination in future research.

Conclusion

This pilot study provides preliminary evidence suggesting that Acceptance and Commitment Therapy (ACT), particularly when combined with social support, shows promise for reducing burnout among elderly caregivers. Caregivers who received both interventions exhibited lower burnout levels (low) compared to those receiving ACT alone (low-moderate). Qualitative findings further support this trend, indicating that participants in the ACT & SS group reported feeling happier, more mindful at work, emotionally stable, and more grateful for their caregiving roles. The combination of ACT and social support showed strong potential to reduce burnout. Interviews also revealed that participants aligned their caregiving with personal values, managed emotions more effectively, and benefited from peer sharing, which fostered self-help dynamics and reduced emotional burdens.

Moreover, psychological flexibility appeared to increase after ACT-based interventions, suggesting that participants became more adaptive, better at regulating negative emotions, and remained value-focused when facing caregiving challenges. Perceived social support also showed moderate improvement in the ACT & SS group and slight improvement in the ACT-only group, reflecting that sharing and mutual support may contribute to reduced burnout intensity. Overall, these findings indicate efficacy and the feasibility of ACT combined with social support in improving caregivers' well-being, warranting further validation through larger randomized controlled studies.

Declarations

Ethics Committee Approval

This research was initiated in 2024, with approval from the Universitas Sumatera Utara Human Research Ethics Committee under project number 178/UN5.2.1.1.2.2.1/PPM/S2/2024.

Consent for Publication

Not Applicable.

Availability of Data and Materials

Not Applicable.

Competing Interests

The author declares that there is no competing interest in this manuscript.

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Authors' Contributions

YOS contributed to the development of the study's concept and design, data collection, data analysis, drafting of the manuscript, and the final approval and accountability stages. H contributed to the development of the study's concept and design, critical revision of the manuscript, final approval and accountability, and financial support. JMRT contributed to data collection, critical revision of the manuscript, final approval, accountability, and the provision of technical/material support. MN contributed to data analysis, critical revision of the manuscript, final approval and accountability, and supervision activities.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

The Relationship between Health Literacy, Health Perception, and Health Anxiety

Sağlık Okuryazarlığı, Sağlık Algısı ve Sağlık Kaygısı Arasındaki İlişki

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Abstract:

This study aims to examine the effects of health literacy and health perception on health anxiety among university students. The research population comprised 16,911 undergraduate students, and the sample included 468 participants. Since the assumptions of parametric tests were not met, the Mann–Whitney U test was used to compare two groups, and the Kruskal–Wallis H test was used to compare three or more groups. Of the participants, 67.9% were female, and 32.1% were male; 61.1% were between 17 and 20 years old. Additionally, 86.5% reported no chronic disease, and 83.8% reported not regularly using medication. The mean general health status score was 7.132, and the mean number of physician visits in the past year was 3.991. A negative and significant relationship was found between health anxiety and health perception ($r = -0.274$, $p < 0.001$), as well as between health anxiety and health literacy ($r = -0.206$, $p < 0.001$). Furthermore, a significant positive relationship was identified between health perception and health literacy ($r = 0.427$, $p < 0.001$). Individuals with higher levels of health anxiety were observed to have lower levels of health perception and health literacy. In contrast, individuals with higher health perception demonstrated stronger abilities to access, understand, and evaluate health-related information. The findings indicate that the interaction among health literacy, health perception, and health anxiety has important implications not only at the individual level but also for public health and health policies. Therefore, adopting a holistic approach that encompasses both individual and societal health is recommended.

Keywords: Health literacy, Health anxiety, Attitude to health, Anxiety.

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Öz:

Bu çalışmanın amacı, üniversite öğrencileri arasında sağlık okuryazarlığı ve sağlık algısının sağlık kaygısı üzerindeki etkilerini incelemektir. Araştırmanın evrenini 16.911 lisans öğrencisi oluştururken, örneklem 468 katılımcıdan oluşmuştur. Parametrik test varsayımları karşılanmadığından, ikili grup karşılaştırmalarında Mann–Whitney U testi, üç ve üzeri grup karşılaştırmalarında ise Kruskal–Wallis H testi uygulanmıştır. Katılımcıların %67,9'u kadın, %32,1'i erkek olup, %61,1'i 17–20 yaş aralığındadır. Katılımcıların %86,5'i kronik hastalığının bulunmadığını, %83,8'i ise düzenli ilaç kullanmadığını belirtmiştir. Genel sağlık durumu puanı ortalaması 7,132; son bir yıldaki hekim başvuru sayısı ortalaması ise 3,991 olarak saptanmıştır. Sağlık kaygısı ile sağlık algısı arasında negatif ve anlamlı bir ilişki ($r = -0,274$, $p < 0,001$), sağlık kaygısı ile sağlık okuryazarlığı arasında da negatif ve anlamlı bir ilişki ($r = -0,206$, $p < 0,001$) belirlenmiştir. Ayrıca sağlık algısı ile sağlık okuryazarlığı arasında pozitif ve anlamlı bir ilişki ($r = 0,427$, $p < 0,001$) tespit edilmiştir. Yüksek sağlık kaygısına sahip bireylerin sağlık algısı ve sağlık okuryazarlığı düzeylerinin daha düşük olduğu görülmektedir. Buna karşılık, sağlık algısı yüksek bireylerin sağlıklı ilgili bilgilere erişme, anlama ve değerlendirme becerilerinin daha güçlü olduğu belirlenmiştir. Elde edilen bulgular, sağlık okuryazarlığı, sağlık algısı ve sağlık kaygısı arasındaki etkileşimin yalnızca bireysel düzeyde değil, halk sağlığı ve sağlık politikaları açısından da önemli yansımaları olduğunu göstermektedir. Bu nedenle, bireysel ve toplumsal sağlığı kapsayan bütüncül bir yaklaşımın benimsenmesi gerekmektedir.

Anahtar Kelimeler: Sağlık okuryazarlığı, Sağlık kaygısı, Sağlık tutumu, Kaygı.

Introduction

The World Health Organization (WHO) defines health as “a state of complete physical, social, and mental well-being, not merely the absence of disease or infirmity” (WHO, 2018). To define health literacy, it is first necessary to consider the broader concept of literacy. Literacy is defined in various ways in the literature, and the Turkish Language Association (TDK) describes it as “a person who has learned to read and write, who can read and write” (TDK, 2024).

Although the concept of health literacy first emerged in 1974, it became widely used in the health services literature in the early 1990s. Nutbeam (1998) stated that “health literacy refers to achieving the level of knowledge, personal skills, and confidence necessary to take action to improve personal and societal health by changing personal lifestyles and living circumstances.” Thus, health literacy encompasses more than reading brochures or making appointments. It includes improving individuals' access to health information and their capacity to use it effectively, and it is a critical component of empowerment. Health literacy is also grounded in general literacy skills. Poor literacy can negatively affect people's health by limiting their personal, social, and cultural development and hindering the development of health literacy.

Over the years, several conceptual analyses and definitional refinements have been made regarding health literacy. Most commonly, health literacy is defined as the ability to understand and use health-related information and to make decisions that improve one's health (Baker, 2006; Daşlı et al., 2022). Another definition describes health literacy as a dynamic construct that encompasses “the combination of personal competencies and situational resources required for people to access, understand, evaluate, and use information and services to make health-related decisions” (Rasmussen et al., 2023).

Health literacy includes individuals' ability to navigate medical treatment and disease processes, read medication leaflets, make hospital appointments, manage daily health activities, and utilize preventive care. It is recognized as an important determinant of health (Kim et al., 2001). Health literacy is also associated with individuals' knowledge of

diseases and treatment processes and plays a significant role in reducing healthcare costs (Wilson et al., 2003). Individuals with poor health literacy have greater difficulty accessing preventive care (Scott et al., 2002; Wolf et al., 2007). Inadequate health literacy is linked to poor health outcomes, risky health behaviors, more extended hospital stays, and increased mortality, ultimately raising healthcare costs and straining healthcare resources (Svendsen et al., 2020). Because individuals with low health literacy struggle to use healthcare resources efficiently, their care becomes more costly. Overall, health literacy reflects both individuals' and societies' general understanding of health and facilitates the complex processes involved in healthcare delivery. For these reasons, health literacy is regarded as a key component of individual health and a central indicator of healthy societies (Nutbeam, 2000; Wolf et al., 2007).

Numerous factors influence health literacy, including gender, age, motivation, cognitive skills, physical and emotional health, specific health conditions, beliefs, socioeconomic status, complexity of health information, communication skills of healthcare providers, patient expectations, characteristics of healthcare environments, and time pressures on professionals (Baker, 2006; Kıraç et al., 2020). These factors also shape individuals' perceptions of health. Therefore, a strong link exists between health literacy and health perception. Improving these two constructs enables individuals to make informed health decisions and supports the efficient functioning of the healthcare system. Furthermore, strengthening health literacy and health perception contributes to the development of health policies and enhances the long-term benefits of health investments (Kertez & Şahin, 2023; Turgut et al., 2023; Erdoğan & Araman, 2017).

Health perception is a subjective concept that reflects how individuals evaluate their health status and guide their health-related behaviors. With advancements in technology, individuals increasingly assess their health independently. Technology and sociocultural factors have significantly influenced changes in people's perceptions of

health (Souto et al., 2018). Health perception is defined as “a combination of an individual’s personal feelings, thoughts, prejudices, and expectations regarding their own health” (Diamond et al., 2007; Yılmaz Türe et al., 2018). Another definition describes it as the subjective assessment of one’s personal health, which varies across individuals, societies, and countries (Saravia & Chau, 2018). Individuals’ efforts to improve and maintain their health are closely tied to their perceptions of health, which, in turn, positively influence their responsibilities and behaviors and reduce health concerns (Grotz et al., 2011; Özsoy et al., 2021).

Health anxiety is defined as “fears and anxieties centered on a perceived threat to one’s health” (Bailer et al., 2015). It includes persistent worry about one’s mental and physical health, fear of contracting an illness despite medical reassurance, and negative effects on overall well-being (Asmundson et al., 2012; Yorulmaz & Dirik, 2018; Kırac & Öztürk, 2020). Health anxiety often emerges when bodily sensations or changes are misinterpreted as signs of a severe disease. Anxiety levels differ among individuals and may vary over time (Abramowitz et al., 2005; Norton et al., 2005; Akar & Karan, 2024). Health anxiety results from the misinterpretation of bodily symptoms and may range from mild to severe (Melli et al., 2016).

Although the mediating role of health anxiety in the relationship between health literacy and health perception has not been directly examined, the literature reports age-, gender-, education-, and income-level variations (Shah et al., 2010). Health literacy increases with higher levels of education (Soysal & Obuz, 2020). A positive relationship exists between health literacy and health perception, particularly among pregnant women and healthy individuals (Furuya et al., 2015; Kıbrıs & Kızılkaya, 2023). Health perception also supports appropriate medication use (Özişli, 2023).

As a result, health literacy not only helps individuals acquire health knowledge but also supports their integration of this information into daily life, thereby improving well-being. In addition to shaping perceptions of health, health literacy significantly influences health-related beliefs and behaviors, contributing to overall societal health. An increase in health literacy, combined with improved perceptions of health, leads to better health outcomes. Therefore, strengthening the link between health literacy and health perception, while reducing health anxiety and societal health concerns, is essential.

The primary aim of this study is to examine the effects of university students’ health literacy and health perception on health anxiety. By identifying the factors associated with health anxiety among young adults, this study provides valuable insights at both individual and societal levels. The findings provide an evidence-based foundation for developing health education programs, psychosocial support strategies, and public health policies, particularly those targeting university students. In this context, the study underscores the critical role of improving health literacy and perceptions of health in reducing health

anxiety and makes a significant contribution to the existing literature.

Method

This descriptive, cross-sectional study was conducted between September 27 and October 28, 2024, among students at Sivas Cumhuriyet University. The study population consisted of 16,911 undergraduate students. The sample size was calculated as 376 using the formula $n = N \cdot t^2 \cdot p \cdot q / d^2(N-1) + t^2 \cdot p \cdot q$; however, data were collected from 468 participants. Simple random sampling was used. Since the dataset contained missing or incomplete information for 52 participants, these individuals were excluded from the analysis, and evaluations were conducted only on the complete-case sample.

The data collection tool was a questionnaire consisting of four sections. The first section included a Personal Information Form with demographic questions. The second section contained the 25-item Health Literacy Scale developed by Sørensen et al. (2013) and adapted into Turkish by Aras and Bayık (2017). The Cronbach’s alpha coefficients for this scale ranged from 0.90 to 0.94. The third section included the 15-item Health Perception Scale developed by Diamond et al. (2007) and adapted into Turkish by Kadioğlu and Yıldız (2012). The Cronbach’s alpha values for its subscales ranged between 0.82 and 0.91. The fourth section consisted of the 18-item Health Anxiety Inventory (Salkovskis et al., 2002), adapted into Turkish by Aydemir et al. (2011).

Ethical approval for the study was obtained from the Ethics Committee for Scientific Research Proposals of Sivas Cumhuriyet University (Document No: 6, Date: 22.05.2024; Number: E-99711239-050.01.04). Written permission was also obtained from the relevant institution.

The data were analyzed using SPSS (Statistical Package for the Social Sciences) 23.0. The students’ individual characteristics were presented as numerical values and percentages. Compliance with the normal distribution assumption was evaluated using the Kolmogorov–Smirnov test, and the total scores of the scales did not meet this assumption ($p < 0.05$). Therefore, the Mann–Whitney U test was used to compare two groups, and the Kruskal–Wallis H test was used to compare three or more groups, due to violations of the assumptions of parametric tests. The statistical significance level was accepted as $p < 0.05$.

The Cronbach’s alpha coefficient for the Health Literacy Scale was calculated as 0.920, for the Health Anxiety Inventory as 0.826, and for the Health Perception Scale as 0.708. Cronbach’s alpha coefficients above 0.70 for each dimension and for the overall scales indicate “moderate to high reliability” (George & Mallery, 2003).

According to the Kolmogorov–Smirnov and Shapiro–Wilk test results, at the 95% confidence level, data were considered normally distributed when the p-value was above 0.05 and non-normally distributed when the p-value was below 0.05. Since the p-values for all dimensions were below 0.05, the data were deemed not to follow a normal distribution. Consequently, non-parametric tests were used in the analyses.

Results

Table 1. Demographic characteristics of the participants

Gender	N	Percentage (%)	
Male	150	32,1	
Female	318	67,9	
Family Structure	N	Percentage (%)	
Nuclear Family	357	76,3	
Extended Family	111	23,7	
Age	N	Percentage (%)	
17-20	286	61,1	
21-25	150	32,1	
26 and Above	32	6,8	
Do You Have a Chronic Illness?	N	Percentage (%)	
Yes	63	13,5	
No	405	86,5	
Regular Medication Use	N	Percentage (%)	
Yes	76	16,2	
No	392	83,8	
Accommodation	N	Percentage (%)	
Family	408	87,2	
Relatives	6	1,3	
Friends	39	8,3	
Alone	15	3,2	
Does Your Family Have a Member with a Chronic Illness?	N	Percentage (%)	
Yes	177	37,8	
No	291	62,2	
Monthly Family Income (TRY)	N	Percentage (%)	
20,000 and Below	136	29,1	
21,000 – 40,000	151	32,3	
41,000 – 60,000	121	25,9	
61,000 and Above	60	12,8	
Faculty	N	Percentage (%)	
Faculty of Medicine	49	10,5	
Faculty of Veterinary Medicine	52	11,1	
Faculty of Communication	39	8,3	
Faculty of Health Sciences	40	8,5	
Faculty of Technology	19	4,1	
Faculty of Architecture	25	5,3	
Faculty of Literature	51	10,9	
Faculty of Law	52	11,1	
Faculty of Science	60	12,8	
Faculty of Education	81	17,3	
	N	Mean	Median
General Health Status	468	7,132	7,000
Number of Doctor Visits in the Last Year	468	3,991	3,000

In Table 1, women (67.9%), men (32.1%) were seen in the study group; 17-20 age group (61.1%); The proportion of those living in nuclear family was 76.3%, 23.7% of those living in extended families; 32.3% had a family monthly income between 21,000-40,000; Participants without chronic diseases (86.5%) and those who do not use medication continuously (83.8%) are in the majority. The Faculty of Education (17.3%) has the highest rate, while the Faculty of Technology (4.1%) has the lowest. Overall Health: Average 7,132 and median 7,000; Number of Physician Visits in the Last Year: The average is 3,991, and the median is 3,000.

According to the test results, women have higher health literacy and information use levels than men, while individuals who use medication continuously have higher levels of understanding information and anxiety. The importance of health is greater in nuclear families, and individuals without chronic illness have higher scores in certainty and the perception of negative consequences of disease. Factors such as gender, age, and income did not produce significant differences in health literacy, perceptions, or anxiety.

Table 2. Kruskal-Wallis test results for Health Perception and its subgroups by age

	Age Group	N	Mean Rank	Chi Square	p-value	sd
Locus of Control	17-20 Years ¹	286	234,66	8,685	,013	1-3
	21-25 Years ²	150	220,64			2-3
	26 andAbove ³	32	298,08			
	Total	468				
Certainty	17-20 Years ¹	286	232,62	2,977	,226	
	21-25 Years ²	150	229,70			
	26 andAbove ³	32	273,83			
	Total	468				
Importance of Health	17-20 Years ¹	286	240,06	5,982	,050	2-3
	21-25 Years ²	150	215,89			
	26 andAbove ³	32	272,00			
	Total	468				
Self-Awareness	17-20 Years ¹	286	234,28	3,801	,150	
	21-25 Years ²	150	225,92			
	26 andAbove ³	32	276,70			
	Total	468				
Total Health Perception	17-20 Years ¹	286	233,95	8,523	,014	1-3
	21-25 Years ²	150	221,86			2-3
	26 andAbove ³	32	298,63			
	Total	468				

The results of the Kruskal–Wallis test revealed significant differences between age groups in some sub-dimensions of health perception. On the locus of control sub-dimension, individuals aged 26 and above had higher scores than those in the 17–20 and 21–25 age groups, and this difference was statistically significant. This suggests that as age increases, individuals’ perceived control over their health becomes stronger. A similar significant difference was observed in the importance of the health sub-dimension: individuals aged 26 and above placed greater importance on health than those aged 21–25.

In contrast, no significant differences were found between age groups in the certainty and self-awareness sub-dimensions, indicating that perceptions of health certainty and self-awareness do not vary substantially with age. Regarding total health perception scores, individuals aged 26 and above had significantly higher scores than those in the 17–20 and 21–25 age groups. Overall, these findings suggest that as individuals age, their perceptions of health strengthen and they tend to adopt a more mature, conscious approach, particularly in dimensions such as health control and the importance of health. No significant difference ($p > 0.05$) was found among the other sub-dimensions ($N = 468$).

Table 3. Kruskal-Wallis test results for Health Anxiety and its sub-groups based on the age variable

	Age Group	N	Mean Rank	Chi-Square	p-value	sd
Hypersensitivity to Physical Symptoms and Anxiety	17-20 Years ¹	286	230,51	6,726	,035	2-3
	21-25 Years ²	150	252,17			
	26 and Above ³	32	187,31			
	Total	468				
Negative Consequences of Illness	17-20 Years ¹	286	228,70	3,026	,220	
	21-25 Years ²	150	249,52			
	26 and Above ³	32	215,94			
	Total	468				
Total Health Anxiety	17-20 Years ¹	286	229,52	6,006	,050	2-3
	21-25 Years ²	150	252,68			
	26 and Above ³	32	193,81			
	Total	468				

The results of the Kruskal–Wallis test indicated that there were significant differences between age groups in some sub-dimensions of health anxiety. In the sub-dimension of heightened sensitivity to physical symptoms and anxiety, a statistically significant difference was found between the age groups ($\chi^2 = 6.726$, $p = .035$), with the difference explicitly observed between the 21–25 age group and those aged 26 and above. The higher mean rank score of the 21–25 age group suggests that individuals in this age range perceive physical symptoms as more threatening and are more sensitive to anxiety related to these symptoms. In the sub-dimension on the negative consequences of illness, no

significant difference was observed ($p = .220$), indicating that negative expectations and worries about disease were similar across age groups. However, an important difference was observed in total health anxiety scores ($\chi^2 = 6.006$, $p = .050$), again indicating a clear distinction between the 21–25 age group and those aged 26 and above. This result indicates that individuals aged 21–25 experience higher overall health anxiety, whereas those aged 26 and above tend to have lower levels of health-related worry. Overall, the findings suggest that health anxiety is more pronounced during young adulthood.

Table 4. Kruskal-Wallis test results for Health Literacy and its subgroups by housing variable

	Housing	N	Mean Rank	Chi-Square	p-value	sd
Total Health Literacy	Family ¹	408	240,90	8,749	,033	1-4
	Relatives ²	6	224,67			
	Friends ³	39	199,79			
	Alone ⁴	15	154,63			
	Total	468				
Access to Information	Family ¹	408	234,80	2,043	,564	
	Relatives ²	6	234,58			
	Friends ³	39	248,42			
	Alone ⁴	15	190,23			
	Total	468				
Understanding Information	Family ¹	408	238,26	3,307	,347	
	Relatives ²	6	210,42			
	Friends ³	39	219,14			
	Alone ⁴	15	181,77			
	Total	468				
Evaluating Information	Family ¹	408	242,75	13,167	,004	1-4
	Relatives ²	6	229,17			
	Friends ³	39	179,21			
	Alone ⁴	15	155,90			
	Total	468				
Using Information	Family ¹	408	242,70	13,541	,004	1-4
	Relatives ²	6	200,83			
	Friends ³	39	190,54			
	Alone ⁴	15	139,30			
	Total	468				

The results of the Kruskal–Wallis test indicated significant differences in certain sub-dimensions of health literacy across living arrangements. A significant difference in total health literacy scores was found between individuals living with their families and those living alone ($p = .033$), with those living with their families having higher scores. Although no significant differences were observed in the sub-dimensions of accessing and understanding information, individuals living with their families scored

higher on appraising information ($p = .004$) and applying information ($p = .004$). These findings suggest that individuals living alone may have more limited abilities, particularly in evaluating and using health information.

According to the results of the Kruskal-Wallis test, no statistically significant differences were found in health perception and health anxiety, or in their sub-dimensions, across housing status and income group.

Table 5. Correlation coefficients between Health Literacy, Health Perception, and Health Anxiety

		Health Anxiety Total	Health Perception Total	Health Literacy Total
Health Anxiety Total	r	1	-,274**	-,206**
	p		,000	,000
	N		468	468
Health Perception Total	r		1	,427**
	p			,000
	N			468
Health Literacy Total	r			1
	p			
	N			

The results of the correlation analysis indicate significant relationships among the variables. A negative and significant relationship was found between health anxiety and health perception ($r = -.274$, $p < .001$), suggesting that as health perception increases, health anxiety decreases. Similarly, there was a negative and significant relationship between health anxiety and health literacy ($r = -.206$, $p < .001$), indicating that higher levels of health literacy are associated with lower levels of health-related anxiety. On the other hand, a strong, positive relationship was observed between health perception and health literacy ($r = .427$, $p < .001$). Overall, these findings demonstrate that individuals with higher levels of health perception and health literacy tend to experience lower levels of health anxiety.

Discussion

The main expectation of this study is that increased health literacy and improved health perceptions among university students will lead to reduced health anxiety. The findings support this expectation, demonstrating that as health perception and health literacy increase, health anxiety significantly decreases. This result clearly indicates that enhancing access to information, strengthening information-evaluation skills, and improving accurate perceptions of health play a critical role in managing health anxiety among young adults.

Significant differences were identified between health literacy and gender. A statistically significant difference in favor of women was observed, particularly in the total health literacy score and in the sub-dimensions of information evaluation and information use. These findings suggest that women tend to access, interpret, and integrate health-related information into their daily lives more actively than men. Therefore, gender can be considered an important sociodemographic variable influencing health literacy. Similar findings have been reported in previous studies (Çimen & Bayık, 2017; Akyol Güner et al., 2020; Kırac & Öztürk, 2020). However, Özcan and Özkaraman (2021) found no significant difference between male and female patients regarding overall health literacy and disease-prevention awareness. Their study revealed that male patients had higher health literacy regarding healthcare services and health improvement than female patients.

No statistically significant differences were found between health literacy and family structure, chronic illness status,

or having a family member with a chronic illness. This finding is consistent with prior studies reporting similar results (Kırac & Öztürk, 2020). Additionally, no significant association was identified between health literacy and age. Considering that the sample consisted of young individuals familiar with technology, this outcome may be attributable to their active use of digital health information resources. Contrary to this finding, Özcan and Özkaraman (2021) reported a negative correlation between age and both general health literacy and its sub-dimensions, suggesting a decline in health literacy with increasing age. Similarly, Akar and Karan (2024) found that individuals aged 36–45 had higher health literacy than those aged 25 and younger.

Although no significant relationship was found between health literacy and income level in this study, similar results have been reported previously (Soysal & Obuz, 2020; Karabulut, 2021). Nonetheless, other studies have suggested that health literacy varies according to income status (Akyol Güner et al., 2020; Kırac & Öztürk, 2020). Individuals with higher incomes generally have easier access to healthcare services and health-related resources, whereas those with lower incomes may face barriers that limit their health literacy.

When housing conditions were examined, statistically significant differences were observed in the sub-dimensions of information use, information evaluation, and overall health literacy. Students living with their families demonstrated higher health literacy than those living alone. This may be explained by factors such as family support, shared health information, and easier access to healthcare resources. In contrast, individuals living alone may encounter greater challenges in accessing, evaluating, and using health-related information.

Regarding health perception, individuals living in nuclear families scored higher in the “importance of health” sub-dimension, suggesting that family structure influences health awareness. Increased responsibility, supportive interactions, and greater access to health information within nuclear families may contribute to this outcome. No significant differences were detected in the other dimensions.

No statistically significant differences were observed between gender and the sub-dimensions of health perception, in line with previous research (Çaka et al.,

2017). However, Karaoğlu et al. (2020) reported higher health perception scores among female students. In the present study, individuals without a family history of chronic illness scored higher in the “certainty” sub-dimension, indicating that having a family member with a chronic disease may reduce individuals’ confidence in their own health status.

The literature presents mixed findings regarding health perception. Some studies reported that age does not significantly affect health perception (Karakoyunlu Şen & Kılıç Öztürk, 2020), whereas others indicated that higher health perception is associated with better outcomes, such as rational drug use (Özişli, 2023). In this study, health perception differed significantly by age, with participants aged 26 and above scoring higher. This may reflect greater life experience, heightened awareness of health risks, and increased health responsibility among older individuals.

Regarding health anxiety, no statistically significant differences were found based on gender, chronic illness status, or age, consistent with findings from previous studies (Akar & Karan, 2024; Abdelghani et al., 2021). However, the 21–25 age group demonstrated higher scores in the hypersensitivity to bodily symptoms sub-dimension and higher overall health anxiety than participants aged 26 and above. This result aligns with studies showing that younger individuals tend to exhibit higher levels of health anxiety (Kıraç & Öztürk, 2020; Kurçer et al., 2021).

This study identified a significant positive relationship between health literacy and health perception, supporting previous research (Akça et al., 2020; Kuloğlu & Uslu, 2022; Kıbrıs & Kızılkaya, 2023). Higher health literacy appears to strengthen health awareness and promote healthier lifestyle behaviors. Studies conducted in different contexts—including research from Belgrade, Ghana, and the United States—also demonstrate that higher health literacy contributes to better health perception, improved health behaviors, and more effective utilization of healthcare services.

A negative and significant relationship was found between health anxiety and both health perception and health literacy. Individuals with higher health anxiety tend to have lower health literacy levels and more negative health perceptions. These findings are consistent with previous studies (Karaoğlu et al., 2020; Keklik & Mert, 2023; Akar & Karan, 2024), indicating that efforts to enhance health literacy may help reduce health anxiety and strengthen perceptions of health.

Results and Recommendations

In conclusion, health anxiety negatively affects both health literacy and health perception. Individuals with higher levels of health anxiety tend to evaluate their health more negatively and experience greater difficulty in accessing, interpreting, and using health-related information. Conversely, individuals with higher health perception exhibit stronger analytical abilities and greater ease in

obtaining and utilizing health information. Therefore, implementing health education programs to enhance health literacy and strengthen perceptions of health may help reduce health anxiety and improve overall well-being. The interaction among health literacy, health perception, and health anxiety should inform public health planning, and adopting a holistic approach is recommended to support both individual and community health.

Despite these findings, the study has certain limitations. The research was conducted at a single university, with participants in a narrow age range (17–25), which limits the generalizability of the results. The use of self-report measures may have introduced response bias, and the cross-sectional design does not allow for causal inferences. Furthermore, the absence of qualitative data restricts the depth of understanding regarding the psychosocial mechanisms underlying the relationships among health literacy, health perception, and health anxiety.

Future research should include samples from multiple institutions and more diverse demographic groups to enhance the generalizability of the findings. Longitudinal research designs are recommended to better examine causal pathways. Studies that incorporate mixed-methods and qualitative components may provide a more comprehensive understanding of these constructs. Additionally, research focusing on e-health literacy, digital health information use, and the role of social support would offer valuable contributions to the field.

Declarations

Ethical Approval and Informed Consent

Ethical approval for the study was obtained from the Ethics Committee for Scientific Research Proposals of Sivas Cumhuriyet University (Document No: 6, Date: 22.05.2024; Number: E-99711239-050.01.04), and written permission was received from the relevant institution.

Permission for Publication

Not applicable.

Availability of Data and Materials

Not applicable.

Conflict of Interest

The authors declare no conflicts of interest.

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Author Contributions

EM and MG contributed to writing the introduction, while MG and YD developed the methodology and discussion sections. EM made significant contributions to the preparation of the abstract and summary. MG conducted the data analysis and interpreted the findings. YD and EM played an active role in the data collection process. All authors reviewed the final version of the manuscript, agreed on its content, and approved it for publication.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

A Study on the Relationship between Digital Addiction and the Sense of Anti-Mattering among High School Students

Lise Öğrencilerinin Dijital Bağımlılık Düzeyleri ile Kendini Değersiz Hissetme Düzeyleri Arasındaki İlişkinin İncelenmesi

Selim Uylas¹, Zeynep Demirtaş¹

Abstract:

The rapid advancement of technology and widespread use of smart devices have led adolescents to engage more intensively with digital environments, increasing the risk of digital addiction. This situation can also affect the psychological and emotional development of young individuals. This study aims to analyze the relationship between digital addiction and anti-mattering (the feeling of being worthless and insignificant) among high school students. Additionally, it investigates whether students' levels of digital addiction and anti-mattering vary according to gender, perceived family income, and family attitudes. A quantitative relational survey model was employed to examine relationships between variables. The population consisted of high school students enrolled in public schools in three major cities during the 2022-2023 academic year. A total of 472 students participated voluntarily through convenience sampling. The "Digital Addiction in Adolescents" and "Anti-Mattering" scales were administered. Parametric tests were applied to analyze the data, which were found to be normally distributed. The findings indicate a positive and moderately significant relationship between digital addiction and feelings of worthlessness among high school students. Anti-mattering levels were found to significantly and positively predict digital addiction. Furthermore, significant differences were observed in students' levels of digital addiction and anti-mattering according to gender, perceived family income, and family attitudes. These results highlight the importance of the relationship between digital addiction and psychological well-being, suggesting that adolescents' experiences of feeling worthless may influence their digital behaviors. The findings provide guidance for educators, families, and policymakers to promote healthy digital use and support adolescents' psychological well-being.

Keywords: Digital addiction, Anti-mattering, Adolescence.

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Öz:

Günümüzde teknolojinin hızlı gelişimi ve akıllı cihazların yaygınlaşması, ergenlerin dijital ortamlarla daha yoğun etkileşim kurmasına ve dijital bağımlılık riskinin artmasına neden olmuştur. Bu durum, gençlerin psikolojik ve duygusal gelişimini de etkileyebilmektedir. Bu araştırma, lise öğrencilerinde dijital bağımlılık ile anti-mattering (bireyin kendisini değersiz ve önemsiz hissetmesi) düzeyleri arasındaki ilişkiyi incelemeyi amaçlamaktadır. Ayrıca araştırmada, lise öğrencilerinin dijital bağımlılık ve anti-mattering düzeylerinin cinsiyete, algılanan aile gelir durumuna ve algılanan aile tutumuna göre değişip değişmediği de incelenmiştir. Araştırmada değişkenler arasındaki ilişkiyi ortaya koymak amacıyla nicel yöntemlerden ilişkisel tarama modeli tercih edilmiştir. Araştırma evrenini, 2022-2023 eğitim-öğretim yılında üç farklı büyükşehirde kamu okullarında öğrenim gören lise öğrencileri oluşturmuştur. Kolayda örnekleme yöntemiyle gönüllü 472 lise öğrencisi örnekleme yer almıştır. Araştırmaya katılan öğrencilere “Ergenlerde Dijital Bağımlılık” ve “Anti-mattering” ölçekleri uygulanmıştır. Normal dağılım gösterdiği belirlenen verilerin analizi için parametrik testler kullanılmıştır. Araştırma bulguları, lise öğrencilerinde dijital bağımlılık ile değersizlik hissi arasında pozitif yönlü ve orta düzeyde anlamlı bir ilişki olduğunu ortaya koymaktadır. Ayrıca, anti-mattering düzeylerinin dijital bağımlılığı anlamlı ve pozitif yönde yordadığı belirlenmiştir. Lise öğrencilerinin dijital bağımlılık ve kendini değersiz hissetme düzeylerinin cinsiyet, algılanan aile gelir durumu ve algılanan aile tutumuna göre anlamlı farklılıklar gösterdiği tespit edilmiştir. Bu sonuçlar, dijital bağımlılık ile psikolojik iyi oluş arasındaki ilişkinin önemini vurgulamakta ve ergenlerin kendini değersiz hissetme deneyimlerinin dijital davranışları üzerinde etkili olabileceğini göstermektedir. Bulgular, eğitimciler, aileler ve politika yapıcılar için ergenlerin dijital ortamları sağlıklı bir şekilde kullanabilmesi ve psikolojik destek alabilmesi açısından rehber niteliği taşımaktadır.

Anahtar Kelimeler: Dijital bağımlılık, Kendini değersiz hissetme, Ergenlik dönemi.

Introduction

With the widespread use of digital technologies, adolescents are increasingly vulnerable to digital addiction, defined as excessive, uncontrolled device use harming attention and well-being (Rugai & Hamilton-Ekeke, 2016). While digital tools benefit areas like business and entertainment, constant internet and smartphone use raises addiction risks, especially among high school students, and is linked to anxiety, depression, and lower self-worth (Christakis, 2019; Andreassen, 2015). In this context, anti-mattering—the feeling of being invisible or insignificant—has gained attention (Flett, 2018). High anti-mattering is strongly associated with loneliness, low self-esteem, and emotional distress (Etherson et al., 2021; Kyrgsman et al., 2021; McComb et al., 2020), especially during adolescence, when identity and social belonging needs are heightened (Flett, Zangeneh & Hewitt, 2019). Given these vulnerabilities, studying the link between digital addiction and anti-mattering in high school students offers important insights into how technology use may fuel feelings of insignificance and exclusion.

Digital addiction refers to dependency-like behaviors from excessive use of digital tools such as computers, smartphones, the internet, games, and social media (Christakis, 2019). It is a growing psychosocial issue across all age groups, especially among youth whose critical thinking is still developing and who seek social approval and a sense of belonging online (Ding & Li, 2023; Wang et al., 2024). Thus, young people often use digital platforms to compensate for the lack of real-life social connections.

Mattering is the sense of being valued by others and a key component of psychological well-being, impacting life satisfaction and social functioning (Flett et al., 2019; Prilleltensky et al., 2023), as well as academic, professional, and interpersonal areas (Di Napoli et al., 2024). In contrast, anti-mattering involves feeling unimportant or invisible, fostering negative beliefs such as “I am not worthy of attention” (Flett et al., 2022).

Growing awareness highlights how feeling insignificant in social relationships harms well-being both offline and online. Those who feel they don’t matter may compensate by excessively engaging with social media and digital environments (Duradoni et al., 2024). This situation can be explained by the I-PACE (Interaction of Person-Affect-Cognition-Execution) model, which examines how personality traits, psychological needs, emotional and cognitive responses, and executive functions interact to contribute to the development of addictive online behaviors. Psychological predispositions like low self-esteem, loneliness, or antisocial tendencies increase vulnerability to problematic online use (Brand, Young, & Laier, 2016; Brand et al., 2019). In this study, anti-mattering—feeling insignificant or unimportant—is viewed as a psychological tendency that, according to the I-PACE model, may drive individuals to seek online validation, particularly on social media.

The Need to Belong Theory (Baumeister & Leary, 1995) and Self-Determination Theory (Deci & Ryan, 2000) provide further insight. Self-determination theory highlights three core needs: relatedness, competence, and autonomy. Anti-mattering reflects a lack of relatedness, leading to social isolation and increased validation-seeking on social media, which is characterized by instant feedback such as likes and comments. Baumeister and Leary (1995) emphasize that the desire to form lasting social bonds motivates behavior and emotion. Individuals experiencing anti-mattering may use digital platforms to fulfill this need for approval and belonging.

According to the Uses and Gratifications Approach (Katz, Blumler, & Gurevitch, 1973), people use media to satisfy social or psychological needs, such as approval, social connection, escape, and emotional relief (Papacharissi & Rubin, 2000; Whiting & Williams, 2013). For those with anti-mattering, social media serves both as a source of acceptance and emotional comfort.

These personal sensitivities vary by gender, perceived family income, and parenting style, which in turn influence digital behaviors. Psychological needs underlying digital addiction manifest differently by gender (Li et al., 2024; Paş & Çelik, 2024). Perceived family income affects experiences of inadequacy and worthlessness (Arslan, 2019; Li et al., 2024; Paş & Çelik, 2024). Parenting style impacts feelings of value; neglectful or authoritarian environments may intensify anti-mattering and, consequently, digital addiction (Li et al., 2024).

Within this framework, experiences of anti-mattering, where individuals feel insignificant, invisible, or worthless, may be linked to digital addiction. The feeling of anti-mattering can trigger a person's pursuit of acceptance and visibility in the digital world. Accordingly, this study examined the relationship between high school students' levels of digital addiction and anti-mattering. Additionally, the study investigated whether high school students' levels of digital addiction and feelings of worthlessness differ according to gender, perceived family income, and perceived parenting style. The findings of this research may contribute to the development of more effective, evidence-based prevention strategies that support the psychological well-being of young people growing up in an increasingly digital world.

Table 1. Demographic information of the sampled high school students

Category		Frequency (f)	Percentage (%)
Gender	Female	307	65
	Male	165	35
Perceived Family Income	Low	24	5.1
	Middle	409	86.7
	High	39	8.3
Perceived Parenting Style	Authoritarian	100	21.2
	Democratic	106	22.5
	Neglectful	25	5.3
Total	Protective	241	51.1
		472	100

Table 1 presents the demographic information for the high school students included in the sample. According to Table 1, 65% of the participants are female, and 35% are male. Regarding perceived family income, the majority of participants (86.7%) belong to the middle-income group, while 8.3% and 5.1% are in the high- and low-income groups, respectively. Regarding perceived parenting style, 51.1% of participants come from protective families, 22.5% from democratic families, 21.2% from authoritarian families, and 5.3% from neglectful families.

Measurement Tools

Data were gathered using the Anti-Mattering Scale, developed by Flett et al. (2022) and adapted into Turkish by Uylas and Uylas (2023), and the Adolescent Digital Addiction Scale, developed by Seema et al. (2022) and adapted by Arslan (2023). Additionally, before the scales, demographic questions were included to assess students'

Method

Study Design

The study employed a relational survey design, a type of quantitative research method. This approach is used to determine whether a relationship exists between two or more variables and to measure its strength (Karasar, 2017).

Study Population and Participants

The participants of the study were students attending public high schools located in three metropolitan cities during the 2022–2023 academic year. These three cities were selected based on the researchers' accessibility to high school students. The total number of students in the population was 205,846: 125,899 in the first city, 56,773 in the second, and 23,174 in the third (MoNE, 2024). The sample size calculation, based on a 95% confidence level and a 5% margin of error, indicated that at least 384 participants were required for the study (Yazıcıoğlu & Erdoğan, 2004). The study sample consisted of 472 voluntary students selected from the research population using convenience sampling. Convenience sampling is a method in which the researcher collects data from a sample group composed of individuals who are easily accessible and willing to participate. Although this method offers advantages in time and cost, the representativeness of the data for the entire population may be limited (Fraenkel, Wallen, & Hyun, 2012).

characteristics (gender, perceived family income, perceived parenting style).

Adolescent Digital Addiction Scale

The Adolescent Digital Addiction Scale, developed by Seema et al. (2022) and adapted into Turkish by Arslan (2023), is a single-factor, 10-item scale. It is structured as a 7-point Likert scale, with no reverse-coded items. Response options include: 1-Never, 2-Rarely, 3-Occasionally, 4-Sometimes, 5-Frequently, 6-Mostly, 7-Always. According to Arslan (2023), scores are interpreted as follows: 1.00–1.86 = never, 1.82–2.71 = rarely, 2.72–3.57 = occasionally, 3.58–4.43 = sometimes, 4.44–5.29 = frequently, 5.30–6.14 = mostly, 6.15–7.00 = always. In the adaptation study, item-total correlations ranged from 0.45 to 0.71, and the KMO value was 0.86. The scale explained 70.9% of the total variance. Confirmatory factor analysis yielded the following fit

indices: NFI = .87; NNFI = .84; CFI = .88; IFI = .88; SRMR = .09; RFI = .83, indicating a good model fit for the single-factor structure. Cronbach's alpha reliability coefficient was .85 in the original Turkish adaptation and .87 in the current study. A reliability coefficient above .70 indicates sufficient reliability for scale scores (Büyüköztürk, 2015); thus, the scale is considered reliable for this research.

Anti-mattering Scale

The Anti-Mattering Scale was developed by Flett et al. (2022), based on four studies conducted on different sample groups. The first three studies were conducted with university students, while the fourth was conducted with adolescents. The Cronbach's alpha coefficients for these studies were as follows: Study 1, .86; Study 2a, .91; Study 2b, .92; Study 3, .85; and Study 4, .77. Uylas and Uylas (2023) conducted a Turkish adaptation study for high school students. The scale, consisting of 5 items and a single-factor structure, was found to be compatible with Turkish culture. Item-total correlations ranged from .69 to .79, and the KMO and Bartlett's Test yielded a value of .87. The scale explained 70% of the variance. Confirmatory factor analysis results indicated excellent model fit with the following indices: NFI = 1.00; NNFI = .99; CFI = 1.00; IFI = 1.00; SRMR = .013; RFI = .99. The findings of both exploratory and confirmatory factor analyses support the validity of the single-factor model (Uylas & Uylas, 2023). The scale uses a 5-point Likert scale with the following options: 1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Frequently, 5 = Always. Response scores are interpreted as: 1.00–1.79 = never, 1.80–2.59 = rarely, 2.60–3.39 = sometimes, 3.40–4.19 = frequently, 4.20–5.00 = always. In this study, Cronbach's alpha was .89. This reliability level exceeds the acceptable threshold of .70 for social science research (Büyüköztürk, 2011), indicating that the scale is reliable for measuring high school students' perceived insignificance.

Data Gathering Process

Permission was obtained via email from the authors of the original and adapted scales. The necessary ethical approvals were obtained from the ethics committee and relevant institutions to administer the scales to high school students. Google Forms was used to collect the data. The purpose and importance of the study were explained at the beginning of the form, and participation was based on informed voluntary consent.

Ethics Approval

Permission to use each of the scales employed in this study was obtained. Ethical approval for the conduct of this study was granted by the Educational Research and Publication Ethics Committee of Sakarya University (Document No: E-61923333-050.99-222325, Date: 20.02.2023).

Table 2. Pearson correlation coefficient results for the association between Digital Addiction and Anti-Mattering among high school students

	Digital Addiction	
Anti-mattering	<i>r</i>	.243**
	<i>p</i>	.000
	N	472

According to the results in Table 2, a moderate, positive, and statistically significant relationship was found

Analysis of Data

SPSS 26.0 was utilized to analyze the data. Frequency and percentage distributions were used to determine the participants' demographic profiles. Measures of central tendency and variability, such as means and standard deviations, were calculated to evaluate students' digital addiction levels and feelings of anti-mattering. To determine the appropriate statistical tests, normality tests were conducted for each variable. The results indicated that the skewness and kurtosis coefficients were within ± 1 for both variables. Specifically, for Digital Addiction ($N = 472$), skewness was .370 and kurtosis was .044, while for Anti-mattering ($N = 472$), skewness was .186 and kurtosis was .993. These values indicated that the data were normally distributed and that parametric tests could be used (Hair et al., 2010).

The Pearson Correlation Coefficient was used to examine the relationship between digital addiction and anti-mattering levels. Furthermore, hierarchical regression analysis was conducted to investigate the relationship between digital addiction and anti-mattering in more detail. In this analysis, gender, perceived family income, and perceived parenting style were first included in the model as control variables; the predictive power of the anti-mattering variable for digital addiction was then evaluated.

To determine whether variables differed between two independent groups, the Independent Samples T-Test was used. For differences among more than two independent groups, the ANOVA test was employed. Therefore, the t-test was applied for the gender variable, while ANOVA was used for perceived family income and perceived parenting style variables. To interpret the effect sizes of the descriptive values obtained from the t-test, Cohen's *d* formula was used. According to Cohen's *d* (Cohen, 1988), the effect size interpretation criteria were as follows: $d \geq 1$ indicates a very large effect, 0.8 a large effect, 0.5 a medium effect, and 0.2 a small effect. For the ANOVA results, Tukey's B and Bonferroni tests, along with mean scores, were used to identify the sources of the differences.

Findings

In the study, Pearson Correlation Coefficient Analysis and Hierarchical Regression Analysis were conducted to determine the relationship between the concepts within the context of the problem: Is there a significant relationship between high school students' levels of digital addiction and anti-mattering? Table 2 presents the Pearson correlation coefficients, and Table 3 presents the results of the hierarchical regression analysis.

between digital addiction and anti-mattering levels among high school students ($r = .243$; $p < .01$). This finding

indicates that as students' levels of digital addiction increase, their feelings of anti-mattering also tend to increase. In other words, students who are excessively and uncontrollably dependent on digital tools may be more likely to feel unnoticed or unimportant to others.

In hierarchical regression analysis, control variables such as gender, perceived parenting style, and perceived family income were entered into the model in the first step, followed by the anti-mattering variable to test its effect. The analysis results are presented in Table 3.

Table 3. Hierarchical regression output

Model	R ²	ΔR ²	F	p
1	.061	–	10.496	.000
2	.112	.051	14.668	.000

Note: Model 1 includes the control variables: gender, perceived family income, and parenting style, while Model 2 also includes digital addiction. ΔR² indicates the contribution of digital addiction to the model.

According to the hierarchical regression results presented in Table 3, in Model 1, the control variables — gender, family income, and parenting style—collectively explain 6.1% of the variance in digital addiction (R² = .061, p < .001). This model is statistically significant (F = 10.496, p = .000). In Model 2, the anti-mattering variable (feeling of worthlessness) was added. With the inclusion of the anti-matter variable, the explained variance increased to 11.2%, and this added variable significantly contributed to explaining digital addiction (ΔR² = .051, p < .001, F = 14.668, p = .000). The findings indicate that antimatter levels of high school students are a significant and positive predictor of digital addiction. In other words, as anti-mattering levels increase, digital addiction levels also increase.

The findings indicated that high school students' digital addiction levels were at the “occasionally” level (N = 472, M = 3.40, SD = 1.22), while their anti-mattering levels were at the “sometimes” level (N = 472, M = 2.86, SD = 1.18). The average level of digital addiction among high school students corresponds to the “occasionally” category, while the average anti-mattering level corresponds to the “sometimes” category. This suggests that students do not use digital devices or the internet constantly and intensely, but rather at regular intervals and with moderate frequency. On the other hand, students occasionally report feeling invisible, unimportant, or devalued by others.

Descriptive statistics were performed to assess the levels of digital addiction and anti-mattering in high school

An independent samples t-test was carried out to investigate whether students' levels of digital addiction and anti-mattering differed significantly by gender. The results are presented in Table 4.

Table 4. T-Test results for Digital Addiction and Anti-Mattering scales by gender

Scale	Gender	N	Mean	Standard Deviation	t	df	p	Cohen-d
Digital Addiction	Female	307	3.49	1.21	2.27	470	.02	0.219
	Male	165	3.22	1.23				
Anti-mattering	Female	307	2.97	1.15	2.77	470	.00	0.266
	Male	165	2.65	1.21				

Table 4 indicates that there is a statistically significant difference in digital addiction levels between genders (p < .05). Female students (M = 3.49) had higher levels of digital addiction than male students (M = 3.22). However, the effect size of this difference was small (Cohen's d = 0.219). Similarly, anti-mattering levels differed significantly by gender (p < .05). The mean scores favored female students, who reported higher anti-mattering levels

than male students. However, the magnitude of this difference was small as well (Cohen's d = 0.266).

An ANOVA was conducted in the study to determine whether digital addiction and anti-mattering levels among high school students differ significantly by perceived family income, and the findings are presented in Table 5.

Table 5. ANOVA test of Digital Addiction and Anti-Mattering levels according to perceived family income status

Scale		Sum of Squares	df	Mean Square	F	p	Tukey-b
Digital Addiction	Between Groups	9.995	2	4.998	3.358	.036	2-3
	Within Groups	697.982	469	1.488			
	Total	707.977	471				
Anti-mattering	Between Groups	3.403	2	8.090	5.894	.003	1-2 / 1-3
	Within Groups	656.435	469	1.372			
	Total	659.839	471				

Note: 1 = Low family income level; 2 = Medium family income level; 3 = High family income level.

As seen in Table 5, the digital addiction and anti-mattering levels of high school students show significant differences based on perceived family income ($p < .05$). According to Tukey-b and Bonferroni tests, an important difference was found between the middle- and high-income groups in terms of digital addiction, with students from high-income families exhibiting higher levels of digital addiction. In

On the anti-mattering scale, students in the low-income group reported feeling more worthless than those in the middle- and high-income groups.

An ANOVA analysis was also performed to determine whether the digital addiction and anti-mattering levels of high school students differ according to the perceived parenting style variable, with the results shown in Table 6.

Table 6. ANOVA Test of Digital Addiction and Anti-Mattering levels according to perceived parenting style

Scale		Sum of Squares	df	Mean Square	F	p	Tukey-b
Digital Addiction	Between Groups	25.727	3	8.576	5.883	.000	2-3
	Within Groups	682.250	468	1.458			
	Total	707.977	471				
Anti-mattering	Between Groups	48.930	3	16.310	12.495	.000	1-4 / 2-3 / 3-4
	Within Groups	610.909	468	1.305			
	Total	659.839	471				

Note: 1 = Protective parenting style; 2 = Authoritarian parenting style; 3 = Neglectful parenting style; 4 = Democratic parenting style.

Table 6 reveals significant differences in digital addiction and anti-mattering levels among high school students based on perceived parenting style ($p < .05$). According to Tukey-B and Bonferroni tests, a significant difference in digital addiction was observed between the permissive and authoritarian parenting styles, with students experiencing authoritarian parenting showing higher levels of digital addiction. Regarding anti-mattering levels, significant differences were found among the neglectful-democratic, permissive-authoritarian, and authoritarian-democratic parenting styles; students exposed to neglectful and authoritarian parenting reported feeling more worthless.

Discussion

This study's findings demonstrated a moderate, positive association between high school students' digital addiction and anti-mattering levels. Moreover, the study found that high school students' anti-mattering levels significantly and positively predicted digital addiction. Although variables such as gender, perceived family income, and perceived parenting style had an effect, it was concluded that feelings of worthlessness have a strong impact on digital addiction. These results suggest that as students feel more insignificant, they tend to turn more toward digital technologies, leading to increased levels of digital addiction. Similarly, previous studies have found that individuals who only feel significant in online environments are more likely to develop social media addiction and struggle to maintain a healthy balance between offline and online life. In other words, individuals experiencing anti-mattering in offline settings may increasingly seek validation through social media (Duradoni et al., 2024).

The sense of mattering is significantly associated with psychological distress, online activity, and problematic social media use among adolescents (Watson, Prosek, & Giordano, 2021). Additionally, ruminative thinking shows a positive relationship with digital addiction (Gao & Du, 2025). Considering anti-mattering as an internal risk factor, studies report negative correlations between digital gaming addiction and psychological resilience (Çiçek, 2021), digital addiction and psychological well-being

(Gezer, 2022), as well as digital and internet addiction with self-esteem (Paş, 2023; Wong et al., 2020).

These findings suggest that adolescents experiencing anti-mattering may increasingly seek refuge online, raising their risk of digital addiction. Those feeling invisible or unvalued offline may turn to digital platforms for recognition, deepening their dependence, which is further intensified by negative links between digital addiction and self-esteem, resilience, and well-being.

The study's descriptive results showed students had moderate digital addiction ("occasionally") and "sometimes" levels of anti-mattering, consistent with previous research reporting moderate psychological well-being and digital addiction levels (Arslan, 2019; Göldağ, 2018; Kaya & Vangözü, 2023). This suggests that students intermittently use digital environments when they feel insignificant.

Although the effect size was small, female students reported higher digital addiction and anti-mattering levels than males, aligning with some studies (Soyöz Semerci & Balcı, 2020; Paş, 2023; Gezer, 2022), but contrasting others that found higher digital addiction in males (Göldağ, 2018; Çiçek, 2021). Flett et al. (2022) found no gender difference in anti-mattering among university students, whereas Atkey (2015) noted that males felt more stigmatized when seeking psychological help due to experiencing anti-mattering. Çiçek (2021) found no gender difference in psychological resilience in high school students.

These mixed results indicate that gender's role in digital addiction and anti-mattering is complex and influenced by factors such as sample, gender norms, developmental stages, methods, and measurements, highlighting the need for further research.

The study found significant differences in high school students' digital addiction and feelings of worthlessness based on perceived family income. High-income students had higher digital addiction than middle-income peers, while low-income students reported greater worthlessness than middle- and high-income groups. These findings

align with Sarıkan (2023) and Paş & Çelik (2024), emphasizing socioeconomic status as a key factor in adolescents' psychological well-being and addictive behaviors.

Significant differences were also found in digital addiction and anti-mattering by perceived family attitudes. Students from authoritarian or permissive families showed higher digital addiction than those with protective attitudes, consistent with Kalen (2018) and Mutimmatul et al. (2018), who linked positive parenting to lower addiction. Anti-mattering was higher among students with neglectful and authoritarian parents compared to democratic and protective ones, suggesting these environments harm adolescents' psychological health. Thus, democratic and supportive family attitudes serve as protective factors against digital addiction and feelings of worthlessness.

This study highlights that psychological constructs like anti-mattering have a meaningful impact on comprehending and reducing digital addiction. Future research should explore these relationships in greater depth and consider psychological traits that may influence digital media usage habits. Doing so may help in developing more effective strategies to support adolescents' psychological well-being.

This study has several limitations. First, it was conducted only with high school students attending public schools in three major cities during the 2022-2023 academic year; therefore, the findings cannot be generalized to all high school students in Turkey. Second, the data rely on participants' self-reports, which may be affected by biases such as social desirability or recall bias. Third, the measurement tools used in the study are limited to assessing digital addiction and anti-mattering; the broader, qualitative aspects of students' digital use and experiences of feeling worthless were not examined. Fourth, the study employs a cross-sectional design, which does not allow for causal inferences about relationships between variables.

Future research is recommended to use larger sample sizes, qualitative methods, and longitudinal designs to address these limitations.

Declarations

Ethics Committee Approval and Consent to Participate

Ethical approval for the conduct of this study was obtained from the Educational Research and Publication Ethics Committee of Sakarya University, with the document number E-61923333-050.99-222325, dated February 20, 2023. The application was reviewed and approved at the committee meeting held on 15 February 2023, with decision number 19. Throughout the research process, the ethical principles outlined in the Declaration of Helsinki were followed, and informed consent was obtained from all participants.

Consent for Publication

Not applicable.

Availability of Data and Materials

The data sets used and/or analyzed for the current study, as well as those available in the online database, can be obtained from the relevant author upon reasonable request.

Competing Interests

The author declares that no competing interests exist in this manuscript.

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Authors' Contributions

Both authors contributed equally to this work. Each author participated in all phases of the research process, including study design, data collection, data analysis, and manuscript preparation. Both authors reviewed and approved the final version of the manuscript.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Post-Pandemic Healthcare Workers: A Comprehensive Bibliometric Evaluation of Psychosocial Impacts and Health Management Strategies

Pandemi Sonrası Sağlık Çalışanları: Psikososyal Etkiler ve Sağlık Yönetimi Stratejilerinin Kapsamlı Bir Bibliyometrik Değerlendirmesi

Melek Yağcı Özen¹

Abstract:

This study aimed to evaluate the psychosocial impacts of the COVID-19 pandemic on healthcare workers and the reflections on these impacts within the field of health management, using a bibliometric analysis. To this end, a systematic search was conducted in the Web of Science database using the keywords “COVID-19,” “healthcare workers,” “psychosocial effects,” and “health management.” Research articles published after 2019, written in English, and indexed in SCI, SSCI, A&HCI, ESCI, and SCI-Expanded were included in the analysis. Within the scope of the bibliometric analysis, keyword co-occurrence networks, co-authorship collaboration patterns, and the contributions of leading institutions and countries to the field were examined. A total of 6,341 articles were analyzed. The findings indicate a substantial increase in research attention after 2021, particularly regarding mental health, burnout, stress, and workload among healthcare workers. The most frequently used keywords were “mental health,” “burnout,” and “psychological distress.” Additionally, a notable rise in international and interdisciplinary collaborations was observed. Among the institutions contributing most prominently to the field were Harvard University, King’s College London, and the University of Melbourne. In conclusion, the COVID-19 pandemic has significantly intensified the psychosocial burden on healthcare professionals. The growing body of research in the post-pandemic period underscores the importance of global collaboration and interdisciplinary approaches to support healthcare workers’ mental well-being and resilience.

Keywords: COVID-19, Burnout, Psychological distress, Health services, Management.

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Öz:

Bu çalışmada, COVID-19 pandemisinin sağlık çalışanları üzerindeki psikososyal etkileri ile bu etkilerin sağlık yönetimi alanındaki yansımalarının bibliyometrik analiz yöntemiyle değerlendirilmesi amaçlanmıştır. Bu doğrultuda, “COVID-19”, “healthcare workers”, “psychosocial effects” ve “health management” anahtar kelimeleri kullanılarak Web of Science veri tabanında sistematik bir tarama yapılmıştır. 2019 yılı sonrasında yayımlanmış, İngilizce dilinde kaleme alınmış ve SCI, SSCI, A&HCI, ESCI ile SCI-Expanded indekslerinde yer alan araştırma makaleleri çalışmaya dâhil edilmiştir. Bibliyometrik analiz kapsamında; anahtar kelime eş-görünüm ağları, ortak yazarlık iş birliği desenleri, önde gelen kurumlar ve ülkelerin alana katkıları incelenmiştir. Toplam 6.341 makale analiz edilmiştir. Bulgular, özellikle 2021 yılı sonrasında sağlık çalışanları arasında ruh sağlığı, tükenmişlik, stres ve iş yükü gibi konulara yönelik araştırma ilgisinin belirgin biçimde arttığını göstermektedir. En sık kullanılan anahtar terimler “mental health”, “burnout” ve “psychological distress” olmuştur. Ayrıca, uluslararası ve disiplinlerarası birliğe yönelik çalışmalarında da kayda değer bir artış gözlenmiştir. Alana en fazla katkı sağlayan kurumlar arasında Harvard University, King’s College London ve University of Melbourne öne çıkmıştır. Sonuç olarak, COVID-19 pandemisinin sağlık profesyonelleri üzerindeki psikososyal yükü önemli ölçüde artırdığı görülmektedir. Pandemi sonrası dönemde artan araştırma hacmi, sağlık çalışanlarının ruhsal iyilik hâlinin ve psikolojik dayanıklılığının desteklenmesinde küresel iş birliğinin ve disiplinlerarası yaklaşımların önemini vurgulamaktadır.

Anahtar Kelimeler: COVID-19, Tükenmişlik, Psikolojik stres, Sağlık hizmetleri, Yönetim.

Introduction

Throughout history, pandemics have resulted in the loss of millions of lives and have triggered significant societal transformations. Among these global health crises, the COVID-19 pandemic has occupied a prominent place due to both its rapid spread and the scale of the population it has affected (Heath et al., 2020; Sakaoğlu et al., 2020; Wang et al., 2020). Emerging in Wuhan, China, in December 2019, COVID-19 quickly spread worldwide and was declared a pandemic by the World Health Organization (WHO) (Xiong et al., 2020). With the rapid global spread of the pandemic, individuals' daily routines underwent considerable disruption, and psychological factors such as fear of infection, uncertainty, anxiety, and social isolation had adverse effects on public mental health (Luo et al., 2020; Batra et al., 2020; Arpacioğlu et al., 2021).

One of the most affected professional groups during this period was healthcare workers. In this process, healthcare professionals, unlike the general population, who stayed at home to mitigate the risk of COVID-19 transmission, were required to maintain the delivery of healthcare services (Lancet, 2020). Their direct contact with infected individuals exposed them not only to biological risks but also subjected them to significant stress due to increased workload, extended working hours, and psychosocial pressures (Shreffler et al., 2020; Arpacioğlu et al., 2021; Yumru, 2020). The occupational pressures experienced by healthcare workers during the pandemic contributed to an increase in mental health issues such as burnout, stress, and anxiety, severely impacting their job satisfaction and professional motivation (Pala and Metintaş, 2020).

Particularly, healthcare professionals working in intensive care units played a critical role in the monitoring and treatment of COVID-19 patients and faced additional psychological and physical burdens throughout this process. Prolonged use of protective equipment, extended shifts, and social isolation adversely affected their psychological well-being, leading to elevated levels of burnout, depression, and anxiety (Lai et al., 2020; Karadağ and Çiçek, 2023). Research has shown that healthcare workers directly involved in the care of COVID-19 patients experienced higher levels of anxiety and depression compared to their counterparts not engaged in

patient care (Arpacioğlu et al., 2021). These findings highlight that the pandemic posed a significant threat not only to public health but also to the psychosocial well-being of healthcare professionals.

Healthcare workers are exposed not only to biological risks but also to various physical, chemical, and psychosocial hazards inherent in their profession. The risk of contracting infectious diseases, injuries from sharp objects, radiation exposure, and ergonomic problems is among the factors threatening their professional lives (Gürer and Gemlik, 2020). Additionally, factors such as high work intensity, long shifts, and violence against healthcare workers are primary contributors to the deterioration of their mental health. Particularly during the pandemic, increased workload and psychological pressures led many healthcare professionals to experience burnout syndrome, significantly reducing their motivation and job satisfaction (Søvold ve diğerleri, 2021). This circumstance underscores that healthcare workers face the dual burden of managing the challenges posed by COVID-19 while simultaneously being at heightened risk for developing mental health issues (Greenberg et al., 2020).

Despite these challenges, healthcare workers demonstrated remarkable dedication in ensuring the continuity of healthcare services during the pandemic (Kıroğlu, 2020). However, the long-term effects of the physical and psychological burdens they faced during this period should not be overlooked. Understanding how scientific interest has evolved regarding issues such as mental health, burnout, and workload among healthcare workers in the post-pandemic period is crucial to building more resilient healthcare systems. In this context, the present study aims to conduct a bibliometric analysis of the scientific publications addressing the psychosocial impacts on healthcare workers following the COVID-19 pandemic.

Previous bibliometric studies have explored various dimensions of COVID-19-related research, including mental health (Zhong and Lin, 2022; Farooq et al., 2021; Wang and Tian, 2021; Yu et al., 2021). In some studies, mental health has been the central focus of bibliometric analyses, particularly regarding the psychological

consequences of the COVID-19 pandemic (Chen et al. 2021; Akintunde et al. 2021; Ellis et al. 2021; Maalouf et al. 2021; Rani et al. 2021). Despite the growing body of COVID-19 research, relatively few bibliometric analyses have focused on the psychosocial experiences of healthcare workers (Korkmaz and Altuntaş, 2022; Porkodi and Pundhir, 2025). Unlike previous studies, the present research offers a comprehensive bibliometric evaluation that focuses specifically on the post-pandemic psychosocial impacts on healthcare workers, integrating both mental health and health management perspectives.

By mapping keyword co-occurrences, co-authorship networks, institutional collaborations, and citation patterns, this study provides an interdisciplinary and up-to-date overview of how academic attention has evolved toward the psychological and organizational challenges faced by healthcare professionals after the peak of the pandemic.

Method

In this study, a bibliometric analysis was conducted on scientific publications addressing the psychosocial impacts on healthcare workers in the aftermath of the COVID-19 pandemic. Bibliometric analysis is a systematic method for examining publication trends, scientific collaborations, and research dynamics within a specific academic field (Merigo and Yang, 2017). Within this context, particular attention was given to analyzing how scientific interest has evolved regarding healthcare workers' mental health, burnout, and workload in the post-pandemic period.

Data Collection Process

This study is based on a bibliometric analysis conducted in the Web of Science (WoS) database and aims to examine the psychosocial impacts of the COVID-19 pandemic on healthcare workers and their reflections in health management. In line with this objective, a title-specific search was conducted using various keywords related to COVID-19, healthcare workers, psychosocial impacts, and health management, in different combinations.

In the initial stage, a broad search identified 3,789,191 academic records. However, the analysis was limited exclusively to research articles, and publications indexed in SCI, SSCI, A&HCI, ESCI, and SCI-Expanded were selected.

Search Terms Used

A comprehensive literature search was conducted in the Web of Science Core Collection on [February 20, 2025], using the following Boolean string:

("COVID-19" OR "post-pandemic" OR "pandemic aftermath" OR "pandemic impact" OR "COVID-19 recovery") AND ("healthcare workers" OR "medical professionals" OR "nurses" OR "doctors" OR "frontline staff" OR "health professionals" OR "healthcare personnel") AND ("mental health" OR "psychological effects" OR "stress" OR "burnout" OR "emotional well-being" OR "psychological distress" OR "work-related stress" OR "anxiety" OR "depression") AND ("healthcare management" OR "health policy" OR "crisis management" OR "occupational health" OR "management strategies" OR "organizational support" OR "resilience programs" OR "workforce management" OR "healthcare administration" OR "health system management")

The search was limited to English-language research articles published between 2020 and 2024 and indexed in SCI, SSCI, A&HCI, ESCI, and SCI-Expanded. Publications without accessible full texts were excluded.

This search yielded 6,341 articles, which were included in the bibliometric analysis.

Data Analysis and Bibliometric Methods

In the bibliometric analysis, VOSviewer software was employed to examine the scientific contributions and trends in academic publications (Eck and Waltman, 2010). The following methods were applied in the analysis:

Co-authorship Analysis: Co-authorship analysis was conducted to examine collaboration patterns among authors and to identify influential researchers within the field (Donthu et al., 2021; Passas, 2024). To determine the collaborative networks and academic partnerships among researchers, the most influential authors and their co-authorship patterns were analyzed.

Keyword Co-occurrence Analysis: The most frequently used keywords related to COVID-19 and its psychosocial impacts on healthcare workers were identified, and their relationships were visualized. Keyword co-occurrence analysis enables the detection of dominant research themes and emerging topics within a field (Donthu et al., 2021).

As an extension of the keyword co-occurrence analysis, temporal mapping was performed using overlay visualization to examine changes in scientific interest across different phases of the COVID-19 pandemic. Keywords were color-coded by their average publication year, enabling the identification of themes that gained prominence during specific periods.

Institutional Collaboration and Impact Analysis: Leading research centers and universities in the field were identified, and an analysis was conducted to determine which institutions have been at the forefront of research in this area. This approach highlights organizations that play a central role in knowledge production and dissemination in the field (Donthu et al., 2021).

Country-Level Scientific Collaboration: The geographical distribution of research output was mapped to highlight countries with the highest concentrations of studies and patterns of international scientific collaboration.

Citation Analysis: Citation counts were used to identify the most influential publications and journals in the field and to compare publication productivity and citation impact. Citation frequency was used as an indicator of scientific impact and scholarly visibility within the literature (Donthu et al., 2021).

The findings obtained from this analysis provide significant insights into the development and trends of scientific research addressing the psychosocial impacts of the pandemic on healthcare workers. The results of the bibliometric analysis offer a valuable perspective on the directions in which the field has advanced and highlight areas where future research should be concentrated.

Co-authorship Analyses

Co-authorship of Authors

Co-authorship is the collaborative process in which authors work together to produce academic publications, such as articles, reports, or research papers. Co-authorship

analysis is used to examine the collaborative relationships among authors. In this study, a minimum threshold of two publications and two citations was set to generate the network map.

The resulting map illustrates the collaboration patterns among the 18 authors with the most connections. These 18 authors are grouped into five distinct clusters, reflecting their collaborative networks. These patterns are visually presented in Figure 1.

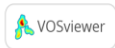


Figure 1: Co-authorship network of authors on COVID-19 and psychosocial impacts research

The resulting network structure visualizes the collaborative relationships among authors. In the graph, the nodes represent individual authors, while the lines connecting them indicate co-authorship. The clusters, distinguished by different colors, reveal distinct groups of collaborators and research networks. Authors positioned at the center of the network, such as Zhang Yan and Li Yang, have collaborated more frequently with others, thereby positioning them as central figures. This suggests that these authors have made significant contributions to the field and are among the key influencers shaping the literature. On the other hand, authors located at the periphery of the network have engaged in fewer collaborations or have been involved in specific, isolated collaboration groups. This analysis contributes to

understanding the dynamics of scientific collaboration among researchers and provides valuable insights for identifying potential future collaboration opportunities.

Co-authorships of Organizations

The co-authorship analysis of organizations illustrates the institutional collaborations present within the analyzed publications. The visualization displays which institutions have collaborated and the intensity of these collaborations. According to the generated network map, 1,000 items were included, forming 16 distinct clusters. The largest cluster comprises 181 items, indicating a dense network of institutional partnerships within this group. These inter-institutional collaborations are visualized in Figure 2.

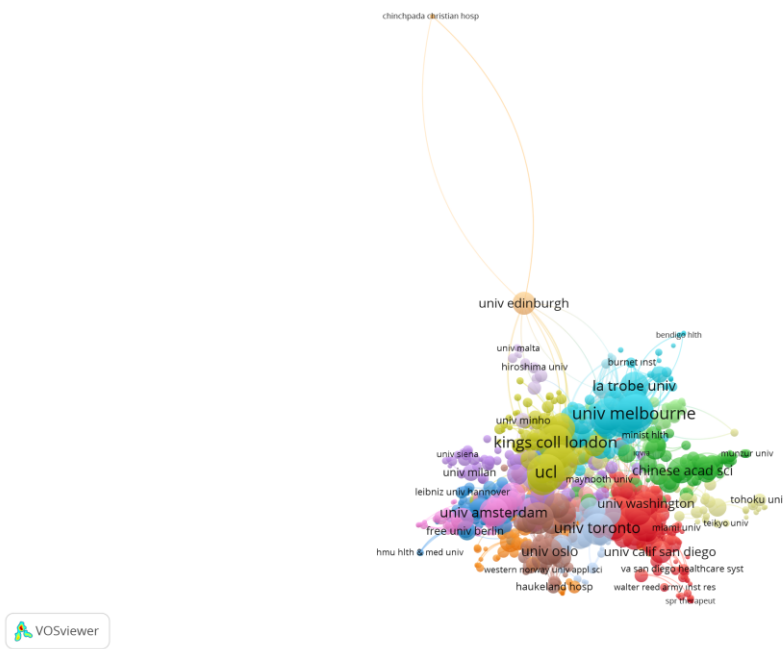


Figure 2: Institutional co-authorship network in COVID-19 and psychosocial impact research

Among the prominent institutions in co-authorship and collaboration networks are prestigious universities such as the University of Melbourne, King’s College London, and the University of Toronto. These institutions are positioned at the center of the network, indicating they are

the most collaborative in the literature on the impacts of COVID-19 on healthcare workers. In contrast, institutions such as the University of Edinburgh and the Christian Hospital appear more isolated, suggesting they have fewer academic collaborations.

Table 1: Top institutions by number of publications and citations in COVID-19 research

No	Institution	Number of Publications	Institution	Number of Citations
1	University of Melbourne	113	University College London	304
2	University College London	110	Queen's University Belfast	286
3	University of Oxford	106	Harvard University	254
4	King's College London	97	Cairo University	251
5	Monash University	95	Clemson University	247

Table 1 presents the universities with the highest number of publications and citations related to COVID-19. In terms of publication count, the most productive academic institutions are the University of Melbourne (113 publications), University College London (110 publications), University of Oxford (106 publications), King’s College London (97 publications), and Monash University (95 publications). The fact that these leading universities are primarily based in the United Kingdom and Australia highlights the significant academic influence of these regions in COVID-19 research.

On the other hand, when examining the institutions with the highest citation counts, University College London (304 citations) emerges as one of the most impactful institutions, followed by Queen’s University Belfast (286 citations), Harvard University (254 citations), and Cairo

University (251 citations), and Clemson University (247 citations). The high number of citations indicates that the research outputs from these universities have resonated widely in the literature, demonstrating their strong influence within the scientific community.

Co-authorship of Countries

Figure 3 presents a country-level bibliometric map illustrating the academic collaboration networks related to COVID-19. On the map, node size represents each country's influence in the scientific collaboration network, and lines indicate co-authorship relationships between countries. The United States (USA) is the largest node, indicating it is the country with the most international scientific collaborations. Notably, the USA demonstrates strong academic ties with countries such as the United Kingdom, Germany, Australia, and India.

The map also displays clusters of countries in different colors, reflecting distinct groups of collaborators. The red cluster predominantly comprises Germany-centered European countries, whereas the blue cluster comprises the United Kingdom and other English-speaking countries. The green cluster represents India and countries in the Asia-Pacific region, while the yellow cluster comprises Latin American and Iberian countries, including Spain, Brazil, and Mexico.

As illustrated by the map, international collaboration has played a crucial role in COVID-19 research, with particularly strong academic connections observed among developed countries. However, the map also reveals that some countries appear relatively isolated and less integrated into the global academic network. The country-level co-authorship network is depicted in Figure 3.

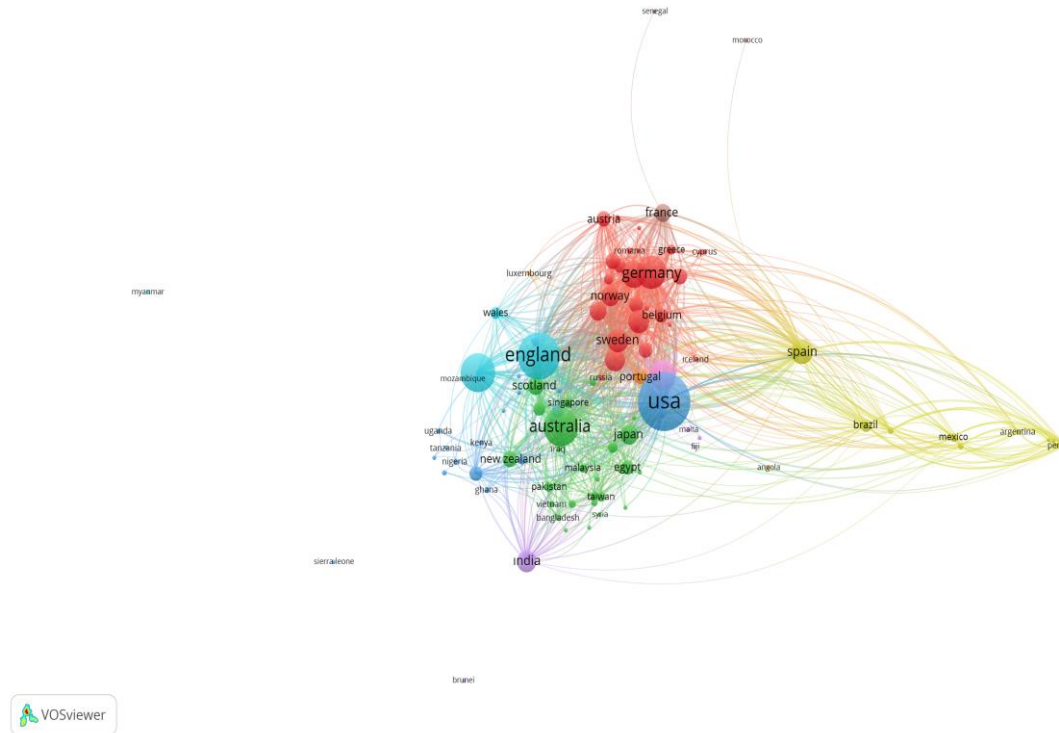


Figure 3: Country-level co-authorship network in COVID-19 and psychosocial impact research

Keyword Analyses

Through keyword analysis, clusters of keywords were identified based on their co-occurrence frequencies across the included studies, highlighting their correlations and thematic relationships. In the analysis, each cluster is represented by a distinct color.

The bibliometric network map presented in Figure 4 visualizes the distribution of key topics and their interrelations within the academic research on COVID-19. At the center of the map, the term "COVID-19" appears as the largest and most interconnected node, underscoring the pandemic's central role in the scientific literature. The topic clusters depicted in various colors reflect the multidisciplinary impact of COVID-19 research.

Terms such as "mental health," "depression," "stress," and "psychological distress," concentrated within the yellow-green cluster, demonstrate the widespread academic focus

on the pandemic's effects on psychological well-being. In the red cluster, biomedical topics such as "oxidative stress," "inflammation," "metabolism," and "apoptosis" highlight the extensive body of research exploring the biological impacts of COVID-19. The blue-green cluster emphasizes terms such as "public health," "vaccine hesitancy," "telehealth," and "health policy," indicating the comprehensive attention given to public health management during the pandemic.

The thick lines on the map represent strong connections among keywords, particularly among COVID-19, mental health, public health policies, and biomedical research. These findings reveal that the pandemic has exerted a broad impact not only on physical health but also on psychological and societal domains, underscoring the growing importance of interdisciplinary research in this area.

The color coding in the map visualizes the evolution of research trends over time, indicating that during the initial phase of the pandemic, studies predominantly focused on public health and transmissibility, whereas in later periods, the emphasis shifted toward biomedical effects, psychological health, and social factors. In this context, Figure 5 provides a valuable visualization for understanding the multidimensional impacts of COVID-19 and the interdisciplinary approaches adopted in academic research.

Citation Analyses

Table 2 presents the five most-cited publications in the academic literature on COVID-19. The publication with the highest number of citations is Richard (2020), with 222 citations, making it the most-cited source in its field. This

is followed by Loey (2020) with 171 citations, Kwekha-Rashid (2021) with 164 citations, Pullano (2020) with 148 citations, and Milijeteig (2021) with 78 citations. The high citation counts indicate the significant impact these studies have had within their respective research areas and their broad resonance in the literature.

Notably, the majority of these influential studies were published in 2020 and 2021, suggesting that early-stage research conducted at the onset of the COVID-19 pandemic garnered substantial academic attention and served as a guiding force for subsequent studies. This analysis contributes to understanding research trends in the field by identifying the most impactful sources on COVID-19.

Table 2: Top five most cited publications in COVID-19 research

No	Author	Number of Citations
1	Richard (2020)	222
2	Loey (2020)	171
3	Kwekha-Rashid (2021)	164
4	Pullano (2020)	148
5	Milijeteig (2021)	78

Table 3 presents the journals with the highest numbers of COVID-19 publications and citations. The journal with the greatest number of publications is *Current Psychology*, with 83 articles, followed by *Omega – Journal of Death and Dying* (66 articles), *Child Psychiatry & Human Development* (58 articles), *International Journal of Mental Health and Addiction* (50 articles), and *Development and Psychopathology* (43 articles). This indicates that COVID-19 research has been predominantly focused on psychology, psychiatry, and mental health.

On the other hand, when examining the journals with the highest citation counts, the *Journal of Ambient Intelligence*

and *Humanized Computing* ranks first with 239 citations, followed by *Annals of Operations Research* (225 citations), *Nature Medicine* (208 citations), *Applied Nanoscience* (204 citations), and *Neural Computing & Applications* (193 citations). It is noteworthy that the most cited journals span multidisciplinary fields such as artificial intelligence, medicine, nanotechnology, and computational sciences. This demonstrates that COVID-19-related research has had a significant impact not only in the health sciences but also in areas such as engineering, data science, and operations research.

Table 3: Leading journals by number of publications and citations in COVID-19 research

No	Journal	Number of Publications	Journal	Number of Citations
1	Current Psychology	83	Journal of Ambient Intelligence and Humanized Computing	239
2	Omega-Journal of Death and Dying	66	Annals of Operations Research	225
3	Child Psychiatry&Human Development	58	Nature Medicine	208
4	International Journal of Mental Health and Addiction	50	Applied Nanoscience	204
5	Development and Psychopathology	43	Neural Computing&Applications	193

Discussion

The primary objective of this bibliometric analysis was to examine the structure and evolution of COVID-19-related academic research by focusing on author collaborations, institutional and international academic partnerships, publication and citation performance, keyword patterns,

and temporal research trends. The findings indicate that the pandemic has had a broad impact on the scientific community and has been addressed across different disciplinary contexts (Aristovnik et al., 2020; Chahrour et al., 2020; Yu et al., 2020).

An examination of author collaboration networks revealed that researchers such as Zhang Yan and Li Yang had more connections than other authors and were positioned at the center of the academic network. This finding suggests that these authors engaged in more intensive collaborations in COVID-19 research and held an important position in the literature. In contrast, some authors had fewer collaborations and remained outside specific collaboration clusters.

Institutional-level analyses demonstrated that universities such as the University of Melbourne, University College London, and the University of Oxford were among the most productive in COVID-19 research publications. However, when institutions with the highest citation counts were examined, universities such as University College London, Harvard University, and Queen's University Belfast stood out for their academic impact. This finding indicates that publication volume alone is insufficient to assess scientific impact and that citation counts are also an important indicator. Similarly, Yu et al. (2020) emphasized that productivity and impact indicators should be evaluated together in bibliometric analyses.

Country-based analyses showed that the United States had the highest level of scientific collaboration in COVID-19 research. The United States was found to have strong academic connections, particularly with the United Kingdom, Germany, Australia, and India. This finding is consistent with the results reported by Korkmaz and Altuntaş (2022) and Akintunde et al. (2021). Additionally, other bibliometric studies on COVID-19 have also reported that the United States is the most productive country in terms of publication output (Farooq et al., 2021; Dong et al., 2022). However, some bibliometric analyses have reported China as the leading country, followed by the United States. This discrepancy may be attributed to differences in analytical focus, as many previous studies primarily emphasized biomedical and epidemiological research (Chahrour et al., 2020; Dehghanbanadaki et al., 2020), whereas the present study adopts a broader bibliometric framework that also incorporates the psychosocial impacts of COVID-19. Nevertheless, some countries were observed to occupy relatively isolated positions within international academic collaboration networks.

Keyword analyses indicated that COVID-19 has generated a broad research domain and has been examined across various fields, including the health sciences, psychosocial impacts, and public health policies. Similarly, a bibliometric analysis of the most highly cited publications on COVID-19 found that research has predominantly focused on the pandemic's public health and mental health impacts (Liew et al., 2024). In particular, the prominence of topics such as mental health, depression, stress, and burnout demonstrates that the psychosocial effects of the pandemic on individuals have occupied an important place in the academic literature. These findings are consistent with previous bibliometric studies examining the mental health impacts of COVID-19 (Akintunde et al., 2021; Korkmaz & Altuntaş, 2022). In addition to biomedical terms such as oxidative stress, inflammation, and metabolism, the literature also identified concepts related to public health policies, vaccine hesitancy, and telehealth (Farooq et al., 2021).

Evaluations based on the temporal dimension showed that research during the early stages of the pandemic primarily

focused on transmissibility and public health measures, whereas psychosocial effects and mental health issues became more prominent in later periods. The increasing focus on topics such as mental health and burnout in recent years indicates that the long-term effects of the pandemic are being increasingly addressed in scientific research.

Citation analyses revealed that the most highly cited studies were largely published in 2020 and 2021. The fact that these studies were conducted during the early phase of the COVID-19 pandemic suggests they served as a guiding force for subsequent research. This finding highlights the critical role of early-stage scientific research in shaping subsequent studies and informing responses during global health crises. Consistent with this observation, Maalouf et al. (2021) reported that publications produced during the early phases of outbreaks such as COVID-19, Ebola, and H1N1 tend to achieve greater visibility and exert a stronger influence within the scientific literature.

It is also noteworthy that journals publishing research on the psychosocial impacts of COVID-19 on healthcare workers are predominantly in psychology and psychiatry, including *Current Psychology*, *Omega – Journal of Death and Dying*, and *Child Psychiatry & Human Development*. Similarly, Akintunde et al. (2021), in their bibliometric analysis of the mental health impacts of the COVID-19 pandemic, emphasized that this research area is most concentrated within the disciplines of psychiatry and psychology. Conversely, the most-cited journals include the *Journal of Ambient Intelligence and Humanized Computing*, *Annals of Operations Research*, and *Nature Medicine*. This demonstrates that COVID-19 research has not been confined to health sciences alone but has also significantly influenced fields such as data science, engineering, and computational sciences.

Based on these findings, future studies are encouraged to examine the long-term course of burnout and psychological distress among healthcare workers in the post-pandemic period, and to evaluate the effectiveness of organizational support mechanisms within health management practices. Moreover, given that the existing literature is predominantly focused on high-income countries, comparative studies that incorporate diverse healthcare system contexts may make valuable contributions to the field (Wang and Tian, 2021).

Conclusion

The analyses conducted in this study demonstrate that COVID-19 has generated a vast research domain within the scientific community and that multidisciplinary studies are gaining increasing significance. During the pandemic, international academic collaborations intensified, interdisciplinary approaches were more widely adopted, and research focusing on public health policies accelerated. In this context, it is recommended that future studies further promote multidisciplinary collaborations and particularly focus on the long-term psychosocial impacts of the pandemic.

In conclusion, COVID-19 has not only been a public health crisis but also a turning point that reshaped research dynamics, fostered academic collaborations, and accelerated global knowledge production. This study not only evaluates the pandemic's impact on the scientific literature but also offers key insights into how the academic community can respond more effectively to future global crises.

Limitations

This study makes a valuable contribution to the literature by evaluating scientific productivity, citation impact, and academic collaborations in COVID-19 research using a bibliometric analysis. Unlike previous studies that focused on specific domains, this research offers an interdisciplinary perspective, visualizing how COVID-19 research has evolved across the scientific landscape.

However, certain limitations must be acknowledged. The analysis is based solely on one database, and publications from other databases were not included. In addition, institutional and journal names within the Web of Science database may appear in different formats due to abbreviations, spelling variations, or indexing differences. As no additional manual standardization or thesaurus-based harmonization was applied prior to analysis, such variations may have partially influenced the representation of institutional- and journal-level findings. Furthermore, as citation counts may change over time, different publications may receive higher citation counts in the future, potentially altering these findings.

Declarations

Ethics Approval

This study is a bibliometric analysis based on published literature and does not involve human or animal participants; therefore, ethics committee approval was not required.

Informed Consent

Not applicable.

Author Contribution Statement

The author solely conceived, designed, conducted, and wrote the study.

Conflict of Interest

The author declares no conflict of interest.

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Data Availability

The data used in this study were retrieved from the Web of Science database. Access to the dataset is subject to the database's subscription and usage policies.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

The Relationship between Blood Donation Attitudes and Spiritual Well-Being among Adults: A Case Study of Türkiye

Yetişkinlerde Kan Bağışı Tutumları ile Spiritüel İyi Oluş Arasındaki İlişki: Türkiye Örneği

Emek Bakanoglu Kalkavan¹, Niran Çoban², Seda Dülcek³, Kerime Derya Beydağ⁴

Abstract:

Raising global awareness of blood donation is of utmost importance. Consequently, it is crucial to identify factors that undermine people's perceptions of blood donation and devise appropriate remedies. This study was conducted to determine the relationship between attitudes of adults living in Türkiye toward blood donation and their levels of spiritual well-being. This descriptive correlational study was conducted from June to September 2022 with 475 participants aged 18 years and older residing in Türkiye. Research data were obtained using the researchers' Individual Characteristics Questionnaire, the Blood Donation Attitude Scale, and the Spiritual Well-Being Scale. The mean age of the participants was 32.64 ± 9.69 years, and 70.1% were women. It was found that 57.7% of participants had never donated blood, 65.9% had not received training on blood donation, 49.1% had received training from healthcare personnel, and 55.8% stated that the training they received was insufficient. A significant but weak positive correlation was found between Blood Donation Attitude Scale total score and Spiritual Well-Being Scale; Transcendence, Harmony with Nature, and the Anomie subscales ($p < 0.01$; $p < 0.01$; $p < 0.05$; $r = 0.096$, respectively). There was a positive correlation between Blood Donation Attitude Scale Societal and Social Responsibility subscale score and Spiritual Well-Being Scale Transcendence and Harmony with Nature subscales, and a weak negative correlation between Anomie subscale scores ($p < 0.01$, $r = 0.122$; $p < 0.01$, $r = 0.296$; $p < 0.05$, $r = -0.112$, respectively). It was found that as the spiritual well-being of adult individuals improved, their attitudes toward blood donation also increased. In conclusion, findings highlight the critical role of nurses in promoting blood donation through effective educational and awareness initiatives.

Keywords: Blood donation, Blood donors, Spiritual well-being, Attitude.

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Öz:

Kan bağışısı konusunda küresel farkındalığın artırılması son derece önemlidir. Bu nedenle, bireylerin kan bağışısı algılarını olumsuz yönde etkileyen unsurların belirlenmesi ve uygun çözüm yollarının geliştirilmesi büyük önem taşımaktadır. Bu çalışma, Türkiye'de yaşayan yetişkinlerin kan bağışısı tutumları ile spiritüel iyi oluş düzeyleri arasındaki ilişkiyi belirlemek amacıyla yapılmıştır. Tanımlayıcı ve ilişkisel türdeki bu araştırma, haziran–eylül 2022 tarihleri arasında Türkiye’de yaşayan 18 yaş ve üzeri 475 katılımcı ile gerçekleştirilmiştir. Araştırma verileri, araştırmacılar tarafından geliştirilen Bireysel Özellikler Formu, Kan Bağışısı Tutum Ölçeği ve Spiritüel İyi Oluş Ölçeği kullanılarak toplanmıştır. Katılımcıların yaş ortalaması $32,64 \pm 9,69$ yıl olup, %70,1’i kadındır. Katılımcıların %57,7’sinin daha önce hiç kan bağışısında bulunmadığı, %65,9’unun kan bağışısı konusunda herhangi bir eğitim almadığı, %49,1’inin eğitimi sağlık personelinden aldığı ve %55,8’inin aldığı eğitimin yetersiz olduğunu düşündüğü belirlenmiştir. Kan Bağışısı Tutum Ölçeği toplam puanı ile Spiritüel İyi Oluş Ölçeği’nin Transandans, Doğa ile Uyum ve Anomi alt boyutları arasında anlamlı ancak zayıf pozitif korelasyon bulunmuştur (sırasıyla $p<0.01$; $p<0.01$; $p<0.05$; $r=0.096$). Ayrıca, Kan Bağışısı Tutum Ölçeği’nin Toplumsal ve Sosyal Sorumluluk alt boyutu ile Spiritüel İyi Oluş Ölçeği’nin Transandans ve Doğa ile Uyum alt boyutları arasında pozitif; Anomi alt boyutu ile ise zayıf negatif korelasyon bulunmuştur (sırasıyla $p<0.01$, $r=0.122$; $p<0.01$, $r=0.296$; $p<0.05$, $r=-0.112$). Yetişkin bireylerin spiritüel iyi oluş düzeyleri arttıkça, kan bağışısı tutumlarının da olumlu yönde geliştiği saptanmıştır. Sonuç olarak, bulgularımız hemşirelerin etkili eğitim ve farkındalık çalışmaları aracılığıyla kan bağışısını teşvik etmedeki kritik rolünü ortaya koymaktadır.

Anahtar Kelimeler: Kan bağışısı, Kan bağışıcıları, Spiritüel iyi oluş, Tutum.

Introduction

Blood donation is the only source of blood components that cannot be artificially replaced. Despite medical and technological advances, no substitutes for blood have been identified, making blood donation essential for transfusions (Getie, Wondmieneh, et al., 2024; Mohammed et al., 2022). Blood donation is a universal need. Increasing life expectancy, chronic diseases, medical advances, clinical practices, and emergencies highlight the importance of meeting the growing global demand for blood (Casal-Otero et al., 2020). The literature shows that many individuals are reluctant to donate, often unaware of the life-saving importance of blood donation or fearful of health risks. Many donate only if a family member requires blood. Contributing factors include sociological and demographic status, cultural differences, economic level, misinformation, superstitions, prejudices, and spiritual beliefs (Getie, Wondmieneh, et al., 2024; Ogundeji et al., 2021).

Spirituality is an individual’s effort to understand and accept life, relationships, their place in the universe, and experiences (Jaysawal & Saha, 2023). Beyond religion, it helps define life’s purpose and find meaning. Well-being, a core concept in positive psychology, includes happiness, subjective, objective, and psychological well-being, and quality of life (Jaysawal & Saha, 2023; Klimasiński, 2021). Spiritual well-being refers to the perceived quality of life, connecting personal, social, environmental, and transcendental spaces. It reflects an individual’s holistic experience across these four domains of existence (H. Ekşi & Kardaş, 2017; Fisher, 1993). Another factor that affects individuals’ spiritual well-being is religious coping attitudes. Studies have found that religious coping can change the relationship between stress and psychological well-being, and various religious coping techniques can reduce the negative relationship between stress and health outcomes (Imran & Leng, 2025). According to Pargament (1997), religion helps us to overcome stress and to cope with critical situations. Elements such as religious ideology, close connection with God, spiritual life

integration, rituals, and religious or spiritual significance have been reported to reduce the harmful effects of stress on mental health. In this context, religious coping is thought to minimize the impact of distressing experiences on mental health. Religious commitment can alleviate the negative effects of stress on psychological health; people can relax and find solace through prayer (Pargament, 1997).

Increasing the number of blood donations worldwide is crucial. Therefore, identifying the factors that adversely affect individuals’ attitudes towards blood donation and developing appropriate solutions are of great importance.

Spirituality has been a focus of interest in the helping professions for many years (McGinnis, 2022). Nurses play a vital role in safe and effective blood donation. They perform donor screening, education, process management, and post-donation care, assessing health, identifying suitable donors, and minimizing risks (Alshehri et al., 2024; P. Ekşi et al., 2022). Nurses also correct misinformation, reduce donor anxiety, build confidence, and quickly recognize and manage complications. Collaborating with interdisciplinary teams, they enhance efficiency, donor experience, and ensure quality and safety through continuous professional development. Although studies have explored factors influencing blood donation attitudes, the relationship between spiritual well-being and these attitudes remains unexamined (Easmin & Islam, 2024; Eltewacy et al., 2024; Getie, Amlak, et al., 2024; Getie, Wondmieneh, et al., 2024; Ma et al., 2024). This study aimed to investigate how adults’ attitudes toward blood donation relate to spiritual well-being, examining whether higher spiritual well-being is associated with more positive attitudes toward blood donation and identifying factors influencing both.

Research Questions

Does adults’ attitude toward blood donation increase as their level of spiritual well-being increases?

What factors affect adults' spiritual well-being and blood donation attitudes?

Method

Research Design

It is a descriptive correlational study.

Population and Sample

The research was conducted from September to December 2022 among individuals aged 18 years and older who actively used social media (e.g., Instagram, Facebook, Twitter) and resided in Türkiye. The researchers collected data using a questionnaire created in Google Forms, which they distributed via snowball sampling. The study was completed by 475 participants who agreed to participate and completed the questionnaire.

Data Collection Tools

Data were obtained using the Individual Characteristics Questionnaire, the Blood Donation Attitude Scale, and the Spiritual Well-Being Scale.

The Individual Characteristics Questionnaire

The Individual Characteristics Questionnaire, prepared by the researchers in line with the literature, comprises 21 questions on age, gender, income level, education level, knowledge, and opinions regarding blood donation.

The Blood Donation Attitude Scale

The Blood Donation Attitude Scale (BDAS), a 5-point Likert scale developed by Çelik and Güven (2015), consists of 24 items and 3 subscales (Societal and Social Responsibility, Anxiety, Societal Perception and Conception). There are no reverse-coded items in the scale. The highest score obtained from the scale is 120, and higher scores indicate a more positive attitude towards blood donation. The Cronbach's alpha internal consistency coefficient for the overall scale was 0.84. The consistency coefficients for the scale's subscales were 0.93 for the Societal factor, 0.77 for the Anxiety factor, and 0.71 for the social perception and Conception factors (Çelik & Güven, 2015). In this study, the Cronbach's Alpha value of the scale was 0.888. The reliability of the Societal and Social Responsibility subscale of the scale was found to be 0.956, the reliability of the Anxiety subscale was found to be 0.822, and the reliability of the Societal Perception and Conception subscale was found to be 0.767.

The Spiritual Well-Being Scale

The Spiritual Well-Being Scale (SWBS), designed by Eksi and Kardas in 2017 to reflect Turkish cultural values, is a 5-point Likert scale comprising 29 items across three subscales: Transcendence, Harmony with Nature, and Anomie. The scale's scores range from 29 to 145, with higher scores signifying enhanced spiritual well-being (H. Ekşi & Kardaş, 2017). A high score in any subscale indicates that the individual embodies the characteristics measured by that subscale. The overall Cronbach's Alpha for the scale was 0.88, with the Transcendence subscale at 0.95, the Harmony with Nature subscale at 0.86, and the Anomie subscale at 0.85, as reported by H. Ekşi & Kardaş (2017). In the current study, the scale's Cronbach's Alpha

was 0.924. The reliability coefficients for the Transcendence, Harmony with Nature, and Anomie subscales were 0.963, 0.899, and 0.875, respectively.

In this study, the sub-factors were evaluated separately, and the overall score was not calculated to maintain data accuracy. Otherwise, erroneous findings may be obtained, reducing measurement precision and jeopardizing the reliability of the results (Koenig & Carey, 2024).

Data Collection

The initial section of the questionnaire includes a consent form outlining the study's purpose and scope. Following this, there are questions related to Individual Characteristics, the Blood Donation Attitude Scale, and the Spiritual Well-Being Scale. Only participants who provided voluntary consent were included in the analysis. It requires approximately 5-7 minutes to answer the survey questions. The SWBS scale used in this study has been criticized for its subscales that include items directly related to mental health, which may compromise measurement purity and distort the results (Bambling, 2025; Koenig & Carey, 2024). For this reason, the subscales were evaluated independently rather than the SWBS total score.

Ethical Considerations

Approval for the research was granted by the Istanbul Gedik University Scientific Research Ethics Committee (Date: 21.09.2022 / Decision No: 384). Participants were fully informed about the study, and their consent was secured. Permission was obtained from the authors to use the Blood Donation Attitude Scale and the Spiritual Well-Being Scale.

Data Analysis

The data were processed using the Statistical Package for the Social Sciences (SPSS, version 22.0; SPSS Inc., Chicago, IL, USA). Descriptive analysis was conducted using frequencies, percentages, medians, minima, maxima, means, and standard deviations. To evaluate differences between two groups, the Mann-Whitney U test was employed. For analyzing differences among three or more groups that did not follow a normal distribution, the Kruskal-Wallis test was applied. The Mann-Whitney U test also served as a post hoc test to identify pairwise differences following the Kruskal-Wallis test. Pearson's correlation analysis was conducted to explore associations between variables. Statistical significance was determined at $p < 0.05$.

Results

Participants were aged 18–73 years (mean 32.64 ± 9.69), 70.1% male, 50.3% married, and 91.4% had nuclear families. Most (57.3%) were university graduates, 76% employed, 41.7% healthcare personnel, and 84.8% were insured under SGK (Social Security Institution). The majority lived in the Marmara Region (62.5%) and metropolitan cities (63.4%), 73.7% used Instagram, and 87.6% were religious.

Table 1. Socio-demographic characteristics of the participants (N=475)

Variables	Min-Max	M ±SD	
Age	18-73	32.64 ±9.69	
Variables	n	%	
Gender	Female	333	70.1
	Male	142	29.9
Level of Education	High school or below	48	10.1
	University Graduate	272	57.3
	Post-graduate	155	32.6
Occupational Status	Employed	361	76.0
	Unemployed	114	24.0
Occupation	Healthcare Personnel	198	41.7
	Teacher	28	5.9
	Student	66	13.9
	Academician	51	10.7
	Other	132	27.8
The Most Frequently Used Social Media Platform	Facebook/ TikTok/LinkedIn	33	6.9
	Instagram	350	73.7
	Twitter	43	9.1
	YouTube	49	10.3
Faith in Religion	Highly religious	26	5.5
	Religious	416	87.6
	Irreligious	33	6.9

Regarding blood donation, 57.7% had never donated; 61.3% had no family members needing blood; 65.9% lacked training; 49.1% were trained by healthcare personnel; 55.8% found the information insufficient.

73.5% reported positive media influence, and 46.9% indicated that transportation conditions affected donation decisions.

Table 2. Blood Donation characteristics of the participants (N=475)

Variables	n	%	
Blood Donor	Yes	201	42.3
	No	274	57.7
Donate Blood Regularly	Yes	41	8.6
	No	220	46.3
	Have never donated blood	214	45.1
Have Someone in Need of Blood Donation	Yes	291	61.3
	No	184	38.7
Received Training on Blood Donation	Yes	313	65.9
	No	162	34.1
Source of Information About Blood Donation and Training	Healthcare Personnel	233	49.1
	Printed Sources (Journal, Book, Article)	75	15.8
	Television	21	4.4
	Social Media Apps (Facebook, Instagram, LinkedIn, etc.)	21	4.4
	Not informed	125	26.3
Blood Donation News in the Media Has a Positive Impact on Blood Donation Attitude	Yes	349	73.5
	No	55	11.6
	Undecided	71	14.9

Significant differences were found between participants' characteristics and BDAS scores. Non-donors had higher total and Social and Social Responsibility subscale scores. Non-donors and those who never donated scored higher on the Anxiety subscale. Regular donors scored higher on Societal Perception and Conception, while non-donors also had higher scores on this subscale. Participants with training scored higher on Social and Social Responsibility,

while untrained individuals scored higher on Anxiety. Training from written sources increased Social and Social Responsibility scores. Those undecided about media effects had higher Anxiety scores, while those perceiving positive media effects had higher Social and Social Responsibility scores. Long waiting conditions raised Worry subscale scores.

Table 3. The relationship between Blood Donation characteristics and the Blood Donation Attitude Scale scores of the participants (N=475)

Variables		The Blood Donation Scale Total Score		Societal and Social Responsibility		Anxiety		Societal Perception and Conception		
		Min Max	M±SD	Min Max	M±SD	Min Max	M±SD	MinMax	M±SD	
Blood Donor	Yes	25-113	77.05±15.21	13-59	48.24±10.66	8-40	19.58±6.79	4-20	9.22±4.20	
	No	27-117	79.22±14.92	12-60	47.13±9.92	8-40	21.95±6.93	4-20	10.13±4.03	
			<i>p</i> =.018 <i>Z</i> = -2.356		<i>p</i> =.012 <i>Z</i> =-2.499		<i>p</i> =.000 <i>Z</i> =-3.632		<i>p</i> =.009 <i>Z</i> =-2.595	
	Yes	30-113	78.31±15.17	13-56	49.24±10.73	8-40	18.60±7.32	4-20	10.46±4.62	
Donate Blood Regularly	No	25-109	76.90±15.68	13-59	47.01±10.73	8-40	20.63±7.13	4-20	9.25±4.20	
	Have never donated blood	30-117	79.75±14.31	12-60	47.89±9.63	8-40	21.72±6.63	4-20	10.13±3.90	
		<i>p</i> =.064 <i>X</i> ² =2		<i>p</i> =.144 <i>X</i> ² = 2		<i>p</i> = .013 <i>X</i> ² =2		<i>p</i> = .023 <i>X</i> ² = 2		
Received Training on Blood Donation	Yes	25-113	78.32±14.24	13-58	48.72±9.65	8-40	20.00±6.63	4-20	9.59±4.03	
	No	27-117	78.27±16.60	12-60	45.43±11.03	8-40	22.77±7.24	4-20	10.06±4.30	
		<i>p</i> =.693 <i>Z</i> =-.395		<i>p</i> =.000 <i>Z</i> = -3.917		<i>p</i> =.000 <i>Z</i> =-3.930		<i>p</i> =.321 <i>Z</i> =-0.993		
Source of Information About Blood Donation and Training	Healthcare Personnel	25-113	78.00±15.19	13-58	48.66±10.20	8-40	19.61±6.54	4-20	9.73±4.22	
	Printed Sources	30-97	79.10±12.09	13-57	49.38±8.55	8-36	20.56±6.83	4-17	9.16±3.56	
	Television	30-107	77.85±18.77	13-59	45.14±11.45	11-33	22.33±6.95	4-19	10.38±4.17	
	Social Media Apps	39-101	79.57±12.76	23-56	47.76±7.83	8-38	22.00±9.46	4-16	9.80±3.97	
Not informed	Not informed	27-117	78.25±16.27	12-60	44.96±10.95	8-40	23.26±6.78	4-20	10.03±4.29	
			<i>p</i> = .999 <i>X</i> ² =4		<i>p</i> =.000 <i>X</i> ² = 4		<i>p</i> =.000 <i>X</i> ² =4		<i>p</i> =.702 <i>X</i> ² = 4	
Blood Donation News in the Media Has a Positive Impact on Blood Donation Attitude	Yes	30-117	78.92±14.95	12-60	48.50±9.98	8-40	20.62±6.96	4-20	9.79±4.14	
	No	25-104	73.27±15.27	13-56	43.94±11.72	8-33	20.45±7.13	4-16	8.87±3.75	
	Undecided	30-109	79.18±14.94	13-56	46.02±9.65	10-40	22.91±6.63	4-20	10.23±4.28	
		<i>p</i> = .005 <i>X</i> ² =2		<i>p</i> = .00 <i>X</i> ² = 2		<i>p</i> = .043 <i>X</i> ² =2		<i>p</i> = .207 <i>X</i> ² = 2		

*X*²: Kruskal Wallis; *Z*: Mann-Whitney U

Among participants, SWBS Transcendence subscale scores were higher among those who had never donated blood than among those who had. Those who received training in blood donation had higher scores on the “Harmony with Nature” subscale of the SWBS than those who did not. On the other hand, the Anomie subscale scores on the SWBS for those who did not receive blood donation training were higher than for those who did receive it. The mean scores on the Harmony with Nature subscale of the

SWBS among participants who received training on blood donation from written sources was higher than that of other groups. The Transcendence and Anomie subscale scores on the SWBS of participants who thought there was not enough information about blood donation were higher than those of the others. In addition, individuals who were undecided about whether media news positively affected their thoughts about blood donation had higher Anomie subscale scores on the SWBS.

Table 4. The relationship between Blood Donation characteristics and the Three-Factor Spiritual Well-Being Subscale scores of the participants (N=475)

Variables		SWBS-Transcendence		SWBS-Harmony with Nature		SWBS-Anomie	
		Min-Max	M±SD	Min-Max	M±SD	Min-Max	M±SD
Blood Donor	Yes	18-75	57.74±14.85	12-35	31.01±4.50	7-32	16.28±6.17
	No	15-75	60.59±13.20	7-35	31.01±4.56	7-35	16.99±6.59
		<i>p</i> =.041 Z=-2.047		<i>p</i> =.951 Z=-.061		<i>p</i> =.308 Z=-1.020	
Donate Blood Regularly	Yes	19-74	55.75±15.93	12-35	30.53±4.81	7-32	15.07±6.61
	No	15-75	57.70±14.66	7-35	30.58±4.98	7-33	16.60±6.23
	Have never donated blood	15-75	61.81±12.45	7-35	31.55±3.90	7-35	17.09±6.54
		<i>p</i> =.004 X ² = 2		<i>p</i> =.212X ² =2		<i>p</i> =.145X ² = 2	
Received Training on Blood Donation	Yes	18-75	60.53±12.87	20-35	31.58±3.74	7-33	15.86±5.99
	No	15-75	57.16±15.72	7-35	29.91±5.61	7-35	18.29±6.92
		<i>p</i> =.068 Z=-1.824		<i>p</i> =.004 Z=-2.858		<i>p</i> =.000 Z=-3.631	
Source of Information About Blood Donation and Training	Healthcare Personnel	21-75	60.49±12.45	12-35	31.33±4.03	7-33	15.96±6.30
	Printed Sources	18-75	60.85±14.87	21-35	32.64±2.91	7-33	15.17±5.57
	Television	34-75	59.76±11.74	21-35	29.09±5.55	7-33	18.61±5.30
	Social Media Apps	34-75	52.80±19.08	15-35	29.38±6.75	9-29	15.95±6.15
	Not informed	15-75	57.49±15.15	7-35	30.03±5.18	7-35	18.76±6.83
		<i>p</i> =.164 X ² = 4		<i>p</i> =.001 X ² =4		<i>p</i> =.000 X ² = 4	
Information About Blood Donation was Sufficient	Yes	21-75	60.72±12.80	12-35	30.85±4.59	7-34	15.44±6.41
	No	15-75	58.02±14.47	7-35	31.07±4.46	7-33	16.58±6.14
	Undecided	15-75	61.50±13.58	7-35	31.01±4.67	7-35	18.20±6.87
		<i>p</i> =.037 X ² = 2		<i>p</i> =.995 X ² =2		<i>p</i> =.006 X ² = 2	
Blood Donation News in the Media Has a Positive Impact on Blood Donation Attitude	Yes	15-75	59.99±13.59	7-35	31.29±4.32	7-34	16.45±16.17
	No	15-75	55.87±18.06	7-35	30.05±5.92	7-33	15.92±7.48
	Undecided	26-75	59.12±11.94	19-35	30.36±4.20	7-33	18.47±6.53
		<i>p</i> =.347X ² = 2		<i>p</i> =.059 X ² =2		<i>p</i> =.018 X ² = 2	

Note. X2: Kruskal Wallis; Z: Mann-Whitney U

A significant but weak correlation was found between (BDAS) total scores and SWBS Transcendence, Harmony with Nature, and Anomie subscales (*p*<0.01, respectively) and (*p*<0.05; *r*=0.096, respectively). There was a significant but weak positive correlation between the BDAS Anxiety subscale and the SWBS Anomie subscale (*p* < 0.01, *r* = 0.132; *p* < 0.01, *r* = 0.293, respectively).

A positive association was found between the BDAS perception/conception subscale and the SWBS transcendence and anomie subscales. Nevertheless, the strength of these associations remains weak. The *p*-value was below 0.01 for both associations.

Table 5. The relationship between the Blood Donation Scale and the three-factor Spiritual Well-Being Scale scores of the participants (N=475)

Statistics		The Blood Donation Scale Total Score	Societal and Social Responsibility	Anxiety	Societal Perception and Conception	SWBS-Transcendence	SWBS-Harmony with Nature	SWBS-Anomie
The Blood Donation Scale Total Score	<i>r</i>	1	0.799**	0.652**	0.566**	0.189**	0.162**	0.096*
Societal and Social Responsibility	<i>r</i>	0.799**	1	0.140**	0.196**	0.122**	0.296**	-0.112*
Anxiety	<i>r</i>	0.652**	0.140**	1	0.344**	0.052	-.051	0.293**
Societal Perception and Conception	<i>r</i>	0.566**	0.196**	0.344**	1	0.300**	-.058	0.133**
SWBS-Transcendence	<i>r</i>	0.189**	0.122**	0.052	0.300**	1	0.485**	0.036
SWBS-Harmony with Nature	<i>r</i>	0.162**	0.296**	-0.051	-0.058	0.485**	1	-0.041
SWBS-Anomie	<i>r</i>	0.096*	-0.112*	0.293**	0.133**	0.036	-0.041	1

** *p* < .01 * *p* <.05, *r* = Pearson Correlation Analysis

In the first model, demographic variables (gender, marital status, and education level) explained 2.4% of the variance in blood donation attitudes ($R^2 = .024$, $F(3,467) = 3.857$, $p = .010$). Marital status ($\beta = .106$, $p = .023$) and education level ($\beta = .120$, $p = .009$) were significant predictors, while gender was not significant ($p > .05$).

In the second model, adding spiritual well-being significantly increased the model's explanatory power ($R^2 = .083$, $\Delta R^2 = .059$, $F(1,466) = 29.964$, $p < .001$). Spiritual well-being was a strong and significant predictor of blood donation attitudes ($\beta = .246$, $p < .001$).

Table 6. Hierarchical regression analysis predicting blood donation attitudes

Model	Variable	B	Std. Error	β	t	p	R	R ²	ΔR^2	F Change	Durbin-Watson	VIF Range
1	Constant	63.986	4.750	—	13.472	.000	.155	.024	—	3.857	2.098	1.01–1.03
	Gender	0.180	1.505	.006	0.119	.905	—	—	—	—	—	—
	Marital Status	3.140	1.378	.106	2.279	.023	—	—	—	—	—	—
	Education Level	2.953	1.128	.120	2.618	.009	—	—	—	—	—	—
2	Constant	39.632	6.406	—	6.187	.000	.288	.083	.059	29.964	2.098	1.02–1.05
	Gender	1.269	1.474	.039	0.861	.390	—	—	—	—	—	—
	Marital Status	2.882	1.338	.097	2.154	.032	—	—	—	—	—	—
	Education Level	3.445	1.098	.140	3.137	.002	—	—	—	—	—	—
	Spiritual Well-Being	0.203	0.037	.246	5.474	.000	—	—	—	—	—	—

Note. Dependent variable = Total score of Blood Donation Attitude Scale (BDAS).

R = multiple correlation coefficient; R² = explained variance; ΔR^2 = change from previous model; F Change = significance of ΔR^2 ; Durbin-Watson = autocorrelation test; VIF = variance inflation factor for multicollinearity (1–10 safe).

Discussion

The global demand for blood donations is steadily increasing. Despite this growing need, blood donation rates remain insufficient. It is believed that blood shortages are affected by individuals' spiritual beliefs and values.

In this context, our research sought to explore the connection between attitudes toward blood donation and spiritual well-being.

This study examined demographic and spiritual factors affecting adults' attitudes toward blood donation using hierarchical regression analysis. In the first model, demographic variables (gender, marital status, and education level) explained a small portion of the variance in blood donation attitudes, but marital status and education level were the only significant predictors. This result suggests that individuals' socio-demographic characteristics may influence blood donation attitudes, but their effects are limited.

Spiritual well-being was added to the second model, significantly increasing the model's explanatory power. Spiritual well-being was identified as a strong and significant predictor of attitudes toward blood donation. This finding suggests that individuals' awareness and values about their own lives and society support prosocial behaviors such as blood donation. Furthermore, the fact that education level remained a significant predictor underscores its role in guiding individuals toward conscious and responsible behaviors. The variance inflation factor (VIF) and Condition Index values were within acceptable limits, supporting the reliability of the results. The findings are consistent with previous studies, which have reported that spiritual awareness and

educational level positively influence prosocial behaviours, such as blood donation (Almeida et al., 2013; Elteuacy et al., 2024; Ma et al., 2024).

A significant difference was found between the participants' previous blood donation status and the BDAS total and subscale scores. Participants who did not donate blood had more favorable attitudes toward blood donation. Invasive interventions and materials, such as blood bags, applied during blood donation are a source of concern for individuals, and this situation may deter blood donation. Gilchrist et al. (2019) indicated that fear of medical procedures, particularly fear of blood, plays a key role in predicting donation attitudes and intentions (Gilchrist et al., 2019). Additionally, negative beliefs about donation, such as concerns about infectious diseases, further contribute to hesitancy (Thorpe et al., 2024). These fears and misconceptions can lead to adverse reactions during the donation process, resulting in negative experiences that diminish individuals' willingness to donate in the future (Easmin & Islam, 2024; Getie, Amlak, et al., 2024). Nurses play a pivotal role in creating positive donation experiences to address these challenges. These findings, when considered within the framework of the intention-behaviour distinction, show that the positive attitudes and intentions of the participants towards blood donation do not always turn into actual behaviour. Especially fears and negative beliefs about invasive procedures stand out as factors preventing this transformation. Ajzen's (1991) Theory of Planned Behaviour also supports this situation and emphasizes that intention is a necessary but not a sufficient condition for behaviour (Ajzen, 1991). Additionally, the tendency toward social desirability may cause participants to express socially approved behaviours, such as blood donation, more positively than

they actually do (Fisher, 1993; France et al., 2013). This can be considered as one of the possible mechanisms explaining the differences between attitude scores and actual donation behaviour.

Shivamurthy et al. (2024) showed that pre-donation hydration and muscle stretching exercises reduce adverse reactions, such as dizziness and syncope, improving donor comfort and self-efficacy (Shivamurthy et al., 2024). Nurses can educate donors about hydration and guide them through simple stretching exercises before donation. Distraction techniques, including conversation, music, or virtual reality tools, have been found to reduce anxiety and pain during medical procedures (Hassan et al., 2019). Incorporating these strategies can create a calming environment and reduce procedural fears.

Media platforms are widely used to regulate social processes, ensuring individuals focus on highlighted issues and achieve attitudinal and behavioral changes (Razmetaeva, 2023). In our study, the BDAS mean total scores were higher in participants who were undecided about the media's positive effect on blood donation attitudes. Studies indicate social media is effective for spreading blood donation and organ donation requests (Harrell et al., 2022; Ramondt et al., 2022; Yegen et al., 2025). Research from Brazil, India, and the USA found posts on social media platforms encouraged people to donate blood (Harrell et al., 2022). Based on these findings, public service announcements and blood donation information should be increased in the media. Sharing content through nurses and healthcare professionals with large social media followings can significantly boost donation rates.

This is in line with the Social Cognitive Theory (Bandura, 2001) and the Theory of Planned Behaviour (Ajzen, 1991), which explain the role of social influence and norms in behaviour change. Donation behaviours made visible through social media strengthen individuals' self-efficacy perceptions and increase the likelihood of converting intentions into behaviour by reinforcing social norms. As a matter of fact, recent empirical studies show that donation messages given on social media significantly increase individuals' attitudes towards donation and their participation rates.

Spiritual well-being can be defined as a balanced state of readiness to accept spiritual development, communication with others, a meaningful and purposeful life, and belief in and faith in divine power (Jaysawal & Saha, 2023; Klimasiński, 2021). In this regard, when attitudes toward blood donation and spiritual well-being were evaluated, Spiritual Well-Being Scale scores were higher among participants who had not previously donated blood. Studies have shown that individuals with lower religious affiliation, including agnostics, tend to donate blood less frequently than their more religious counterparts (Eltewacy et al., 2024). Research has found that religious beliefs positively affect attitudes toward blood donation (Nyambiya et al., 2020; Umair et al., 2023). Nyambiya et al. suggested that some participants viewed blood donation as a means of fulfilling religious and social responsibility, and that there is a positive relationship between blood donation and spiritual well-being, which aligns with their beliefs about helping others and community support (Nyambiya et al., 2020). One possible mechanism underlying this relationship is altruism. Religious values may encourage individuals to consider the well-being of

others beyond their own interests. In this context, blood donation, as an altruistic behaviour, seems to be compatible with religious teachings. In addition, the theory of planned behavior and the intention-behavior distinction theory are also noteworthy. People may adopt blood donation as a religious and morally right action, but the transformation of this intention into behaviour needs the support of personal beliefs as well as social norms and environmental conditions. Furthermore, the connection between religious values and the common good offers a crucial explanatory framework. Religious beliefs can make blood donation both an individual and a collective responsibility, encouraging individuals to prioritize not only personal spiritual fulfillment but also social benefit. When these theoretical perspectives are evaluated together, it becomes clear that the positive effect of religious beliefs on blood donation is multidimensional (Aras & Peker, 2024; Hagger et al., 2022).

A study in Türkiye on nurses' attitudes toward blood donation found that 73.6% had received training, 13.4% had donated organs, and trained nurses scored higher on the social opinion and understanding dimensions (P. Ekşi et al., 2022). This indicates that training positively influences both individual attitudes and awareness of social responsibility. Surgical nurses, who directly witness the importance of blood and blood products, can play a pioneering role (Ali et al., 2022; P. Ekşi et al., 2022). They can raise awareness by organizing training sessions for colleagues and the community, emphasizing the critical role of blood donation in emergencies and planned surgeries.

In our study, participants who felt inadequately informed had higher SWBS transcendence and anomie subscale scores, suggesting that a lack of information causes anxiety and uncertainty. Conversely, high Social and Social Responsibility scores among trained individuals show that training develops positive attitudes and awareness. Extending training to the broader society can reduce negative perceptions and increase donation rates.

Conclusion

This study examined the relationship between blood donation attitudes and spiritual well-being. Most participants had not received training on blood donation, lacked sufficient information, perceived positive media influence, and reported that the transportation conditions at donation centers affected their decisions. Non-donors showed more favorable attitudes toward blood donation and higher levels of spiritual well-being. Those willing to donate indicated that transportation conditions negatively influenced their decisions. A positive correlation was found between attitudes toward blood donation and spiritual well-being.

Based on these findings, it is recommended to organize social and individual activities to foster positive attitudes toward blood donation and promote spiritual well-being; actively use social media and public service announcements; provide regular nurse training to improve community knowledge; and include blood donation topics in health education curricula.

Nurses play a key role in informing, educating, and alleviating concerns regarding blood donation. Surgical nurses, witnessing the vital importance of blood, can lead awareness efforts. Educational programs and empathic communication by nurses can transform negative attitudes

and increase donation rates. Strengthening nurses' educational and counseling roles is essential, and future studies should examine this impact with larger samples.

This study revealed a weak positive correlation between the BDAS score and the SWBS Transcendence, Harmony with Nature, and Anomie subscale scores. As participants' spiritual well-being increased, their attitudes toward blood donation also increased. Since individuals' donation attitudes are influenced by their levels of spirituality, it is recommended that they support spiritual well-being and conduct studies to increase blood donation rates across societies.

Limitations

Because data were gathered online through a survey distributed on social networking sites, individuals without access to such sites could not be included in the research, which constitutes a limitation.

Declarations

Ethics Approval and Consent to Participate

This study was conducted in accordance with the journal's writing guidelines, publication principles, and ethical standards for research and publishing. The authors bear full responsibility for any potential violations related to the

article. Approval for the research was granted by the Istanbul Gedik University Scientific Research Ethics Committee (Date: 21.09.2022 / Decision No: 384).

Consent for Publication

Not applicable

Availability of Data and Materials

The datasets analyzed during the current study are available from the corresponding author upon reasonable request.

Competing Interests

The authors declare no conflicts of interest.

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Authors' Contributions

The study was planned by NC and EBK. The analysis and interpretation of the data were conducted by SD and NC. SD, EBK, KDB, and NC contributed to the writing of the manuscript, data collection, and critical review processes. All authors have read and approved the final version of the manuscript.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Intensive Care Unit Nurses' Perceptions of a Good Death and Influencing Factors

Yoğun Bakım Ünitesi Hemşirelerinin İyi Ölüm Algıları ve Etkileyen Faktörler

Saide Faydalı¹, Gülsüm Özcan Çetiner², Melike Biryol Durmaz³

Abstract:

A good death is a process in which the individuals can manage factors related to death, such as knowing its cause and predicting when and where it will occur, allowing planning and preparation for the EOL. ICU nurses, who most frequently encounter death and are at the center of EOL care, are significantly affected in terms of their perceptions, attitudes, and quality of care regarding a good death. This study aimed to determine the levels of good death perception among ICU nurses and the factors influencing it. A descriptive and correlational study was conducted with 384 ICU nurses. Data were collected using the "Good Death Scale" and an online survey administered via snowball sampling. The mean Good Death Scale score for the nurses was 55.59 ± 7.78 . Among the characteristics examined in nurses, only satisfaction with working in intensive care was associated with more positive perceptions of death. It was found that there was a low-level and significant correlation between good death perceptions and the fears of the nurses. The presence of a certain level of fear of death indicates that nurses develop defense mechanisms to maintain mental balance. The findings revealed that intensive care nurses held a positive view of a good death, seeing the dying process not merely as a clinical event but as a multidimensional psychosocial experience. It is recommended to provide psychosocial support for nurses, establish standardized procedures on death and grief management, and organize in-service training programs on these issues.

Keywords: Good death, Death, Fear, Intensive care unit, Nurse.

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Öz:

İyi ölüm, bireyin ölüm nedenini bilmesi, nerede ve ne zaman öleceğini öngörebilmesi gibi ölüme ilişkin faktörleri yönetmesini içeren; yaşam sonu için planlama ve hazırlık yapmanın mümkün olduğu bir süreçtir. Ölümle en sık karşılaşan ve yaşam sonu bakımının merkezinde yer alan yoğun bakım hemşirelerinin iyi ölümle ilgili algıları, tutumları ve bakım kalitesi önemli ölçüde etkilenmektedir. Bu çalışmada yoğun bakım hemşirelerinde iyi ölüm algısı düzeylerinin ve etkileyen faktörlerin belirlenmesi amaçlanmıştır. Tanımlayıcı ve ilişki arayıcı tipte olan araştırma, yoğun bakımda çalışan 384 hemşire ile yürütülmüştür. Veriler, çevrimiçi anket yöntemiyle “İyi Ölüm Ölçeği” kullanılarak kartopu tekniğiyle toplanmıştır. Hemşirelerin İyi Ölüm Ölçeği puanlarının ortalaması $55,59 \pm 7,78$ olarak bulunmuştur. Hemşirelerin incelenen özellikleri arasında yalnızca yoğun bakımda çalışmaktan duyulan memnuniyetin iyi ölüm algılarını etkilediği görülmüştür. İyi ölüm algıları ile hemşirelerin korkuları arasında düşük düzeyde ancak anlamlı bir ilişki olduğu bulunmuştur. Ölümle ilişkili korkularının belli bir düzeyde olması, hemşirelerin zihinsel dengelerini korumak için savunma mekanizmaları geliştirdiklerini göstermektedir. Bulgular, yoğun bakım hemşirelerinin iyi ölüme ilişkin olumlu bir algıya sahip olduklarını ve ölüm sürecini yalnızca klinik bir olay olarak değil, çok boyutlu bir psikososyal deneyim olarak algıladıklarını göstermektedir. Hemşirelere yönelik psikososyal destek sağlanması, ölüm süreci ve yas yönetimi konularında standart prosedürlerin oluşturulması ve bu konularda hizmet içi eğitimlerin düzenlenmesi önerilmektedir.

Anahtar Kelimeler: İyi ölüm, Ölüm, Korku, Yoğun bakım ünitesi, Hemşire.

Introduction

Death is a natural process in which all living things end their life functions. It is inevitable as part of human existence and the life cycle, and therefore universal (Honey and Dark-Freudeman, 2024). The perception of death varies with the historical moment in which a person lives, as well as with the culture, religion, beliefs, and values of society. Although the phenomenon of death is interpreted differently, it is a basic human right to die well (Cottrell and Duggleby, 2016). A good death is defined as “knowing and predicting the cause of death, knowing where and when the person will die, dying with dignity, and controlling the symptoms that occur during end-of-life (EOL) care” (Menekli, Dolu, Coskun, and Torun, 2021). The definition of a good death varies widely across individual perceptions, beliefs, health status, place of death, and sociocultural contexts. A systematic review found that ICU nurses defined a good death as freedom from pain, withdrawal of life-sustaining technologies, a comfortable environment, family support, and spiritual and cultural support (Bratcher, 2010; Hafifah et al., 2025). Nurses, who spend the most time with dying patients, provide individualized and holistic care to terminally ill patients with family participation, based on principles of respect, ensuring autonomy, and improving the quality of the remaining life, thus guaranteeing a good dying process (Yorulmaz and Karadeniz, 2020). ICU nurses' emotions and perceptions of death may vary, as they frequently encounter dying patients and provide them with EOL care (Ceyhan, Ozen, Zincir, Simsek, and Basaran, 2018). Studies have shown that nurses' attitudes towards good death are affected by their level of education, professional experience, intensive care experience (Kang, Lee, and Lee, 2019), age (Ceyhan et al., 2018), and the clinic in which they work (Polat, 2022). The literature indicates that ICU nurses provide respectful end-of-life care and have positive attitudes towards death (Yıldız, Celik, Cakır, and Savasır, 2021). Understanding how ICU nurses perceive a good death is vital, as they are at the forefront of end-of-life care and frequently witness the dying process in high-acuity settings. A clear, positive perception of a good death not only affects the quality of care provided but also shapes nurses' emotional resilience and ethical sensitivity. Despite the existing literature on attitudes toward death, limited research has examined how specific death-related fears impact nurses' perceptions of a good death. This study

addresses this gap and contributes to the development of more supportive, psychologically attuned ICU environments. This study sought to determine the level of good-death perception among ICU nurses and the factors influencing it.

Study Questions:

What is the perception level of good death among ICU nurses?

What is the relationship between ICU nurses' fears and their perception of a good death?

Method**Study Design and Setting**

The research was designed as a descriptive, correlational study. It was conducted in accordance with the STROBE checklist. The study population will consist of ICU nurses actively serving in healthcare institutions (public, private, and university) in Turkey. The number of nurses in the study population is unknown. The sample size of the study was determined as 384, based on 95% power and 5% margin of error, with unknown universe sampling formulas ($n = t^2 * p * q / d^2$), (p, q, t, and d values are 0.50, 0.50, 1.96, and 0.05, respectively) (Sumbuloglu and Sumbuloglu, 2021). To ensure a homogeneous distribution of participants, a target number was set for each region.

The study participation criteria were determined as follows:

Inclusion criteria: Nurses with at least 1 year of professional experience who volunteered to participate.

Exclusion criteria: Nurses with less than 1 year of professional experience and who did not consent to participate.

Measuring Instruments

Questionnaire: The questionnaire, which assessed the characteristics and fears of ICU nurses, was developed by the researchers and comprised two sections and 17 questions. A pilot study was conducted with five nurses regarding the adequacy of the questions. When it was observed that nurses mentioned their fears in their answers to open-ended questions, these fears were identified, and the question format was updated to a 1-5 Likert scale

(ranging from none to very much). The fears that nurses associated with a good death were: ‘fear of death’, ‘fear of pain’, ‘fear of losing control of one’s body’, ‘fear of becoming ill or disabled’, ‘fear of losing a loved one’, ‘fear of dying in intensive care’, and ‘fear of communicating about death’.

Good Death Scale: The scale developed to evaluate nurses’ characteristics related to the concept of good death consists of three sub-dimensions (psychosocial and spiritual, personal control, and clinical) and 17 items (Schwartz, Mazor, Rogers, and Reed, 2003). The scale, which has a 4-point Likert structure, is evaluated between “17 and 68” points. A high score on the scale indicates positive thoughts about death. The Cronbach α value of the scale, whose validity and reliability were established by Fadiloğlu and Aksu, was 0.91 (Fadiloğlu and Aksu, 2013).

Data Collection

Data collection began with participants from seven regions across the country who had extensive knowledge of the research topic. Using the snowball technique, these nurses recruited additional participants, and the target of 384 nurses was reached between December 9, 2023, and May 1, 2024. Data were collected using an online survey (Google Forms) that ensured participant anonymity and permitted only one submission per respondent. Before participation, nurses were provided with detailed information about the study and gave their informed consent before completing the questionnaire. The nurses participating in the survey were working in the surgical ICU (85), the internal medicine ICU (54), the pediatric ICU (45), the anesthesia and reanimation ICU (151), and the mixed ICU (49).

Statistical Analysis

Statistical analyses were performed using IBM SPSS Statistics version 23. Descriptive statistics (frequencies, percentages, means, and standard deviations) were used to summarize the data. The Kolmogorov-Smirnov test was used to assess the normality of the distribution. To examine relationships between variables, the Mann-Whitney U test, the Kruskal-Wallis H test, and the Spearman rank correlation test were applied. Data were evaluated at a 95% confidence level. The correlation coefficient was determined as (0.00-0.10) insignificant, (0.10-0.39) weak, (0.40-0.69) moderate, (0.70-0.89) strong, and (0.90-1.00) very strong correlation (Schober and Schwarte, 2018).

Ethical Considerations

In preparation for the study, approval was obtained from the Selçuk University Faculty of Health Sciences Non-Interventional Clinical Research Ethics Committee (Date/number: 2023/81). Permission to use the scale was obtained via e-mail from the person who conducted the Good Death Scale’s validity and reliability study. Informed consent from the nurses participating in the study was obtained by integrating it into the online data form.

Findings

The ages of the ICU nurses who volunteered for this study ranged from 21 to 59 years. It was found that 74.7% of the nurses were female, 64.1% had a bachelor’s degree, 55.5% had between 2 and 9 years of experience working in the ICU, 81.5% were satisfied with working in the ICU, 80.2% received training about good death during basic education and/or orientation, and 50.3% received training about EOL care.

Table 1. Nurses’ Good Death Scale scores

Scale	Scores	
	$\bar{x}\pm SD$	Min-Max
The psychosocial and spiritual subdimension	30.04±4.40	9-36
The personal control subdimension	9.66±2.02	3-12
The clinical subdimension	15.88±2.61	5-20
Total good death scale	55.60±7.78	17-68

The mean Good Death Scale scores among the nurses were 55.59±7.78 (Table 1). When the good death scores were examined by nurse characteristics, only those who were

satisfied with working in the ICU had significantly lower scores ($p<.05$).

Table 2: Comparison of Good Death Scale scores according to the characteristics of nurses (n:384)

Characteristics	n(%)	$\bar{x}\pm SD$	Test	p	
Age (31.56±7.44; min:21-max:59)	21-44 years	358(93.2)	55.75±7.60	0.895 [†]	.371
	45-59 years	26(6.8)	53.54±9.88		
Gender	Female	287(74.7)	56.00±7.57	1.936 [†]	.053
	Male	97(25.3)	54.40±8.31		
Education level	High School	80(20.8)	54.88±8.37	0.950 [‡]	.622
	BSN	246(64.1)	55.62±8.05		
	Postgraduate	58(15.1)	56.52±5.46		
Marital status	Married	214(55.7)	55.86±7.85	0.602 [†]	.547

	Single	170(44.3)	55.28±7.70		
Experience in the ICU	1 year	102(26.6)	55.60±7.85	0.944‡	.624
	2-9 years	213(55.5)	55.28±7.83		
	10-30 years	69(18.0)	55.59±7.53		
Satisfaction with working in the ICU	Yes	313(81.5)	55.04±7.72	3.804†	<.001*
	No	71(18.5)	58.04±7.62		
Being educated about a good death	Yes	308(80.2)	55.42±7.92	0.802†	.423
	No	76(19.8)	56.34±7.20		
Education about EOL care	Yes	193(50.3)	55.28±7.55	1.143†	.253
	No	191(49.7)	55.92±8.01		

EOL: End of life, ICU: Intensive care unit, †U: Mann-Whitney U, ‡Z: Kruskal-Wallis

When the correlation between nurses' good death perceptions and their fears is examined, a positive and low level significant relationship was found between the fear of death, fear of pain, fear of losing control over their bodies, fear of becoming ill or disabled, fear of losing

loved ones and fear of dying in ICU; and a negative and low level significant relationship was found between those who expressed fear of communicating about death, and the good death perceptions of those who associated the nurses with the good death perception (p<.05).

Table 3. The relationship between Nurses' Fears and perceptions of Good Death

Nurses' Fears		Scale score
Fear of death	r	.207
	p	<.001
Fear of pain	r	.225
	p	<.001
Fear of losing control of one's body	r	.200
	p	<.001
Fear of becoming ill or disabled	r	.172
	p	<.001
Fear of losing loved ones	r	.258
	p	<.001
Fear of dying in the ICU	r	.290
	p	<.001
Fear of communicating about death	r	-.195
	p	<.001

Discussion

This study aimed to determine the level of good death perception among ICU nurses and the factors influencing it. It was hypothesized that there would be a significant relationship between ICU nurses' fears and their perception of a good death. A good death is a process in which all factors related to dying, such as timing and location, are managed, enabling planning and preparation for the EOL (Cain and McCleskey, 2019; Cottrell and Duggleby, 2016). Death is a common situation faced by nurses working in the ICU (Kim et al., 2018). The results of this study revealed that nurses who strive to meet the physical, psychological, social, and spiritual needs of dying patients holistically have positively influenced perceptions of a good death. Similar studies in the literature have concluded that nurses' perceptions of a good death were high or positive (Aksoy and Kasıkcı, 2023;

Ceyhan et al., 2018; Kang et al., 2019; Ozcan and Cevik, 2023). It is well established that the quality of EOL care improves when nurses understand the principles of a good death and recognize the needs of dying patients (Fadıloglu and Aksu, 2013). In this context, a good death encompasses not only the moment of death but also a holistic approach to care during the final stages of life. The positive attitudes of ICU nurses toward a good death indicate that they perceive the dying process not merely as a clinical event but also as a multidimensional psychosocial experience. In this study, no significant relationship was found between nurses' sociodemographic characteristics and their Good Death Scale scores. The literature included studies that supported this study's findings (Polat, 2022; Yıldız et al., 2021). However, studies also showed that marital status, gender, education

level, and age affect perceptions of a good death (Aksoy and Kasıkcı, 2023; Ceyhan et al., 2018; Kang et al., 2019; Sahin, Onal, and Inanc, 2017). As a result of this study, some expectations were not met, such as that women's perceptions might change as they get older because they will encounter more death, that women might approach death more emotionally, and that they might have a more rational and scientific perspective on death with education. This suggests that differences arising from sociodemographic characteristics may lose their significance because ICU nurses encounter death very frequently. Furthermore, as Kastenbaum (2000) argues, with increased exposure to death, individuals tend to internalize it as a professional phenomenon. Consequently, the influence of demographic variables such as age, gender, or marital status may diminish due to the professional desensitization and acceptance fostered by repeated encounters with death (Feifel, 1959; Templer, 1970).

This study found that nurses' experience did not affect their perception of a good death. There are also studies in the literature that find that experience does not affect the perception of a good death (Polat, 2022; Sahin et al., 2017). However, in one study, those with 1-3 years, 5-10 years, and over 10 years of experience had a higher perception of good death than those with 3-5 years of experience (Kang et al., 2019). This study found that those who stated that they were not satisfied with working in intensive care had a higher perception of a good death. This situation can also be interpreted as a perception that the likelihood of a good death increases while satisfaction with working in intensive care decreases. Considering that one of the fears that nurses associate with a good death is the fear of dying in ICU, it can be said that they desire to die at home and that their EOL care experiences affects. There is a need for in-depth studies on the effects of work characteristics such as experience and job satisfaction on the perception of a good death.

These findings suggest that nurses' emotional and professional orientations toward death may vary. The perception of death among ICU nurses appears to develop along two poles: avoidance and acceptance. For nurses who are dissatisfied with their work in intensive care, repeated exposure to death may contribute to greater emotional burden and heightened empathic awareness, fostering a deeper and more meaningful understanding of the concept of a good death. Conversely, the lower perception of a good death among nurses satisfied with their work environment may be attributed to their tendency to view death primarily as a professional phenomenon. Moreover, this finding may imply that nurses' fear of dying in intensive care could reinforce their preference for dying at home or in a peaceful environment. Such a tendency can be regarded as an important psychosocial factor influencing individuals' preferences regarding where, how, and with whom they wish to die.

The study determined that there was a low, significant relationship between nurses' fears and their perception of a good death. Upon examination of the literature, no other study in this context was found. The fact that the nurses' fears associated with death were at a certain level suggests that they maintained their mental balance by developing a defense mechanism. This also suggests that nurses' awareness of their own fear of death enhances their conceptual sensitivity to the notion of a good death.

Nurses' recognition of the inevitability of death appears to improve the quality of end-of-life care by fostering greater empathy and acceptance. Conversely, the lower perception of a good death among nurses who experience anxiety or avoidance in communicating about death indicates that their level of confrontation with death significantly shapes their understanding of what constitutes a good death. Avoidance of death-related discussions restricts nurses' cognitive and emotional engagement with the dying process, which may, in turn, adversely affect the quality of care provided. In studies addressing the fear of death, results such as female nurses having higher fear of death than male nurses, married nurses having higher fear of death than single nurses, ICU workers having lower fear of death, and fear of death increasing with age (Benli and Yildirim, 2017; Ozcan and Cevik, 2023).

These findings suggest that nurses' psychological processes related to death can be understood not only at the individual level but also within theoretical frameworks. In this regard, Terror Management Theory (TMT) explains how individuals cope with the awareness of death. In contrast, Kübler-Ross's five-stage model of dying elucidates the emotional trajectory of this process. Together, these two frameworks facilitate a comprehensive understanding of nurses' coping mechanisms at both cognitive and emotional levels. TMT explains the psychological defense mechanisms that individuals develop in response to awareness of death (Greenberg, Koole, & Pyszczynski, 2004; Solomon et al., 1991). According to the theory, humans are uniquely aware of their mortality, and this awareness generates existential anxiety and fear. To mitigate this distress, individuals develop symbolic defenses such as maintaining self-esteem, identifying with cultural values, and seeking to preserve meaning in life (Kastenbaum, 2000; Klimczuk & Fabis, 2017; Altıntaş et al., 2020). From a nursing perspective, working in an environment like intensive care—where death is a frequent occurrence—inevitably triggers death-related anxiety.

However, consistent with TMT, nurses may rely on their professional roles, ethical principles, and ideals of care to regulate this anxiety. In doing so, they utilize their professional identity as a psychological buffer against death anxiety. Within this context, the positive relationship between fear of death and the perception of a good death observed in this study aligns with TMT's proposition that "awareness of death strengthens the search for meaning." Nurses who acknowledge death tend to transform this awareness into a form of symbolic immortality, sustaining professional satisfaction and self-esteem by providing end-of-life care consistent with the principles of a good death. Conversely, nurses who avoid communication about death may, as described by TMT, suppress death awareness, which in turn may weaken their perception of a good death. Thus, TMT provides a valuable theoretical lens for understanding how nurses maintain their caring roles despite the fear of death and how they interpret this within the context of coping strategies (Klimczuk & Fabis, 2017).

Complementarily, Kübler-Ross's five-stage model of dying (denial, anger, bargaining, depression, and acceptance) offers an essential framework for nurses to comprehend both their own emotional responses and those of patients approaching death. Familiarity with this model enables nurses to interpret patients' behaviors more accurately and to develop appropriate communication and

support strategies (Colak & Hocaoglu, 2021; Copp, 2001; Kubler-Ross, 1969; Katircioglu & Karaaziz, 2024). Moreover, this knowledge allows nurses to recognize their own anxieties about death and enhance their emotional resilience. In this way, nurses can approach the dying process not only as a clinical task but also as a profoundly human experience.

In addition to the fear of death, there is no study investigating other fears that nurses associate with a good death from a psychosocial perspective when they are approaching death or during EOL. It is noteworthy that in the pilot study, they associated the perception of a good death with the desire to have a death free from feared situations when the end of life is approached. It turned out that the findings highlight that death should be regarded not merely as a clinical phenomenon but as a profound psychosocial process. ICU nurses' perception of a good death is closely linked to their coping strategies for death awareness and the professional defense mechanisms they develop.

Conclusion

In this study, ICU nurses' perceptions of a good death were generally positive. It was found that satisfaction and fear of working in ICUs were significantly related to perceptions of a good death. There is a need for detailed study on the issues of 'fear of death', 'fear of pain', 'fear of losing control of one's body', 'fear of becoming ill or disabled', 'fear of losing a loved one', 'fear of dying in intensive care', and 'fear of communicating about death', which nurses associate with good death perception. Considering these findings, it is recommended that ICU nurses receive regular psychological support and counseling to alleviate the emotional burden related to their frequent encounters with death. A supportive work environment should be fostered by optimizing nurses' workloads, shift schedules, and nurse-to-patient ratios. Establishing standardized institutional procedures for managing the dying process and the period of grief would provide essential psychosocial support for patients, their families, and healthcare staff.

Furthermore, in-service education programs should incorporate topics such as coping with death, effective

communication regarding death, palliative care, and ethical decision-making, as well as sessions addressing the clinical, personal control, and psychosocial-spiritual dimensions of a good death. It is also important to incorporate simulation-based training and stress management techniques (e.g., mindfulness and breathing exercises) to strengthen nurses' emotional resilience. Finally, further research is needed to examine the relationship between death-related fears, professional experience, and sociodemographic variables, and to promote the integration of good death principles into nursing education curricula.

Limitations

Although the snowball sampling method was used to represent the entire country, the majority of participants were concentrated in two regions with developed industry and economy, and a high concentration of health institutions. Although this could be considered a limitation, participation came from both developed and underdeveloped (rural) areas of the country. However, the online data collection is considered a limitation.

Declarations

Ethics Committee Approval

Ethical approval was obtained from the Selçuk University Faculty of Health Sciences Non-Interventional Clinical Research Ethics Committee (Date/number: 2023/81).

The article has been submitted to a journal for publication for the first time and has not been presented elsewhere.

Use of artificial intelligence

Artificial intelligence was not used in writing the article.

Conflict of Interests

There is no conflict of interest among the authors.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

Perceived Organizational Support and Perceived Role Clarity as Predictors of Organizational Commitment

Algılanan Örgütsel Destek ve Algılanan Rol Açıklığının Örgütsel Bağlılığın Yordayıcıları Olarak İncelenmesi

Vaishali Choudhary¹, Shadab Ahamad Ansari¹

Abstract:

The present study investigates the effect of perceived organizational support (POS) and perceived role clarity on the organizational commitment of IT professionals in India. As the labor market faces intense competition and work arrangements reorganize, it becomes critical to understand the psychological bond employees develop with their institutions to improve retention, job performance, and overall well-being. A cross-sectional survey design has been adopted for the present study. The data were collected from 450 IT professionals (320 male and 130 female) in the Delhi-NCR region through stratified random sampling. Participants responded to standardized measures such as the Survey of Perceived Organizational Support (SPOS), the Role Clarity Scale (RCS), and the Organizational Commitment Questionnaire (OCQ). The linear regression analysis showed that POS and role clarity are significant positive predictors of organizational commitment. This research found that POS accounted for 40% of the variance ($R^2 = 0.40$, $F = 275.48$, $p < 0.01$), and role clarity accounted for 23% of the variance ($R^2 = 0.23$, $F = 126.24$, $p < 0.01$). The results indicate that POS is more influential than role clarity. In other words, feeling valued and supported creates a stronger emotional obligation to repay the favor with loyalty than merely understanding job expectations does. IT organizations need to invest in employee well-being by implementing wellness programs, offering job flexibility, and clearly communicating roles and responsibilities. To obtain a committed, engaged, and loyal workforce in the fast-moving industrial sector, strong recognition systems and regular performance feedback are essential.

Keywords: Organizational commitment, Perceived organizational support, Perceived role clarity, Indian employees.

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Öz:

Bu çalışma, Hindistan'daki BT profesyonellerinin örgütsel bağlılıkları üzerinde algılanan örgütsel desteğin (POS) ve algılanan rol açıklığının etkisini incelemektedir. İşgücü piyasası yoğun bir rekabetle karşı karşıya kalıp çalışma düzenleri yeniden yapılandırılırken, çalışanların işyerinde kalıcılığının, iş performansının ve genel refahının artırılması adına, çalışanların kurumlarıyla geliştirdikleri psikolojik bağı anlamak kritik önem kazanmaktadır. Bu çalışmada araştırma deseni olarak kesitsel tarama modeli benimsenmiştir. Veriler, Delhi NCR bölgesinden 450 BT profesyonelinden (320 erkek ve 130 kadın) oluşan bir örneklemden, tabakalı rastgele örnekleme yöntemiyle toplanmıştır. Katılımcılar Algılanan Örgütsel Destek Anketi (SPOS), Rol Açıklığı Ölçeği (RCS) ve Örgütsel Bağlılık Anketi (OCQ) gibi standartlaştırılmış ölçüm araçlarını yanıtlamışlardır. Yapılan doğrusal regresyon analizi, algılanan örgütsel desteğin (POS) ve rol açıklığının, örgütsel bağlılığın anlamlı ve pozitif yordayıcıları olduğunu ortaya koymuştur. Bu araştırma, algılanan örgütsel desteğin varyansın %40'unu ($R^2 = 0.40$, $F = 275.48$, $p < 0.01$) ve rol açıklığının ise varyansın %23'ünü ($R^2 = 0.23$, $F = 126.24$, $p < 0.01$) açıkladığını tespit etmiştir. Elde edilen sonuçlar, algılanan örgütsel desteğin rol açıklığından daha etkili olduğunu göstermektedir. Başka bir deyişle; yalnızca iş beklentilerini anlamak yerine, değerli ve desteklenmiş hissetmek; bu iyiliğe sadakatle karşılık verme yönünde daha güçlü bir duygusal yükümlülük yaratmaktadır. BT kuruluşlarının sağlık ve esenlik programlarını, iş esnekliğini ve rol-sorumlulukların etkin bir biçimde iletilmesini süreçlerine dahil ederek, çalışan refahına yatırım yapmaları gerekmektedir. Hızlı değişimlerin yaşandığı bu endüstriyel sektörde, bağlı, işine kendini adanmış ve sadık bir işgücü oluşturabilmek adına, güçlü takdir ve ödüllendirme sistemlerinin kurulması ve düzenli aralıklarla uygun performans geri bildirimlerinin sağlanması bu hedefe ulaşmaya yardımcı olacaktır.

Anahtar Kelimeler: Örgütsel bağlılık, Algılanan örgütsel destek, Algılanan rol netliği, Hintli çalışanlar.

Introduction

The dynamics that govern the relationship between employees and their employing institutions have attracted scholarly attention in the organizational behavior literature (Fuller et al., 2006; Gupta et al., 2010; Masterson & Stamper, 2003). Employers have become increasingly interested in understanding the psychological bond employees develop with their organization as they seek to improve employee retention, job performance, and overall well-being in an era when industries face competitive labor markets and evolving work arrangements. Among the variables examined in the literature, organizational commitment stands out as a critical construct that influences work attitudes and behaviors. Its context broadly encompasses emotional attachment (affective commitment), perceived costs of leaving (continuance commitment), and feeling obligated towards the organization (Normative commitment) (Allen & Meyer, 1990; Meyer & Allen, 1991).

Research suggests that commitment goes beyond individual outcomes. Committed employees show higher performance levels, lower absenteeism, and greater job satisfaction. Specifically, lower turnover intentions are negatively related to affective commitment (Panaccio & Vandenberghe, 2011; Guzeller & Celiker, 2020). Furthermore, organizational commitment varies across cultural contexts, with collectivist cultures, such as those in India, exhibiting particularly strong normative commitment due to an emphasis on loyalty, obligation, and social harmony. The traits of the Five-Factor Model of personality—openness, conscientiousness, extraversion, agreeableness, and neuroticism—also generally show a positive relationship with normative commitment (Meyer et al., 2012; Choi, Oh, & Colbert, 2015). Understanding the antecedents of organizational commitment within specific cultural contexts is therefore essential for developing effective organizational practices.

Central to fostering organizational commitment in employees is shaping their psychological contracts, which symbolize their relationship with the organization and shape employee experiences at work (Rousseau, 2001). In this study, the support employees perceive from their

respective organization and the clarity with which they understand their job roles are fundamental aspects of their psychological contract. According to Eisenberger et al. (1986), "Perceived organizational support reflects employees' beliefs regarding the extent to which their organization values their contributions and demonstrates genuine concern for their well-being". POS is theoretically explained by the norm of reciprocity and Organizational support theory (Eisenberger et al., 2001; Cropanzano & Mitchell, 2005). Employees develop these perceptions by attributing humanlike characteristics to the organization and interpreting organizational actions as indicators of its intentions and image toward them (Levison, 1965; Eisenberger et al., 1986). The reciprocal relationship is strengthened through various organizational practices, including procedural justice in decision-making (Andrews & Kacmar, 2001; Rhodes et al., 2001), quality of interpersonal treatment (Rhodes & Eisenberger, 2002), supervisor support (Kottke & Sharafinski, 1988), and favorable job conditions such as autonomy and job security (Rhodes & Eisenberger, 2002). High perceived organizational support is characterized by employees internalizing organizational norms and values and incorporating membership in the organization into their social identity (Weiner, 1982; Eisenberger et al., 2001). Much like commitment, perceived support also has a positive relationship with job satisfaction, organizational citizenship behaviors (Eisenberger & Rhodes, 2002; Shore & Tetrick, 1991), enhanced performance (Donald et al., 2005), reduced turnover intentions, decreased work stress, and fostered feelings of trust (Cropanzano et al., 1997; Whitener, 2001).

Complementing organizational support, perceived role clarity reflects how clearly employees understand their responsibilities, expectations, evaluation criteria, and the scope of their jobs. In literature, role clarity has emerged as a critical determinant of professional outcomes, including intrinsic motivation, job involvement, and innovative ideas (Kundu et al., 2020). Employees with high role clarity demonstrate greater role efficacy and superior performance compared with those experiencing

role ambiguity (Bray & Brawley, 2002). The positive effects of role clarity are mediated through enhanced autonomy, competence, and relatedness, which collectively contribute to subjective vitality and engagement at work (Karkkola et al., 2019).

Despite the substantial body of research examining perceived organizational support and role clarity independently, there remains limited investigation of their combined predictive power in explaining organizational commitment, particularly within specific cultural and organizational contexts. By examining how organizational support and role clarity jointly predict commitment, this study aims to provide both theoretical insights and practical guidance for organizational leaders and human resource professionals invested in building sustainable, mutually beneficial employment relationships.

H1 Perceived organizational support will be positively related to organizational commitment

H2 Perceived role clarity will be positively related to organizational commitment

Method

This study used a cross-sectional survey design, which is ideal for collecting data from IT employees in the Delhi-NCR region, including parts of Uttar Pradesh, Haryana, and Rajasthan.

Sample and Procedure

Data were collected from 450 IT employees across various organizations in the Delhi-NCR region of India via Google Forms and on-site administration. Within the sample, 130 were female (28.9%), and 320 were male (71.1%). The sampling method employed here is stratified random sampling to ensure an ideal representation of IT personnel in India.

Inclusive criteria - at least one year of experience in the IT industry, and a full-time employment arrangement at the time of administration.

Sample size was calculated using G*Power software; the results indicated that N=450 would provide sufficient power to detect medium-to-large effect sizes at a significance level of $p=0.05$. This ensured the sample was suitable for testing the study's hypotheses and generalizing

findings to the wider population of IT employees in the region. The study protocol was reviewed and approved by the Institutional Ethics Committee of Galgotias University, Greater Noida, Uttar Pradesh, India, dated [26/09/24]. Informed consent was obtained from participants before they voluntarily participated in the study. Participant confidentiality was maintained, and transparency was practiced post-research.

Instruments

Perceived role clarity was measured using the Role Clarity Scale (RCS) developed by Rizzo, House, and Lirtzman (1970). The scale consisted of six items on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree), with higher scores indicating more role clarity. In this sample, the scale showed high reliability with a Cronbach's alpha of 0.85.

Perceived Organizational Support (POS) was assessed using the Survey of Perceived Organizational Support (SPOS) developed by Eisenberger et al. (1986), an eight-item 7-point Likert scale (1 = strongly disagree, 7 = strongly agree), with higher scores reflecting higher perceived support, with a Cronbach's alpha of 0.93.

Organizational commitment was measured using the Organizational Commitment Questionnaire (OCQ) developed by Mowday, Steers, and Porter (1979). The OCQ consisted of 15 items on a 7-point Likert scale (1 = strongly disagree, 7 = strongly agree), with higher scores indicating greater commitment towards the organization. The OCQ showed Cronbach's alpha of 0.88 in this study.

Data Analysis

Data was analyzed using SPSS (version 16.0). Sample Demographics were quantified by descriptive statistics. Independent Linear regression analysis examined how perceived role clarity and POS predicted organizational commitment separately. Organizational commitment was the dependent variable, while perceived role clarity and POS were the independent variables. All assumptions for inferential statistics (specifically relevant to linear regression), including normality, linearity, multicollinearity, and homoscedasticity, were assessed before interpreting the results.

Results

Table 1. Demographic characteristics of the IT employees in the study

Items	Frequency	Percentage %
Gender		
Male	320	71.1
Female	130	28.9
Age (years)		
22-29	240	53.3
30-39	155	34.4
40-50	55	12.2
Educational level		
Bachelor's Degree	294	65.3
Master's Degree	156	34.7
Years with Current Employer		
1-5	236	52.4
6-10	138	30.7
More than 10	76	16.9

Table 1 shows the demographic characteristics of the sample (N=450). Participants' ages ranged from 22 to 50 years, with a mean age of 30.4 years (SD = 5.8). Most held a bachelor's degree (65.3%), while others had a master's

degree (34.7%). Most had worked with their current employer for 1 to 5 years (52.4%), followed by 6 to 10 years (30.7%) and over 10 years (16.9%).

Table 2. Linear regression analysis on Perceived Organizational Support (POS) as a predictor of Organizational Commitment among IT Employees in Delhi NCR

Variable	R	R ²	F	p-value	β	T	p-value
Constant						11.11	< 0.01*
POS	0.63	0.40	275.48	< 0.01	0.63	16.60	< 0.01

*=Significant at $p < 0.01$

For hypothesis testing, demographics were controlled for in the regression analysis to isolate primary variance. Linear regression examined how perceived role clarity and POS predicted organizational commitment. As shown in Table 2, controlling for age group and organizational

tenure, POS was found to positively influence organizational commitment and accounted for 40% of the variance among IT employees, supporting the alternative hypothesis (standardized $\beta = 0.63$, $t = 16.60$, $p < 0.01$).

Table 3. Linear regression analysis on Perceived Role Clarity (PRC) as a predictor of organizational commitment among IT Employees in Delhi NCR

Variable	R	R ²	F	p-value	β	T	p-value
Constant						10.87	< 0.01*
PRC	0.48	0.23	126.24	< 0.01	0.48	11.24	< 0.01

Table 3 indicates that role clarity (standardized $\beta = 0.48$, $t = 11.24$, $p < 0.01$) also positively impacts organizational commitment, accounting for 23% of the variance. The results supported both alternative hypotheses.

Discussion

The findings show that both variables predicted significant variance in organizational commitment, with POS having a stronger relationship than role clarity. These results support existing theories and offer valuable insights for human resource practices in the IT sector.

The study identified a strong relationship between feelings of support and organizational commitment, aligning with organizational support theory (Eisenberger et al., 1986). This also confirms prior research indicating that higher levels of POS lead to commitment (Rhodes & Eisenberger, 2002; Cropanzano & Mitchell, 2005; Caesens et al., 2016). Organizations will benefit from implementing policies to increase POS, as it is linked to lower turnover intentions (Allen et al., 2003), greater job satisfaction (Kurtessis et al., 2017), internalization of organizational values and goals (Weiner, 1982), and improved job performance (Eisenberger et al., 2001). High levels of POS are also proven to act as a buffer when it comes to adverse workplace behavior, including tardiness, inability to effectively perform the job role, and absenteeism (Donald et al., 2005), as it promotes positive mood and reduces stressful response to work (Cropanzano et al., 1997 & Whitener, 2001).

Organizational attributes that can help employees manifest a feeling of being supported among their employees include ensuring psychological well-being, increasing involvement in decision making, and resource availability (Donald et al., 2005) and fairness in distribution of said

resources, i.e., procedural justice (Andrews & Kacmar, 2001; Rhodes et al., 2001). Conditions at work are also significant antecedents of POS, promoting job security and creating opportunities for employees to experience autonomy at work (Rhodes & Eisenberger, 2002).

The positive relationship between perceived role clarity and organizational commitment aligns with SEM findings, revealing a correlation between dimensions of commitment, including high-sacrifice supervisory commitment and role clarity (Panaccio & Vandenberghe, 2011). This relationship is supported by research that states when employees understand their roles clearly, they show greater confidence, competence, and commitment to their organization (Schuler et al., 1989), along with this clarity also promotes innovative work behavior (Kundu et al., 2020) and better performance (Bray & Brawley, 2002). Role clarity reduces role ambiguity, which is a known source of workplace stress (Beehr & Glazer, 2005). By clarifying job expectations, organizations can enhance job satisfaction and reduce turnover intentions (Jackson & Schuler, 1985; Cooper-Thomas & Anderson, 2006). This is particularly relevant in the IT sector, where rapid technological changes can create added stress (Sarker et al., 2005). Organizations that actively communicate the scope of the job clearly promote job satisfaction and perceptions of organizational effectiveness among their employees (Posner & Butterfield, 1978).

While both POS and role clarity significantly predict organizational commitment, this study found that POS exerted a greater influence as a predictor. This suggests that feeling valued and supported has a greater impact on commitment than simply understanding one's job responsibilities and expectations. This aligns with research indicating that emotional bonds with the organization drive commitment (Riggle et al., 2009). Employees who

perceive high levels of support feel obligated to reciprocate through increased loyalty.

Practical implications

The results of this study provide actionable insights for organizations, particularly in the IT industry. The findings of this study reveal that perceived organizational support and role clarity are key predictors of organizational commitment. To strengthen organizational support, companies should implement comprehensive recognition and reward systems, alongside professional development opportunities. This is especially required in fast-paced IT sectors, where employees' skills are constantly evolving.

Additionally, organizations should prioritize employee well-being through wellness initiatives, flexible work arrangements, and counseling services. Maintaining open, two-way communication channels ensures that employees feel heard in their respective organizations and that their opinions and contributions are valued. To enhance role clarity, organizations must provide detailed and regularly updated job descriptions, followed by performance feedback. This can be complemented by structured onboarding programs and mentorship opportunities for new hires, helping them to adapt to their roles efficiently and fast.

Furthermore, implementing role-specific training programs helps employee better understand their responsibilities and expectations, ultimately boosting their confidence and organizational commitment. When organizations focus on these supportive measures and clear role definitions, they create an environment that fosters employee retention and engagement, resulting in a more loyal and committed workforce. By focusing on these key aspects, companies aren't just improving their bottom line; they are creating a workplace where employee genuinely want to be, will grow, and contribute their best.

Limitations and Directions for Future Research

While this study offers valuable insights, future research should explore other predictors of organizational commitment. Factors like leadership support, job autonomy, and organizational justice are important in organizational behavior and human resource management. They directly affect employee commitment and retention. Longitudinal studies could reveal how perceived

organizational support (POS) and role clarity influence commitment over time. Additionally, conducting research across different sectors or regions could enhance the generalisability of the findings.

Conclusion

This study shows that perceived organizational support and role clarity are key predictors of organizational commitment among IT employees. However, POS has a stronger impact on commitment than role clarity. These findings highlight the need for organizations to create a supportive environment and ensure role clarity. By investing in employee support and setting clear expectations, organizations can achieve greater commitment, improved job performance, lower turnover, and a more engaged workforce.

Declarations

Ethics Committee Approval

Ethical approval was obtained from the Galgotias University Research Ethics Committee, Greater Noida, Uttar Pradesh, India, on 26 September 2024, with decision number 2024/30001. Informed consent was obtained from participants before they voluntarily participated in the study. Participant confidentiality was maintained, and transparency was practiced post-research.

Publication Permission

Not applicable.

Availability of Data and Materials

Not applicable.

Conflict of Interest

The authors declare no conflict of interest.

Financing

Not applicable.

Author Contributions

Choudhary V. contributed significantly to the writing of the methods and discussion sections, as well as the summary and abstract. Ansari A.S. assisted with overall writing and proofreading. Choudhary V. also analyzed and interpreted the research data. Vaishali C. played a key role in data collection. All authors have read and approved the final version of the article.

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RESEARCH ARTICLE / ARAŞTIRMA MAKALESİ

The Instrumental Role of Problem-Solving Skills in the Relationship Between Wellness and Life Satisfaction in Adolescents

Ergenlerde Sağlıklı Yaşam ve Yaşam Memnuniyeti Arasındaki İlişkide Problem Çözme Becerilerinin Aracı Rolü

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Abstract:

Adolescence is a critical developmental period characterized by significant cognitive, emotional, and social changes that shape psychological adjustment, during which well-being and life satisfaction emerge as important indicators of mental health. Within this context, problem-solving skills are theoretically considered a potential mediating mechanism, as they facilitate adaptive coping, cognitive appraisal, and effective management of daily stressors. This study examined the mediating role of problem-solving skills in the relationship between adolescents' well-being and life satisfaction using a correlational research design with 460 high school students in Sakarya, Türkiye. The findings indicated a moderate, positive association between well-being and life satisfaction. Gender differences revealed that female adolescents reported higher levels of well-being and problem-solving skills, whereas male adolescents reported higher life satisfaction. Contrary to expectations, problem-solving skills did not significantly mediate the relationship between well-being and life satisfaction, suggesting that cognitive problem-solving abilities may not be a primary explanatory mechanism for this association in adolescence. Instead, affective and relational processes, such as emotional regulation and perceived social connectedness, may play a more central role by directly influencing adolescents' emotional experiences and overall life evaluations. Overall, these findings underscore the importance of multidimensional and gender-sensitive approaches in interventions aimed at enhancing adolescents' psychological well-being.

Keywords: Adolescence, Well-being, Life satisfaction, Problem-solving skills, Mediating role.

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Öz:

Ergenlik, psikolojik uyumun şekillenmesine yol açan önemli bilişsel, duygusal ve sosyal değişikliklerle karakterize edilen kritik bir gelişim dönemidir; bu dönemde refah ve yaşam doyumu, ruh sağlığının önemli göstergeleri olarak öne çıkmaktadır. Bu bağlamda, problem çözme becerileri, uyumsal başa çıkma, bilişsel değerlendirme ve günlük stres faktörlerinin etkin yönetimini kolaylaştırdığı için teorik olarak potansiyel bir aracı mekanizma olarak kabul edilmektedir. Bu çalışma, Türkiye'nin Sakarya ilinde 460 lise öğrencisiyle yapılan korelasyonel bir araştırma tasarımı kullanarak, ergenlerin iyilik hâli ile yaşam doyumu arasındaki ilişkide problem çözme becerilerinin aracılık rolünü incelemiştir. Bulgular, iyilik hali ile yaşam doyumu arasında orta düzeyde ve pozitif bir ilişki olduğunu gösterirken, cinsiyet farklılıkları açısından kız ergenlerin daha yüksek iyilik hali ve problem çözme becerileri bildirdiği, erkek ergenlerin ise daha yüksek yaşam doyumu bildirdiği ortaya çıkmıştır. Beklentilerin aksine, problem çözme becerileri, iyilik hâli ile yaşam doyumu arasındaki ilişkiyi önemli ölçüde aracılık etmedi; bu da, bilişsel problem çözme yeteneklerinin ergenlik döneminde bu ilişkide birincil açıklayıcı mekanizma olarak işlev görmeyebileceğini düşündürmektedir. Bunun yerine, duygusal düzenleme ve algılanan sosyal bağlılık gibi duygusal ve ilişkisel süreçler, ergenlerin duygusal deneyimlerini ve genel yaşam değerlendirmelerini doğrudan etkileyerek daha merkezi bir rol oynayabilir. Genel olarak, bu bulgular ergenlerin psikolojik refahını artırmayı amaçlayan müdahalelerde çok boyutlu ve cinsiyete duyarlı yaklaşımların önemini vurgulamaktadır.

Anahtar Kelimeler: Ergenlik, İyi oluş, Yaşam doyumu, Problem çözme becerileri, Aracılık rolü.

Introduction

Adolescence represents a critical developmental period marked by substantial cognitive, emotional, and social transformations that shape psychological adjustment and long-term well-being (Gál et al., 2022; Maarefvand & Shafiabady, 2023; Pérez-Gallego et al., 2020). During this stage, individuals acquire and refine essential skills such as problem-solving and decision-making, which are closely linked to adaptive functioning and mental health outcomes. Subjective well-being, encompassing both life satisfaction and affective experiences, reflects individuals' cognitive and emotional evaluations of their lives and is widely regarded as a core indicator of psychological health (Ardelt & Jeste, 2022; Koydemir et al., 2021).

Within this framework, problem-solving skills have been conceptualized as a potential mechanism underlying the relationship between well-being and life satisfaction. Effective problem-solving facilitates adaptive coping, enhances cognitive appraisal processes, and supports the regulation of emotional responses to daily stressors (Bariyyah, 2021; Lathren et al., 2021). Moreover, problem-solving is not solely a cognitive construct but also encompasses emotional and behavioural dimensions, and has been associated with resilience and emotional regulation capacities (Çınar et al., 2009; Frydenberg & Lewis, 2009). Empirical studies suggest that individuals with stronger problem-solving abilities tend to exhibit lower levels of stress and depressive symptoms, as well as higher levels of psychological adjustment (Okechukwu et al., 2022; Wei, 2022).

However, despite these theoretical and empirical links, the extent to which problem-solving skills function as a mediating mechanism between well-being and life satisfaction in adolescence remains unclear. Developmental models increasingly emphasize that affective and relational processes, such as emotion regulation and perceived social connectedness, may exert a more direct influence on adolescents' life evaluations than cognitive skills alone. Therefore, it is important to empirically test whether problem-solving skills serve as a significant explanatory pathway in this relationship or whether their role is more limited within the broader psychosocial context of adolescence.

Accordingly, this study aims to examine the mediating role of problem-solving skills in the relationship between adolescents' well-being and life satisfaction using a structural modeling approach.

Method

This study employed a correlational design to examine the mediating role of problem-solving skills in the relationship between adolescents' well-being and life satisfaction. A simple random sampling technique was used to ensure representativeness and equal probability of selection. The hypothesized research model, incorporating the proposed mediating pathways, is presented in Figure 1.

Participants and Sampling Procedure

The study sample comprised 460 adolescents (180 males, 280 females) enrolled in Grades 9 to 12 at Anatolian high schools in Sakarya, Türkiye. Participants were selected using a simple random sampling method, ensuring equal selection probability and representativeness of the target population (Karasar, 2000). The total student population was 3,122. The sample size was then calculated based on a 95% confidence level and a 0.05 margin of error. This calculation resulted in a minimum required sample of 460 participants. With respect to grade-level distribution, 85 students (18.5%) were in Grade 9, 85 (18.5%) in Grade 10, 155 (33.7%) in Grade 11, and 135 (29.3%) in Grade 12. The participants in this study ranged in age from 14 to 18 years.

Data Collection Tools

In this study, data were collected using three standardized instruments: the Well-Being Scale, the Life Satisfaction Scale, and the Problem-Solving Skills Inventory.

Well-Being Scale

Well-being was assessed using a multidimensional scale adapted into Turkish by Fidan and Usta (2013). The scale includes subdimensions such as family, friends, school, environment, and self-identity (Keldal, 2015). Higher scores indicate higher levels of perceived well-being. The internal consistency coefficients for the total scale and subdimensions ranged from acceptable to excellent in this study ($\alpha = .70-.91$).

Life Satisfaction Scale

Life satisfaction was measured using the Satisfaction with Life Scale (SWLS) developed by Diener et al. (1985). The scale consists of five items rated on a Likert-type format, with higher scores indicating greater life satisfaction. The Turkish adaptation of the scale has demonstrated good psychometric properties in adolescent samples. In this study, the internal consistency coefficient was acceptable (Cronbach's $\alpha = .74$) (Irmak & Kuruüzüm, 2009).

Problem Solving Skills Inventory

Developed by Heppner and Peterson (1982) and adapted into Turkish by Şahin et al. (1993), the PSSI consists of 35 items rated on a 6-point Likert scale. It assesses individuals' perceptions and strategies for dealing with everyday problems. Factor analysis identified six subdimensions: Hasty Approach ($\alpha = .78$), Thinking Approach ($\alpha = .76$), Avoidant Approach ($\alpha = .74$), Evaluative Approach ($\alpha = .69$), Self-Confident Approach ($\alpha = .64$), and Planned Approach ($\alpha = .59$). Overall internal consistency was high (Cronbach's $\alpha = .88$), with a split-half reliability coefficient of .81, indicating that the inventory is both psychometrically sound and suitable for use in Turkish adolescent populations.

Ethics

Prior to data collection, written informed consent was obtained from all participants. The study received ethical approval from the Istanbul Gelişim University Ethics Committee (Decision No. 2022-58-43; Date: 15.11.2022) and was conducted in accordance with the principles outlined in the Declaration of Helsinki.

Data Analysis

Data were analyzed using IBM SPSS Statistics 25 after screening for accuracy, completeness, and potential entry errors. Skewness and kurtosis values were within acceptable limits, although the kurtosis value for the Life Satisfaction Scale slightly exceeded the recommended thresholds. Parametric analyses were retained due to the large sample size and the robustness of the statistical procedures (George & Mallery, 2010). All analyses were conducted at a 95% confidence level.

Independent samples t-tests and one-way ANOVA were used to examine group differences, and effect sizes (Cohen's d and η^2) were calculated to assess practical significance. Pearson correlation coefficients were computed to evaluate bivariate relationships among well-being, life satisfaction, and problem-solving skills, while partial correlations were used to assess shared variance by controlling for problem-solving skills.

To test the hypothesized mediation model, Structural Equation Modeling (SEM) was conducted to evaluate overall model fit (CFI, TLI, RMSEA, SRMR). Additionally, mediation analysis was performed using Hayes' PROCESS macro (Model 4) with 5,000 bootstrap resamples to estimate total, direct, and indirect effects. The indirect effect was considered significant if the 95% confidence interval did not include zero.

Results

Table 1. Descriptive statistics for the scales used in the study and Cronbach's alpha values for the study scales and subscales

Variable	Min	Max	M	SD	Kurtosis	SE	Skewness	SE	Items	α
Well-being Scale	1.00	5.00	3.82	1.39	1.78	0.12	1.29	0.24	38	.71
Life Satisfaction Scale	1.00	5.00	3.78	0.34	-2.18	0.12	1.32	0.24	7	.79
Family	1.00	5.00	3.87	0.35	-2.73	0.12	1.97	0.24	8	.81
Friends	1.00	5.00	3.86	0.34	-2.12	0.12	1.51	0.24	8	.70
School	2.00	4.00	3.93	0.95	1.70	0.12	1.33	0.24	8	.91
Environment	1.00	5.00	3.89	0.31	-2.58	0.12	1.70	0.24	7	.76
Self-Identity	1.00	5.00	3.95	0.22	-1.08	0.12	1.72	0.24	5	.74
Problem-Solving Skills Inventory (Total)	1.00	5.00	4.00	0.49	-1.22	0.12	1.00	0.24	35	.79
Hasty Approach	1.00	5.00	3.89	0.33	-1.96	0.12	1.27	0.24	9	.81
Thinking Approach	1.00	5.00	3.89	0.33	-1.96	0.12	1.27	0.24	5	.91
Avoidant Approach	1.00	5.00	3.60	0.57	-1.04	0.12	0.09	0.24	6	.93
Evaluative Approach	1.00	5.00	3.75	0.53	-1.01	0.12	1.15	0.24	3	.92
Confident Approach	1.00	5.00	3.71	0.58	-1.86	0.12	1.34	0.24	7	.70
Planned Approach	1.00	5.00	3.81	0.58	-1.86	0.12	1.34	0.24	5	.78

The mean well-being score was 3.82 (SD = 1.39), with slight positive skewness (Skewness = 1.29) and moderate kurtosis (Kurtosis = 1.78). Life satisfaction exhibited a mean of 3.78 (SD = 0.34), reflecting a relatively high average. However, the distribution exhibited a pronounced negative kurtosis (Kurtosis = -2.18). Among the well-being subdimensions, Family (M = 3.87, SD = 0.35), Friends (M = 3.86, SD = 0.34), Environment (M = 3.89, SD = 0.31), and Self-Identity (M = 3.95, SD = 0.22) exhibited negatively skewed distributions, indicating that most participants reported higher levels in these domains. In contrast, School showed a more dispersed distribution (M = 3.93, SD = 0.95) with positive skewness (Skewness = 1.33), reflecting greater variability. The Problem-

Solving Skills Inventory demonstrated a high overall mean score (M = 4.00, SD = 0.49), indicating generally strong perceived problem-solving abilities among participants. Among its subdimensions, the Thinking and Hasty approaches had identical means (M = 3.89, SD = 0.33), both of which demonstrated moderate positive skewness (Skewness = 1.27). The Avoidant approach exhibited a slightly lower mean (M = 3.60, SD = 0.57) with a relatively symmetrical distribution. The Evaluative, Self-Confident, and Planned approaches showed means ranging from 3.71 to 3.81, accompanied by positive skewness and negative kurtosis, suggesting relatively high scores with moderate variability. All scales showed acceptable to excellent reliability ($\alpha = .70-.93$).

Table 2: Independent-samples t-test results for well-being, life satisfaction, and problem-solving skills and their subscales

Variable		n	M	SD	t	p	Cohen's d
Well-being Scale	Male	180	3.83	0.38	2.46	.014	0.235
	Female	280	3.98	1.89			
Life Satisfaction Scale	Male	180	3.99	0.32	2.78	.006	0.266
	Female	280	3.87	0.34			
Family	Male	180	3.90	0.30	0.34	.730	0.032
	Female	280	3.85	0.39			
Friend	Male	180	3.88	0.33	0.57	.570	0.054
	Female	280	3.85	0.35			
School	Male	180	3.86	0.34	0.23	.820	0.022
	Female	280	3.98	1.19			
Environment	Male	180	3.92	0.27	0.46	.650	0.044
	Female	280	3.88	0.33			
Self-identity	Male	180	3.91	0.28	0.77	.440	0.074
	Female	280	3.97	0.17			
Problem-Solving Skills Inventory	Male	180	3.99	0.08	2.23	.026	0.213
	Female	280	4.00	0.05			
Hasty approach	Male	180	3.89	0.35	0.46	.650	0.044
	Female	280	3.89	0.31			
Thinking approach	Male	180	3.89	0.35	0.55	.580	0.053
	Female	280	3.89	0.31			
Avoidant approach	Male	180	3.65	0.57	0.77	.440	0.074
	Female	280	3.56	0.56			
Evaluative approach	Male	180	3.72	0.55	0.23	.820	0.022
	Female	280	3.77	0.51			
Confident approach	Male	180	3.62	0.66	0.15	.880	0.014
	Female	280	3.77	0.51			
Planned approach	Male	180	3.62	0.66	0.60	.550	0.057
	Female	280	3.77	0.51			

Independent samples t-tests were conducted to examine potential gender differences in well-being, life satisfaction, and problem-solving skills. The findings indicated a significant discrepancy in well-being scores between male (M = 3.83, SD = 0.38) and female adolescents (M = 3.98, SD = 1.89), $t(407) = 2.46, p = .014$, with females reporting higher levels of well-being. A significant gender difference was found in life satisfaction, with males (M = 3.99, SD = 0.32) exhibiting marginally higher satisfaction than females (M = 3.87, SD = 0.34), $t(407) = 2.78, p =$

.006. Regarding problem-solving skills, a small but statistically significant difference was observed, with females (M = 4.00, SD = 0.05) scoring marginally higher than males (M = 3.99, SD = 0.08), $t(407) = 2.23, p = .026$. No significant gender differences were identified in the subdimensions of problem-solving approaches (i.e., hasty, thoughtful, avoidant, evaluative, confident, and planned approaches), all $p > .05$. No significant differences were found in subdimensions (all $p > .05$).

Table 3: ANOVA results for well-being, life satisfaction, and problem-solving skills and their subscales across grade levels

Variable	Grade	n	M	SD	F	p
Well-Being Scale	Grade 9	85	3.83	0.40	0.95	.23
	Grade 10	85	3.86	0.35		
	Grade 11	155	4.19	0.30		
	Grade 12	135	3.80	0.40		
Life Satisfaction Scale	Grade 9	85	3.90	0.30	0.46	.12
	Grade 10	85	3.81	0.40		
	Grade 11	155	3.90	0.30		
	Grade 12	135	3.91	0.28		
Family	Grade 9	85	3.89	0.34	1.34	.68
	Grade 10	85	3.85	0.40		
	Grade 11	155	3.91	0.29		
	Grade 12	135	3.85	0.36		
Friend	Grade 9	85	3.89	0.31	0.46	.54
	Grade 10	85	3.87	0.34		
	Grade 11	155	3.87	0.34		
	Grade 12	135	3.82	0.38		
School	Grade 9	85	3.87	0.37	1.35	.46
	Grade 10	85	4.04	0.39		
	Grade 11	155	3.89	0.32		
	Grade 12	135	3.90	0.30		
Environment	Grade 9	85	3.86	0.35	0.12	.57
	Grade 10	85	3.87	0.33		
	Grade 11	155	3.98	0.31		
	Grade 12	135	3.87	0.34		
Self-Identity	Grade 9	85	3.96	0.20	1.99	.12

	Grade 10	85	3.94	0.24		
	Grade 11	155	3.94	0.24		
	Grade 12	135	3.96	0.21		
Problem-Solving Skills Inventory	Grade 9	85	4.00	0.05	1.46	.11
	Grade 10	85	4.00	0.05		
	Grade 11	155	4.00	0.05		
	Grade 12	135	3.99	0.10		
Hasty Approach	Grade 9	85	3.86	0.35	1.87	.23
	Grade 10	85	3.83	0.38		
	Grade 11	155	3.94	0.32		
	Grade 12	135	3.96	0.21		
Thinking Approach	Grade 9	85	3.86	0.35	1.40	.32
	Grade 10	85	3.83	0.38		
	Grade 11	155	3.94	0.32		
	Grade 12	135	3.96	0.21		
Avoidant Approach	Grade 9	85	3.54	0.54	1.35	.23
	Grade 10	85	3.51	0.57		
	Grade 11	155	3.60	0.65		
	Grade 12	135	3.76	0.46		
Evaluative Approach	Grade 9	85	3.77	0.47	1.13	.09
	Grade 10	85	3.66	0.54		
	Grade 11	155	3.71	0.63		
	Grade 12	135	3.87	0.43		
Confident Approach	Grade 9	85	3.77	0.47	1.99	.06
	Grade 10	85	3.61	0.60		
	Grade 11	155	3.71	0.63		
	Grade 12	135	3.76	0.60		
Planned Approach	Grade 9	85	3.77	0.47	0.99	.40
	Grade 10	85	3.61	0.60		
	Grade 11	155	3.71	0.63		
	Grade 12	135	3.76	0.60		

A one-way analysis of variance (ANOVA) was conducted to examine differences in well-being, life satisfaction, and problem-solving skills across grade levels (Grades 9–12). The results indicated no statistically significant differences in overall well-being across grade levels ($F(3, 456) = 0.95, p = .232$). Although students in Year 11 exhibited marginally elevated well-being ($M = 4.19, SD = 0.30$), the difference was not statistically significant. A significant gender difference was found in life satisfaction. Furthermore, analyses of the subjective well-being subdimensions indicated no significant grade-level

differences for family ($p = .677$), friends ($p = .543$), school ($p = .455$), environment ($p = .567$), or self-identity ($p = .123$). Regarding problem-solving skills, the overall mean score was relatively high ($M = 3.99, SD = 0.05$), and no significant differences were found across grade levels ($F(3, 456) = 1.46, p = .111$). In addition, the problem-solving subdimensions – namely, hasty, thinking, avoidant, evaluative, confident, and planned approaches – did not demonstrate statistically significant variation across grades (all $ps > .05$).

Table 4. Partial correlation between well-being and life satisfaction, controlling for problem-solving skills

Variables	1	2	3	Partial r^a
1. Well-Being Scale	—	.43**	-.00	.23**
2. Life Satisfaction Scale	.43**	—	.02	.23**
3. Problem-Solving Skills Inventory	-.00	.02	—	—

Note: Zero-order correlations were calculated with $n = 460$. Partial correlations were calculated with $n = 406$. ** $p < .01$.

As shown in Table 4, well-being was moderately and positively correlated with life satisfaction. When problem-solving skills were controlled for, this association

remained statistically significant but decreased in magnitude, indicating shared variance rather than a mediating effect.

Table 5. Mediation analysis of problem-solving skills in the relationship between well-being and life satisfaction

Variable	Predictor	B	SE	t	p	LLC I	ULC I
Problem-Solving Skills	Well-Being (a path)	2.94	1.63	1.81	.072	-0.27	6.15
Life Satisfaction	Problem-Solving Skills (b path)	-0.00	0.01	-0.02	.982	-0.03	0.03
Life Satisfaction	Well-Being (c path: total effect)	0.43	0.05	8.60	.001	0.33	0.53
Life Satisfaction	Well-Being (c' path: direct effect)	0.42	0.05	8.40	.001	0.32	0.52

Effect: -0.00, Boot SE: 0.06, LLCI: -0.12, ULCI: 0.13

The mediation analysis indicated that the total effect of well-being on life satisfaction was statistically significant ($B = 0.43$, $SE = 0.05$, $p < .001$), suggesting that higher levels of well-being were associated with higher life satisfaction. However, the correlation between well-being and problem-solving skills was not statistically significant ($B = 2.94$, $p = .072$). Similarly, no significant association was observed between problem-solving skills and life satisfaction ($B = -0.00$, $p = .982$). Moreover, the indirect effect was not significant, as the bootstrap confidence interval included zero (95% CI [-0.12, 0.13]). These findings suggest that problem-solving skills do not mediate the relationship between well-being and life

satisfaction. Bootstrap sample size = 5,000. LLCI = lower limit confidence interval; ULCI = upper limit confidence interval. The indirect effect is considered significant if the confidence interval does not include zero.

The overall fit of the structural equation model was found to be within acceptable limits: $\chi^2(247) = 498.26$, $p < .001$; $\chi^2/df = 2.02$; CFI = .957; TLI = .943; RMSEA = .048 (90% CI [.041, .056]) and SRMR = .046. These indices meet the recommended thresholds (Hu & Bentler, 1999), indicating that the hypothesized mediation model provides a good fit to the observed data. The model is presented in Figure 1.

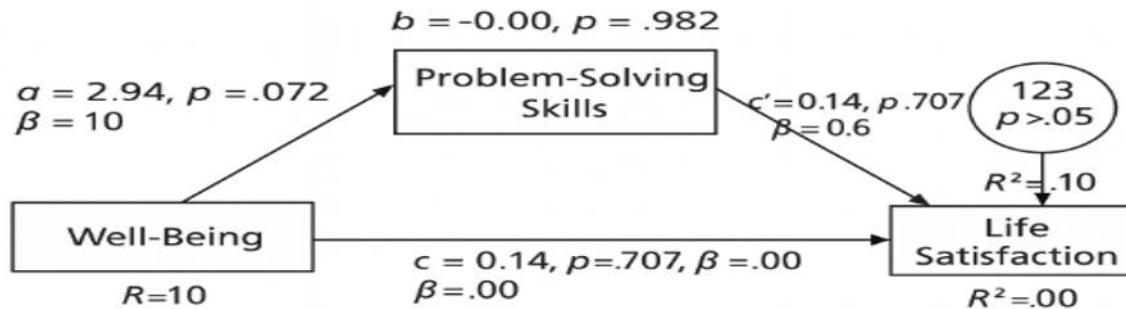


Figure 1. Structural equation model illustrating the mediating role of problem-solving skills in the relationship between well-being and life satisfaction

Discussion

Contrary to the initial hypothesis, problem-solving skills did not mediate the relationship between well-being and life satisfaction. Neither the association between well-being and problem-solving skills nor the link between problem-solving skills and life satisfaction was statistically significant, and the indirect effect was not supported. This finding suggests that, despite its theoretical relevance, problem-solving may not function as a central explanatory mechanism linking well-being to life satisfaction during adolescence.

One possible explanation for this result lies in the developmental characteristics of adolescence. Although problem-solving is an important cognitive and behavioural skill, adolescents' evaluations of life satisfaction may be more strongly influenced by affective and relational processes rather than cognitive competencies alone. In this regard, emotion regulation and perceived social support may play a more proximal role in shaping subjective evaluations of life, as they directly influence emotional experiences and interpersonal functioning. Previous research has consistently demonstrated that feelings of belonging, social connectedness, and supportive relationships are key determinants of life satisfaction during adolescence (Jiang et al., 2016; Reis, 2001; Siu & Shek, 2010). Therefore, the present findings support the notion that socio-emotional mechanisms may outweigh cognitive skills in explaining well-being outcomes in this developmental period.

Another important interpretation is that problem-solving skills may operate as a distal or contextual factor rather than a direct mediator. While these skills contribute to adaptive functioning and resilience, their effects on life satisfaction may be indirect and contingent upon other psychological processes, such as coping styles, emotional awareness, or interpersonal competence. This perspective aligns with contemporary models of adolescent development, which emphasize the interaction between

cognitive, emotional, and social domains rather than linear, single-path mediation processes.

Gender differences were observed: female adolescents reported higher well-being and problem-solving skills, whereas male adolescents reported higher life satisfaction. However, the effect sizes were small, indicating limited practical significance. These findings suggest that gender, when considered in isolation, may not serve as a strong determinant of psychological functioning in adolescence. This pattern is consistent with previous research indicating that gender differences in well-being-related constructs are often modest and context-dependent (Kim & Park, 2019; Parveen & Javed, 2015).

The absence of a significant indirect effect underscores the importance of employing rigorous statistical approaches, such as bootstrap-based mediation analysis, to avoid overinterpreting relationships between variables (Hayes, 2022). At the same time, this finding points to the need for expanding theoretical models by incorporating alternative mediating mechanisms. Future research should examine the roles of emotion regulation, perceived social support, and interpersonal processes as potential mediators of the relationship between well-being and life satisfaction. Additionally, longitudinal and experimental designs are needed to better capture the dynamic and potentially bidirectional nature of these relationships over time.

Limitations and Recommendations

Several limitations should be considered when interpreting the findings of this study. First, the cross-sectional design restricts the ability to draw causal inferences regarding the relationships among well-being, problem-solving skills, and life satisfaction. Second, the reliance on self-report measures may have introduced social desirability and recall biases. Third, the sample was limited to adolescents from a specific region in Türkiye, which may constrain the generalizability of the findings to other cultural and demographic contexts. In addition, the hypothesized mediating role of problem-solving skills was not

supported, suggesting the need to examine alternative explanatory mechanisms.

Future research should employ longitudinal and experimental designs to better clarify causal relationships.

Expanding the scope of variables to include sociodemographic and psychosocial factors, such as socioeconomic status, family dynamics, and peer relationships, may provide a more comprehensive understanding of adolescent well-being and life satisfaction. Furthermore, integrating qualitative methods within mixed-methods designs could offer deeper insights into adolescents' lived experiences. Finally, cross-cultural replication studies are recommended to enhance the external validity of the findings and support the development of culturally sensitive interventions.

Conclusion

This study demonstrates a positive association between adolescents' well-being and life satisfaction. This indicates that while cognitive problem-solving contributes to adaptive functioning, it is not the primary pathway through which well-being influences life satisfaction.

Emotional and relational factors (emotion regulation, social support) play a central role. Gender differences were observed, with females reporting higher well-being and problem-solving skills, and males reporting higher life satisfaction; however, effect sizes were small, suggesting limited practical significance.

These findings highlight the importance of designing interventions that address both emotional and social dimensions of well-being, rather than focusing solely on cognitive skills. Programs that include training in emotional regulation, peer support, and family engagement may be particularly beneficial. Future research should use longitudinal designs and explore alternative mediators.

Declarations

Ethics Committee Approval

The research was approved by the İGÜ Ethics Committee with Decision No. 2022-58-43.

Informed Consent

Informed consent was obtained from all participants included in the study.

Data Availability Statement

The data used in this study are not publicly available due to participant confidentiality and ethical committee approval requirements. However, data access may be granted upon reasonable request to the corresponding author.

Competing Interests

The authors declare no conflicts of interest.

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REVIEW ARTICLE / DERLEME YAZISI

Examination of Studies on Fear of Being Away from Cell Phone “Nomophobia”: A Bibliometric Analysis

Cep Telefonunda Uzak Kalma Korkusu “Nomofobi” ile İlgili Çalışmaların İncelenmesi: Bibliyometrik Bir Analiz

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Abstract:

This study aims to examine the dissemination and thematic orientations of academic research on the concept of nomophobia—a form of dependence and fear associated with technological devices, particularly mobile phones. Accordingly, the primary objective of this study is to identify the developmental trajectory and research foci of scientific publications concerning nomophobia over the years. The study employs a quantitative bibliometric analysis, using data from the Web of Science (WoS) database. All studies indexed with the keyword “nomophobia” were examined, and a total of 472 academic publications were analyzed using bibliometric data. The findings reveal a remarkable increase in research on nomophobia, particularly in the last eight years (n = 456). At the country level, the highest number of publications was produced by researchers from Turkey, while Nottingham Trent University was identified as the most prolific institution in this field. Keyword analyses indicate that the concepts of “excessive smartphone use” and “behavioral addiction” have appeared only infrequently within nomophobia-related studies. The discussion highlights that research on nomophobia has predominantly focused on psychology, psychiatry, and education, while studies in the communication discipline—despite its high relevance to the topic—remain limited. In conclusion, this study reveals the developmental trends of the literature on nomophobia and provides a guiding framework for researchers to monitor existing trajectories and identify new research avenues. Future studies are recommended to examine, in greater depth, the psychosocial impacts of nomophobia across different cultural contexts and its connections to digital health policies.

Keywords: Nomophobia, Phone addiction, Smartphone, Phobia.

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Öz:

Bu çalışma, bireylerin teknolojik cihazlara ve özellikle mobil telefonlara yönelik bağımlılık ve fobilerinden biri olan nomofobi (cep telefonu kullanamama korkusu) kavramına ilişkin akademik araştırmaların yaygınlığını ve konu yönelimlerini incelemeyi amaçlamaktadır. Günümüzde hızla artan mobil cihaz kullanımı, bireylerin teknolojiyle olan etkileşim biçimlerini dönüştürmüş ve beraberinde yeni tür bağımlılıklar ile fobilerin ortaya çıkmasına neden olmuştur. Bu doğrultuda, çalışmanın temel amacı “nomofobi” konusuna ilişkin yapılan araştırmaların yaygınlığını ve konu dağılımlarını bibliyometrik açıdan incelemektir. Çalışmada nicel araştırma yöntemlerinden bibliyometrik analiz kullanılmış ve veri kaynağı olarak Web of Science (WoS) veritabanı tercih edilmiştir. Analiz kapsamında “nomophobia” anahtar kelimesiyle dizinlenen tüm çalışmalar incelenmiş, toplam 472 akademik yayının bibliyometrik verileri değerlendirilmiştir. Elde edilen bulgular, nomofobiye ilişkin çalışmaların özellikle son sekiz yılda (n=456) görünür bir artış gösterdiğini ortaya koymaktadır. Ülke bazında en fazla yayının Türkiye’den araştırmacılar tarafından üretildiği, en çok yayın yapan kurumun ise Nottingham Trent University olduğu belirlenmiştir. Anahtar kelime analizleri, nomofobi çalışmalarında nadiren “aşırı akıllı telefon kullanımı” ve “davranışsal bağımlılık” kavramlarının ön plana çıktığını göstermektedir. Nomofobi araştırmalarının özellikle psikoloji, psikiyatri ve eğitim alanlarında yoğunlaştığı; ancak konu ile ilişkisi yüksek olan iletişim alanında oldukça az çalışmanın bulunduğu saptanmıştır. Buna ek olarak, kültürel boyutlarının yeterince incelenmediği belirtilmektedir. Bu durum, gelecekteki araştırmalar için disiplinlerarası yaklaşımların gerekliliğini ortaya koymaktadır. Sonuç olarak, çalışma nomofobiye yönelik literatürün gelişim yönelimlerini ortaya koymakta, araştırmacılara bu alandaki eğilimleri izleme ve yeni araştırma konuları belirleme konusunda yol gösterici bir çerçeve sunmaktadır. Gelecek çalışmalarda, özellikle farklı kültürel bağlamlarda nomofobinin psikososyal etkilerinin ve dijital sağlık politikalarıyla ilişkilerinin daha derinlemesine incelenmesi önerilmektedir.

Anahtar Kelimeler: Nomofobi, Telefon bağımlılığı, Akıllı telefon, Fobi.

Introduction

Technological advancements and the devices they produce have significantly transformed both individuals’ daily lives and their behavioral patterns. Mobile phones, initially designed to facilitate interpersonal communication, have undergone substantial technological evolution and now offer a wide range of functions. As a result, they have become technological devices that profoundly influence human life. Today, mobile phones function as an integral part of everyday life (Kuyucu, 2017; Tuco, Castro-Diaz, Soriano-Moreno, & Benites-Zapata, 2023).

With mobile phones, individuals can perform a wide array of activities beyond basic communication, including sending and receiving emails, shopping online, navigating, taking photos or videos, accessing social networking platforms, engaging in virtual socialization, and conducting banking transactions. According to King et al. (2014), the prominent role of smartphones in daily life can be attributed to their ability to facilitate communication technologies through flexibility, mobility, and personalization. Despite these advantages, frequent smartphone use has also given rise to various problems, most notably addiction. Consequently, individuals tend to use mobile phones intensively for both daily necessities and dependency-related behaviors, leading to a fear of being unable to use them (Ergün, 2025; Griffiths, 2000; Kuss, Griffiths, & Pontes, 2017). In this study, the concept of “nomophobia,” defined as the fear of being without or unable to use a mobile phone, is examined.

Nomophobia, which has shown an increasing prevalence in society—particularly among young people—is defined as the fear of being without a smartphone. The term is derived from the English words “no,” “mobile phone,” and “phobia.” Nomophobia is conceptualized through four components: fear of being unable to communicate via a smartphone, fear of losing connectivity, fear of being unable to access information, and fear of losing the convenience provided by smartphones (Copaja-Corzo, Aragón-Ayala, Taype-Rondan, & Nomotest-Group, 2022;

King et al., 2014; Yildirim & Correia, 2015). The concept is generally used to describe users’ dependence on smartphones and is derived from the acronym for “no mobile phone phobia.”

Nomophobia was first identified in 2008 during a field study conducted in the United Kingdom on mobile phone use and was defined as the fear of losing mobile phone communication (Yildirim, 2014; Fidancı, Aksoy, & Ayhan Başer, 2022). Following this initial definition, the phenomenon of nomophobia gained momentum, fueled by the increasing convenience smartphones offered. This trend became particularly pronounced after the COVID-19 pandemic. During the pandemic, lockdown measures and the transition to online education significantly increased students’ reliance on smartphones. Additionally, smartphones became the primary source of entertainment and social engagement, leading to heightened levels of phone dependency and nomophobia among young people and students (Fidancı et al., 2022; Shahzad et al., 2021). Today, the use of smart devices occupies a central position in daily life, both as a form of dependency and as a source of phobic anxiety. Individuals with nomophobia exhibit several common behavioral patterns.

Individuals experiencing nomophobia report intense anxiety in situations such as losing their smartphone, leaving home without it, battery depletion, network connectivity issues, or loss of internet access. Moreover, when separated from their phones, they often feel disconnected from family and friends and experience a fear of missing out (FOMO) on others’ digital activities (Wibowo & Safaria, 2025). In an effort to avoid nomophobia, individuals may adopt behaviors such as owning multiple mobile devices, keeping them charged, and avoiding locations without internet connectivity. Additionally, spending substantial amounts of money on

smartphone use is considered a symptom of nomophobia (Bragazzi & Del Puente, 2014; Sayan Karahan, 2023; Vagka, Gnardellis, Lagiou, & Notara, 2023). These behaviors indicate that individuals with nomophobia experience elevated levels of anxiety and chronic stress.

As illustrated, nomophobia symptoms are closely associated with various psychological issues experienced or anticipated by individuals. Nomophobia may contribute to psychological problems such as anxiety disorders, general anxiety, and addiction. Furthermore, research suggests a bidirectional relationship between nomophobia and conditions such as loneliness and depression, whereby each may exacerbate the other. Beyond psychological consequences, nomophobia may also lead to physical health problems, including visual impairment, tissue damage in the hands (particularly fingers), and neck and back disorders. Additionally, smartphone use has been linked to an increased risk of traffic accidents, affecting both drivers and pedestrians, some of which can be serious or fatal (Cazzulino et al., 2013; Nandita & Rajan, 2025; Xie, Szeto, & Dai, 2017).

The primary objective of this study is to examine the prevalence and thematic distribution of research on “nomophobia” from a bibliometric perspective. Using a co-word analysis approach, the study aims to identify the main themes addressed in books, book chapters, journal articles, and conference proceedings on nomophobia and to reveal gaps and underexplored areas in the literature. The systematically compiled body of research is expected to provide guidance for future studies in the field. By presenting an overview of the literature, this study identifies key trends and focal areas in nomophobia research. The statistical findings are expected to contribute to more efficient and targeted planning for future research endeavors. Ultimately, understanding the impact of nomophobia on human life and presenting a comprehensive portrait of the existing literature constitute the study's core significance.

Method

In this study, a quantitative bibliometric analysis method was employed, as it is a widely used technique that provides a systematic, transparent, and comprehensive overview of a specific research field (Saggese, Sarto, & Cuccurullo, 2016). Bibliometric analysis focuses on the quantitative characteristics of publications within a given research domain and facilitates descriptive assessments based on publication data. Through this method, large-scale datasets can be analyzed in detail, allowing for an in-depth evaluation of changes over time and the identification of core trends within a particular field.

Bibliometric analysis enables the profiling of a research domain using quantitative indicators such as publication output, publication years, countries, universities, disciplines, keywords, citation counts, most-cited studies, and leading authors. Furthermore, the strength and structure of relationships among publications or within a given dataset can be described, analyzed, and visualized

through network maps generated via bibliometric techniques (Van Eck & Waltman, 2014; Wallin, 2005).

In the context of this study, the bibliometric analysis of research on “nomophobia”—a phenomenon increasingly recognized as both a behavioral addiction and a phobia in contemporary society—aims to identify which research findings and strategies may be utilized by policymakers, legislators, and professionals in fields such as health and education to address this issue more effectively. In addition, the study seeks to provide a valuable reference for researchers interested in nomophobia and digital device or network dependency by guiding future research directions. From this perspective, the importance of such an analysis lies in its potential to contribute to existing literature, identify research gaps, and support the development of more effective policies and intervention strategies.

Within the scope of this study, academic publications addressing the concept of “nomophobia,” a significant contemporary social issue, were analyzed. A search was conducted in the Web of Science (WoS) database—one of the world's most comprehensive and reputable academic databases—using the keyword “nomophobia.” All studies on fear of being unable to use a mobile phone retrieved through this search were included in the analysis. Since the study utilized open-access secondary data and did not involve human or animal subjects, ethical committee approval was not required. All publications obtained through the keyword search “nomophobia” were included in the dataset. Accordingly, journal articles, books, book chapters, and conference proceedings indexed in WoS were examined. The search identified 472 publications on nomophobia in the WoS database.

Data Processing and Analytical Tools

Bibliometric data on nomophobia from the WoS database were exported and analyzed in VOSviewer. VOSviewer is widely used in bibliometric studies to construct network maps and visualize relationships among publications. In this regard, the software facilitates the bibliometric processing of datasets, the generation of meaningful visual representations, and the mapping of relationships between variables (Van Eck & Waltman, 2017).

Using VOSviewer, the analyzed studies were classified according to authors, journals, countries, universities, citations, and co-occurring keywords. The resulting data were visualized through mapping techniques, and network maps were generated to illustrate relational structures within the literature. Additionally, information regarding publication years, research areas, and WoS index categories of the analyzed studies was obtained from the “Analyze Results” section of the WoS database.

Findings

A total of 472 publications indexed in the WoS database and containing the keyword “nomophobia” were examined in this study. The majority of the analyzed publications consisted of research articles (n = 389). Overall, 442 publications were journal articles, 25 were conference proceedings, and 1

was a book chapter. The analyzed publications were indexed—either individually or jointly—across several WoS indices, including the Social Sciences Citation Index (SSCI; $n = 253$), Science Citation Index Expanded (SCI-E; $n = 192$), Emerging Sources Citation Index (ESCI; $n = 156$), Book Citation Index–Science (BKCI-S; $n = 1$), Arts & Humanities Citation Index (AHCI; $n = 18$), Conference Proceedings Citation Index–Science (CPCI-S; $n = 13$), and Conference Proceedings Citation Index–Social Sciences & Humanities (CPCI-SSH; $n = 12$).

As previously noted, the concept of nomophobia was first introduced in 2008, and the first academic study on the subject appeared shortly thereafter, in 2010. By 2017, 16 studies had been published; however, research output increased sharply thereafter. The highest number of publications on nomophobia was recorded in 2024 ($n = 86$), while 2023 and 2022 were also peak years, each with 81 published studies. Notably, 248 of the 472 analyzed

publications were published within the last three years. Furthermore, although only the first 45 days of 2025 had elapsed at the time of data collection, four studies on nomophobia had already been published.

In terms of disciplinary distribution, psychology and psychiatry emerged as the dominant fields. Researchers in psychiatry contributed 93 publications, followed by multidisciplinary psychology with 66 and clinical psychology with 26. The field of education also showed considerable engagement with the topic, with 35 publications. Given the inherently communicative nature of mobile phones, nomophobia might be expected to attract substantial attention within communication studies. As mobile phones are fundamentally communication devices, the fear of being without them inherently involves concerns about losing access to communication. Despite this close conceptual connection, researchers in the field of communication have produced only 16 publications on nomophobia, indicating a notable underrepresentation of communication-focused perspectives in the existing literature.

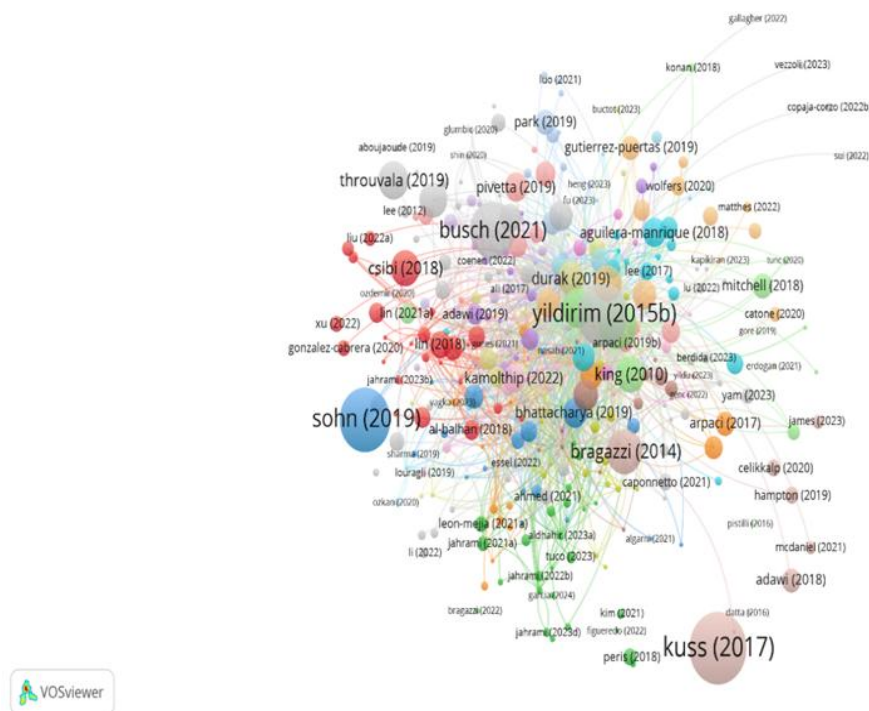


Figure 1. Network map of the most highly cited authors and publications among the analyzed studies

Among the 472 publications analyzed, 340 studies that had received at least one citation were included in the network map. The most highly cited publication was the study by Kuss et al. (2017), titled “Chaos and confusion in DSM-5 diagnosis of Internet Gaming Disorder: Issues, concerns, and recommendations for clarity in the field,” which

received a total of 541 citations. This was followed by the study conducted by Yildirim and Correia (2015), titled “Exploring the dimensions of nomophobia: Development and validation of a self-reported questionnaire,” which ranked as the second most cited publication with 419 citations.

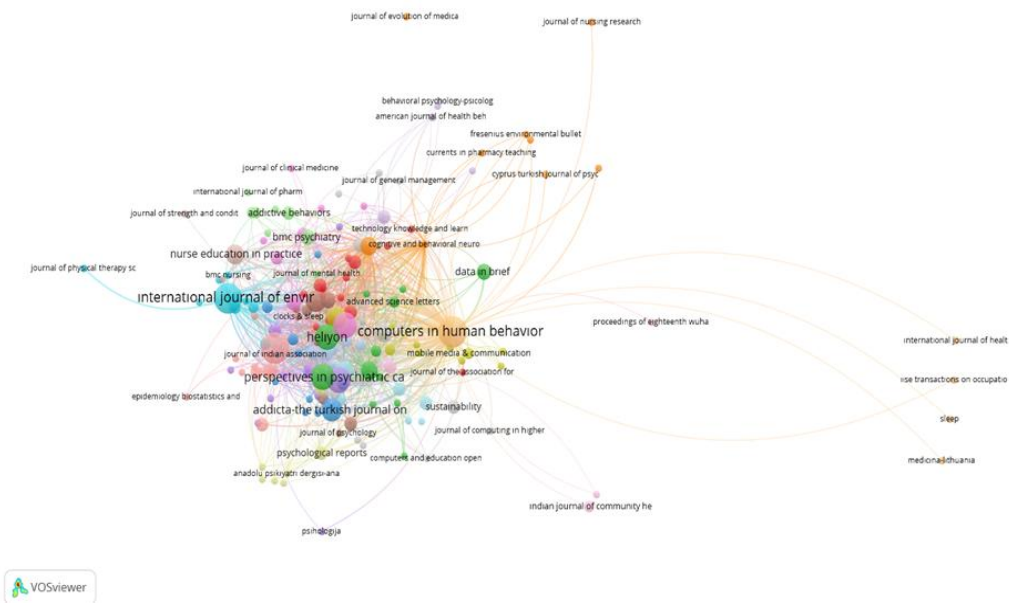


Figure 2. Network map of journals in which the analyzed studies were published, and the most highly cited publications

The 472 publications included in the analysis were published across 256 different sources. Figure 2 presents journals that published at least one study and had at least one publication that received at least one citation; accordingly, 185 sources were included in the network map. *Computers in Human Behavior* and the *Indian Journal of Psychiatry* emerged as the journals with the highest number of publications, each publishing 15 studies. The *International Journal of Environmental*

Research and Public Health ranked second, with 14 published studies. An examination of citation-based link strengths visualized in the network map indicates that *Computers in Human Behavior* (n = 1,717) and the *International Journal of Environmental Research and Public Health* (n = 969) possessed the strongest network link strengths, reflecting their central positions and high citation impact within the nomophobia research literature.

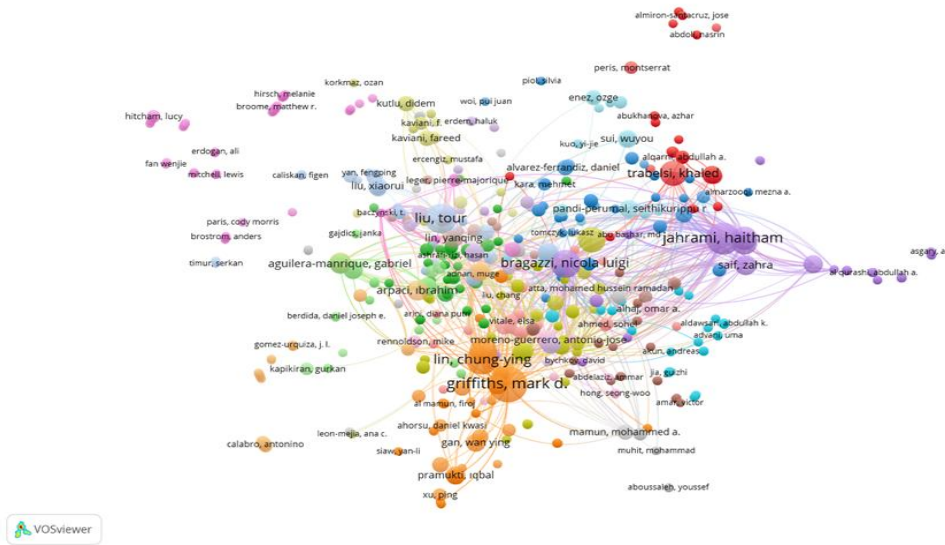


Figure 3. Distribution of publications by authors and the author collaboration network map

The 472 publications analyzed in this study were authored by 1,543 researchers, including co-authors. Figure 3 illustrates the network map of authors whose publications received at least one citation (n = 1,137). When considering publications produced individually and through co-authorships, Mark Griffiths (n = 16), Haitham

Jahrami (n = 13), and Chung-Ying Lin and Tour Liu (n = 11 each) emerged as the most prolific researchers in the field. In terms of network link strength, Mark Griffiths holds the most central position, with 1,162 citations received across his 16 publications, indicating the strongest overall network connectivity. He is followed by

Daria Kuss, whose three publications have received a total of 666 citations, positioning her as the researcher with the second-strongest network link strength. Çağlar Yildirim

ranks third, with four publications totaling 651 citations, reflecting substantial influence within the nomophobia research network.

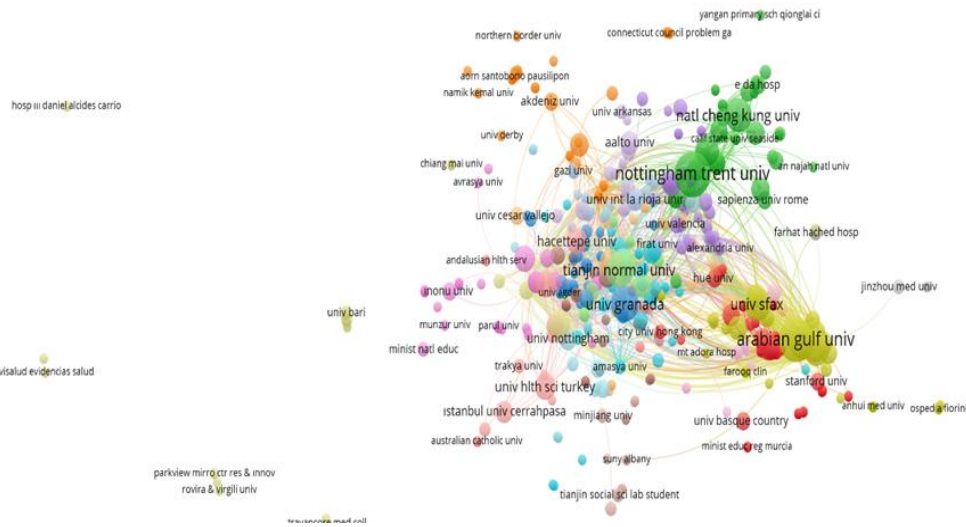


Figure 4. Network map of universities affiliated with the most prolific researchers

The 472 publications analyzed in this study were authored by 1,543 researchers affiliated with 748 institutions. The network map in Figure 4 includes institutions whose publications received at least one citation, yielding a network of 554 universities. *Nottingham Trent University* emerged as the most productive institution, with its researchers contributing to 18 publications. It was followed by *Arabian Gulf University* (n = 16) and by the *University of Granada* and *Tianjin Normal University* (n = 11), both of which also ranked among the institutions with the highest publication output. When citation-based network link strength is considered, *Nottingham Trent*

University occupies the most central position, with 1,248 citations across its publications. The second-strongest network link strength was observed for *Iowa State University*, which received 591 citations across three published studies. *The University of Nottingham* ranked third, with 418 citations received by four publications authored by its researchers. Among institutions based in Türkiye, *Hacettepe University* and *Necmettin Erbakan University* each contributed 6 publications, making them the most prolific Turkish universities in the dataset and placing them prominently within the institutional collaboration network.

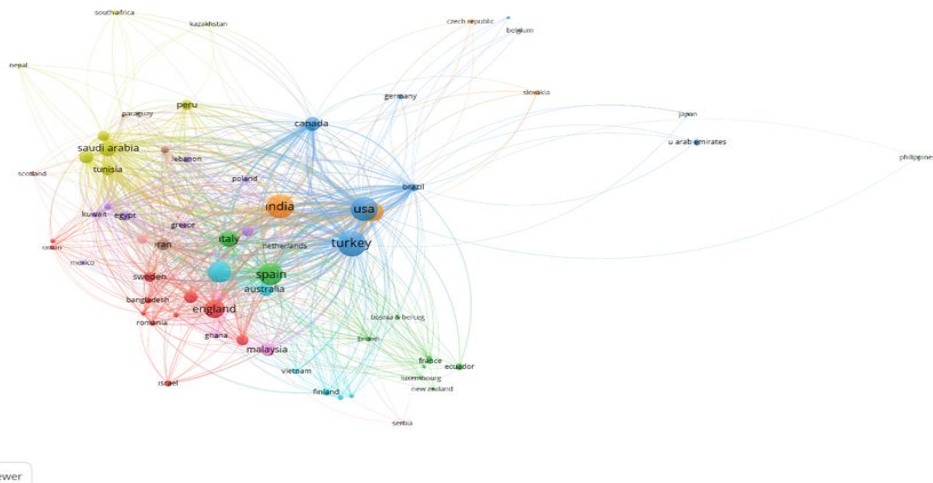


Figure 5. Network map of countries affiliated with the most prolific researchers in the analyzed studies

related to communication processes (Bhattacharya, Bashar, Srivastava, & Singh, 2019; Fidancı, Aksoy, & Ayhan Başer, 2022; Yildirim, 2014; Yildirim & Correia, 2015).

The findings further indicate that nomophobia constitutes a relatively new area of research. Although the first academic study on nomophobia was published in 2010, scholarly interest in the field appears to have intensified primarily after 2020. The emergence of research in 2010 is expected, as the widespread adoption of smartphones significantly altered individuals' mobile phone usage habits. Consequently, mobile phone addiction and the fear of being without one began to emerge (Kuss, Griffiths, & Pontes, 2017; Xie, Szeto, & Dai, 2017; Yildirim & Correia, 2015). In addition, the COVID-19 pandemic is believed to have contributed to an increase in both nomophobic behaviors and related academic research. During the pandemic, individuals reportedly relied more heavily on their mobile phones and experienced heightened anxiety about disconnection from these devices (Fidancı, Aksoy, & Ayhan Başer, 2022; Mohamed & Shaban, 2025; Shahzad, Shahzad, Anwer, Khader, Mnan, Akhtar & Akhtar, 2021).

Of the 472 nomophobia-related studies analyzed, 97 were published by researchers based in Türkiye and received a total of 1,167 citations. In comparison, researchers from the United States published 56 studies that collectively received 1,980 citations, while 34 studies authored by researchers from the United Kingdom received 1,613 citations. Accordingly, researchers from the United States and the United Kingdom exhibit stronger network links within the citation network. Although studies from Türkiye rank third in overall citation volume, an examination of the relationship between publication output and citation impact suggests that research from Türkiye remains relatively less prominent. Therefore, it would not be inaccurate to argue that studies produced in Türkiye tend to remain in the background in terms of global academic visibility. This finding underscores the importance of international collaboration and visibility to enhance recognition and citation impact. Moreover, the relatively low citation rates indicate a need for greater emphasis on methodological quality, theoretical contribution, and research scope to strengthen scientific impact (Ayhan, Demir, & Özkeçeci, 2025; Janatolmakan, Karampour, Rezaeian, & Khatony, 2024). This situation does not appear to be associated with language barriers, as only two of the analyzed studies were published in Turkish. Consequently, it can be argued that increasing international collaboration and diversifying theoretical and methodological approaches may help produce more influential research.

To identify the thematic focus of the literature, a co-word analysis was conducted. Unsurprisingly, the most frequently used keywords were "nomophobia" and "smartphone". An examination of the primary research foci reveals that a substantial proportion of studies focus

on levels of nomophobia among students and young people. Additionally, mobile phone or device addiction emerges as the second major focus within the nomophobia literature. However, among the least frequently used keywords—and thus the least explored research areas—are concepts such as “excessive smartphone use” and “behavioral addiction.” Focusing on infrequently used keywords helps identify gaps in the research field. The concept of behavioral addiction is particularly relevant because it is associated with everyday behavioral patterns and lifestyle impacts (Enez & Yalçınkaya Alkar, 2024; Sayan Karahan, 2022; Ayakdaş Dağlı & Yüyen, 2024). Considering the behavioral effects of nomophobia and its restrictive influence on daily life, it is reasonable to expect nomophobia to be evaluated more extensively within the framework of behavioral addiction.

This study is limited to research on nomophobia indexed in the Web of Science database. Furthermore, studies published after January 2025 fall outside the scope of this research. Accordingly, the analysis is confined to WoS-indexed publications available through 2025, while studies beyond this timeframe are excluded. Given the role of technological devices in daily life—both as sources of dependency and fear—it is expected that mobile phone use will continue to be the subject of extensive academic inquiry. Fear of being unable to use a mobile phone and problematic smartphone use represent critical issues that warrant investigation across multiple contexts. If these phenomena are approached as forms of addiction or behavioral problems, future studies may focus on diagnostic and therapeutic frameworks. Additionally, smartphone use may be examined within the scope of communication sciences, as the dependency in question arises directly from communication technologies and mediated forms of interaction. Future research may address nomophobia across various contexts, particularly by focusing on underrepresented keywords identified in this study.

Declarations

Ethics Committee Approval and Consent to Participate

Not applicable.

Consent for Publication

Not applicable.

Availability of Data and Materials

Not applicable.

Competing Interests

The authors declare that they have no competing interests.

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Not applicable.

Authors' Contributions

BU contributed to the investigation and structuring of the literature, while EVB contributed to the study's research design and methodological framework. All authors read and approved the final version of the manuscript.

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CASE REPORT / OLGU SUNUMU

Turkish Cypriot Women's Migration Experiences and Psychological Resilience: Case Narratives from North Cyprus

Kıbrıslı Türk Kadınların Göç Deneyimleri ve Psikolojik Dayanıklılıkları: Kuzey Kıbrıs'tan Vaka Öyküleri

N. Linda Fraim¹

Abstract:

This exploratory qualitative case study investigates the resilience-building strategies of Turkish Cypriot women who survived the Cyprus conflict from 1960 to 1974. Amid forced displacement and socio-political upheaval, the study examines the women's experiences through semi-structured interviews with five participants aged 75 to 90. These narratives provide crucial insights into how women navigated the challenges posed by the conflict and their strategies for coping with trauma. The findings reveal five key themes: psychological resilience, adaptation strategies, transformation of gender roles, intergenerational perceptions, and recommendations for younger generations. Participants highlighted the importance of maintaining hope and collective support in fostering resilience in the face of adversity, emphasizing that community bonds were critical to their survival. They identified social capital and economic participation as essential factors in adaptation, illustrating how traditional gender roles shifted as women took on new responsibilities. Furthermore, participants expressed concerns about the perceived deficiencies in resilience and self-reliance among younger generations, attributing these issues to overprotective parenting practices. Recommendations emphasized the need for self-reliance, responsibility, and strong family values as foundational elements for resilience in contemporary contexts. This study underscores the significance of preserving generational trauma narratives as vital resources for contemporary resilience-building, providing insights into the complex interplay between historical trauma and present-day coping strategies. Future research should explore intergenerational transmission mechanisms and cultural practices that influence resilience, further enriching our understanding of adaptive responses to adversity across different contexts and generations.

Keywords: Women, Trauma transmission, Resilience, Generational differences, Cyprus.

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Öz:

Bu keşif niteliğindeki vaka çalışması, 1960-1974 Kıbrıs çatışması sırasında hayatta kalan Türk Kıbrıslı kadınların dayanıklılık inşa etme stratejilerini kapsamlı bir şekilde incelemektedir. Zorla yerinden edilme ve sosyo-politik kargaşa ortamında, çalışmada 75 ila 90 yaş aralığındaki beş katılımcı ile yarı yapılandırılmış görüşmeler gerçekleştirilmiştir. Bu anlatılar, kadınların çatışmanın getirdiği zorluklarla nasıl başa çıktıklarına dair önemli bilgiler sunarak, yaşadıkları travmaya karşı geliştirdikleri başa çıkma stratejilerini gözler önüne sermektedir. Bulgular, psikolojik dayanıklılık, uyum stratejileri, cinsiyet rollerinin dönüşümü, nesiller arası algılar ve genç nesillere yönelik öneriler olmak üzere beş ana tema ortaya koymaktadır. Katılımcılar, zorluklar sırasında dayanıklılığı artırmada umut sürdürmenin ve toplumsal desteğin kritik önemi üzerinde durarak, topluluk bağlarının hayatta kalmalarında oynadığı temel rolü vurgulamışlardır. Sosyal sermaye ve ekonomik katılım, uyum sağlamada belirleyici faktörler olarak öne çıkmakta ve kadınların geleneksel cinsiyet rollerinin nasıl değiştiğini göstermektedir. Ayrıca, katılımcılar genç nesillerde dayanıklılık ve öz yeterlilik konusundaki algılanan eksikliklerden endişe duymakta ve bu sorunları aşırı koruyucu ebeveynlik uygulamalarına atfetmektedir. Öneriler, çağdaş bağlamlarda dayanıklılık için öz yeterlilik, sorumluluk ve güçlü aile değerlerinin gerekliliğini vurgulamaktadır. Bu çalışma, nesiller arası travma anlatılarının korunmasının, çağdaş dayanıklılık inşası için hayati kaynaklar olduğuna dikkat çekmekte ve tarihsel travma ile günümüzdeki başa çıkma stratejileri arasındaki karmaşık etkileşimi aydınlatmaktadır. Gelecek araştırmalar, bu konudaki anlayışımızı derinleştirmek ve farklı kültürel bağlamlarda zorluklara yönelik adaptif yanıtları incelemek amacıyla nesiller arası aktarım mekanizmalarını ele almalıdır.

Anahtar Kelimeler: Kadın, Travma aktarımı, Psikolojik dayanıklılık, Nesil farklılıkları, Kıbrıs.

Introduction

Forced displacement has been a recurring global phenomenon, but the 20th century has witnessed unprecedented population movements, with millions acquiring refugee status (Braun & Dwenger, 2020). The concept of historical trauma extends to groups affected by cultural and historical oppression, including Cyprus (Kirmayer, Gone, & Moses, 2014; Altun, 2016; Keser, 2006). As aging survivors of major displacements die, essential experiential knowledge about adaptation and survival risk is being lost, including strategies for navigating political, social, economic, and health-related hardship during crisis.

Trauma also has intergenerational consequences, with documented psychophysiological impacts on survivors and descendants (Greenblat-Kimron et al., 2021). Collective trauma—shared first-hand traumatic experiences—can be transmitted via parenting and family dynamics, community relations, and national narratives, shaping values, perceptions of safety, and collective identity (Kira, 2001; Kirmayer et al., 2014; Küçükertan & Karancı, 2023; Volkan, 2008). Transmission may appear as communal shame, humiliation, victimization, survival guilt, and “invisible wounds” in relatives who did not directly experience the events (Mollica, 2000; Volkan, 2008). Descendants may also develop empathic traumatization through internalized narratives, although transmission is not universal (Lerías & Byrne, 2003; Kira, 2001).

Paradoxically, trauma can be conveyed through both silence and repeated storytelling: the “taboo of silence” leaves unspoken events powerfully communicated, while repeated discussions may unintentionally pass on fear and survival strategies (Baranowsky et al., 1998; Danieli, 1998). Descendants can show heightened distress even under minor stressors (Solomon et al., 1998). Resilience—positive adaptation over time after adversity—develops through challenging experiences and may buffer transmission, with higher parental resilience linked to fewer trauma-related symptoms in offspring (Pfefferbaum et al., 2007; Sippel et al., 2015; Erbekir & Direktör, 2025).

Cyprus has long been shaped by intersecting political and cultural orders. After the Ottoman conquest in 1571, the settlement of a Muslim Turkish population contributed to the formation of two primary communal groups, Turkish and Greek (Altun, 2016). Successive administrative transformations under Ottoman and later British rule culminated in the 1959 Zurich–London Agreements and the establishment of the Republic of Cyprus in 1960, founded on constitutional power-sharing between Turkish and Greek Cypriots (Altun, 2016; Baytal, 2021; Keser, 2006). This framework unraveled in 1963 when Greek Cypriot leadership sought constitutional changes, and intercommunal violence escalated under the Akritas Plan, paralyzing state institutions. From 1964 onward, although the Republic continued legally, Turkish Cypriots were excluded from governance, while attacks and forced ghettoization—intensifying by 1967—deepened separation between the communities. In 1974, a Greek-backed coup and Turkey’s intervention under the Guarantee Treaty entrenched the island’s de facto division (Altun, 2016; Keser, 2006).

Between 1958 and 1974, violence and instability produced extensive forced displacement among Turkish Cypriots (Keser, 2006; Volkan, 2008). After 1963, over a hundred Turkish villages were partly or fully evacuated, and tens of thousands sought refuge in safer enclaves. Many Turkish Cypriots in the south were relocated to British bases or besieged settlements under severe movement restrictions. After 1974, diplomatic arrangements enabled large-scale movement to the north, and the 1974 population exchange effectively concluded this forced migration. These demographic shifts underscore that the Cyprus problem reflects not only political conflict but also profound humanitarian crises (Keser, 2006).

The Present Study

This exploratory qualitative narrative case study examines the resilience-building strategies employed by Turkish Cypriot women who survived the 1960-1974 Cyprus conflict. The goal of this exploratory study is to also seek answers to the following questions: (1) Which strategies

were used to build and maintain resilience? (2) Which factors aided in adaptation after the forced displacement? (3) Were there any changes in gender roles due to the forced displacement? (4) How does this generation view the current generation? and (5) What would this generation recommend to today's younger generation?

Methods

Participants

Five Turkish Cypriot women, who experienced the 1960-1974 Cyprus conflict firsthand, were recruited through snowball sampling. Inclusion criteria for this study were being female, aged 65-90 years, of Turkish Cypriot ethnicity, and having migrated from the South of Cyprus to the North between 1960 and 1974. Participants' ages ranged between 75 and 90 years. Recruitment challenges arose from the researcher's non-Cypriot status, necessitating assistance from a local intermediary. Initially, 15 participants were contacted; however, 10 declined because they live in a small community and feared being identified through their stories. The final sample size (n=5) remains methodologically appropriate for case study research (Creswell, 2002).

Procedure

Initial contact with the participants was made through a Turkish Cypriot intermediary, and subsequent telephone communication by the researcher established the study parameters and scheduled interviews. All participants provided written and verbal consent to participate in interviews, to be recorded, and to have data published. The semi-structured interview protocol comprised 17 open-ended questions developed through an extensive literature review. Interviews were conducted in Turkish and lasted 45-60 minutes. Recordings were transcribed verbatim and analyzed using thematic analysis—a methodology identifying recurring patterns while minimizing researcher interpretation (Anderson, 2007). This approach provides rich, detailed data representation across essentialist, realist, and constructionist paradigms, with the underlying assumption of narrative accuracy (DeSantis & Ugarizza, 2000; Sandelowski, 2010).

Ethics Committee Approval

This study was conducted in accordance with the Helsinki Declaration. Ethics approval was obtained from the Cyprus International University Ethics Committee (decision number EKK22-23/013/008, dated 11/05/2023).

Findings

This exploratory case narrative aimed to examine the resilience-building strategies used by Turkish Cypriot women who migrated from southern Cyprus to the North and who had firsthand experience of the conflict between 1963 and 1974. A thematic analysis was conducted on the transcribed interviews. In addition to the extracted themes, experiential commonalities were found. Firstly, most of the participants were teenage or young adult women who had married early and had multiple children when the conflict erupted. Many initially sought protections at British Military bases in southern Cyprus before developing strong motivations to relocate northward. Their husbands were typically imprisoned and subjected to torture, while participants remained vulnerable to potential attacks and psychological abuse from Greek Cypriot forces. Also, migration patterns showed remarkable consistency: four participants reached the northern

territories through clandestine routes despite substantial personal risk, while one crossed the official barricade with paternal assistance. These dangerous journeys parallel other historical forced migrations, with comparable elements of peril, loss, and determination characterizing participants' experiences despite having differing historical contexts (Erbekir & Direktör, 2025; Frelick, Kysel, & Podkul, 2016; Mainwaring & Brigden, 2016).

Answers to five research questions were sought by examining themes extracted from the thematic analysis: psychological resilience and hope maintenance; displacement and adaptation; transformation of gender roles; intergenerational perceptions and cultural transmission; and general recommendations.

Psychological Resilience and Hope Maintenance

Research question #1 examined strategies for building and maintaining resilience. Participants' narratives reveal sophisticated psychological coping centered on maintaining hope, supporting frameworks that identify hope as essential to resilience during prolonged adversity (Pine, 2014). For Participant #1, hope persistence was absolute and community-based: "*She never [lost hope] and that was what kept her going.*" The protective function of collective support is evident in her description that "*everyone stuck together with tightly knitted bonds, which in turn functioned as a source of support and hope,*" aligning with research on collective resilience in displaced populations (Sousa, Haj-Yahia, Feldman, & Lee, 2013; Ungar, 2011). Recent evidence further suggests such resilience mechanisms may mediate protection and reduce the intergenerational transmission of trauma symptoms (Erbekir & Direktör, 2025). Participant #3's account reflects the fluctuating nature of hope during a prolonged crisis: "*There were times where she lost hope; however, when she heard that Turkey came and took over half of the island, her hope was restored.*" Her testimony about sustaining family connections despite deception—"*they still continued to make food and sent it to their husbands and took every opportunity to see their husbands, even though it was from a great distance*"—shows how tangible actions reinforced psychological resilience (Teodorescu, Heir, Hauff, Wentzel-Larsen, & Lien, 2012). Similarly, Participant #5 described hope restoration through communication: "*When the United Nations helped her and other families communicate with their families, her hope was restored,*" underscoring the importance of access to information for adaptation to forced displacement. The necessity of acquiring primary information in humanitarian contexts and its link to adaptation processes are emphasized by Nickerson, Bryant, Silove, & Steel (2011).

Displacement and Adaptation

Research question #2 aimed to identify the factors that facilitated these women's adaptation after forced displacement. The 1974 Peace Movement precipitated significant forced displacements among Turkish Cypriot women, necessitating complex adaptation mechanisms during transition. Social capital, defined as "an individual's ability to access resources within a particular social network" (Allen, 2009), emerged as a critical factor in successful adaptation to displacement trauma. Participant narratives reveal the formation of spontaneous support networks that functioned as psychological buffers against displacement stress. As Participant #1 articulated: "*When the Peace Movement in 1974 took place, the women from*

our town stayed at the British military base for approximately six months... Because there were many women from different locations, they all stuck together, which helped greatly during the adaptation process." This observation aligns with research suggesting that social capital significantly mediates displacement-related psychosocial outcomes (Hung, Xiao, & Yang, 2013; Loizos, 2008). Social isolation presented substantial adaptation barriers, as evidenced by Participant #3's account: "Initially, I faced adaptation problems because I was lonely. All my family was in Britain. I arrived in an unknown place with nobody from Limassol." Her testimony further illustrates the gender-specific security concerns that compounded adaptation challenges: "I was warned by my husband not to enter the empty homes at night as some soldiers did many wrongs to the women who came from the south." This account corresponds with literature documenting heightened vulnerability among displaced women in conflict zones (Bryant, 2012; Hadjipavlou & Mertan, 2010; Loizos, 2008). Participant #4's testimony: "Everyone was from a different place, and they were all strangers. Our friends and acquaintances were killed. When we first came to the Turkish side, we faced so much sorrow and hardship, but this changed when we found jobs." This demonstrates how economic participation eventually facilitated adaptation, supporting research on employment as a critical factor in post-displacement recovery (Pine, 2014; Voutira & Dona, 2007; Zetter & Ruadel, 2018).

Transformation of Gender Roles

Research question #3 aimed to identify any changes in gender roles during this period. The conflict catalyzed significant shifts in traditional gender norms in Cypriot society, consistent with research showing that displacement often reconfigures gender roles (Hadjipavlou & Mertan, 2010). Participant #1's observation illustrates this transformation: "Women did not work back then; they were responsible for only taking care of the house and children; however, the men did work. When they were brought over to the Turkish side the women had to work because they had nothing." The participant's assessment that "this was a good thing because the women learned to stand on their own two feet and their self-confidence that they once lost was replenished" reflects the complex ways in which conflict-induced necessity can paradoxically create opportunities for women's empowerment and autonomy, which is also explained in Nche & Endeley (2023) and Ranabahu & Tanima (2021). However, participant #2, who "did not work [but] was at home with her children while her husband was taken prisoner for 3 months," demonstrates the heterogeneity in women's experiences even within similar circumstances. Manchanda (2005) suggests that these types of perspective discrepancies associated with conflict-induced displacement may exist and should be interpreted with caution.

Intergenerational Perspectives and Cultural Transmission

Research question #4 aimed to portray how this generation perceives today's younger generation. Participants' membership in the Silent Generation (born 1925-1945) was characterized by high resilience following significant collective trauma, as explained by Lissitsa, Zychlinski, & Kagan (2022), which contextualizes their evaluations. Narratives consistently identify perceived deficiencies in younger generations' resilience and self-reliance.

Participant #1 assessed that "today's generation is care-free and gets fed up too easily" and predicted that, in similar circumstances, younger generations would just run off to a better location and not deal with the troubles involved, reflecting concerns about diminished collective resilience (Hasler, Korn, & Halperin, 2023). Participant #2 critiqued, "Today's generation's biggest problem is that they are irresponsible and always used to having everything done for them, as they do not know how to do anything". This identifies a paradox: parental overcompensation, "they went the extra mile to do everything for their children so that their children did not suffer," potentially undermining offspring resilience, as suggested by Urone, Segrin, & Givertz (2024).

Participant #3 testified, "Everyone at home had their chores to do. My oldest sister cooked and took care of the children, my other sister was responsible for cleaning, and I was responsible for shopping". Participant #3 also indicated that contemporary children "only know computers and the internet and do not have any responsibilities," suggesting a shift in childhood responsibilities across generations (Erstad, Kjallander, & Jarvela, 2024). The ambivalence in Participant #4's statement, "I would have loved to be like this generation," while acknowledging "maybe I made a big mistake by giving endless opportunities to my children," reflects contradictory attitudes of trauma survivors toward subsequent generations' privilege (El-Khalil, Szymanski, & Rosenfeld, 2023). More positively, participant #5 denoted that "This generation would find a way to survive if a similar event to what happened in 1974 were to occur today," recognizing different adaptive capacities despite concerns about technology dependence (Kuş, 2025).

Participant Recommendations

Research question #5 examined the recommendations this generation had for today's younger generation. Participants' recommendations represent valuable experiential knowledge with potential applications for contemporary resilience-building interventions. Their emphasis on collective support aligns with current research on social capital as a protective factor during crises (Allen, 2009). Participant #3's emphasis on self-reliance—"This generation should learn to stand on their own two feet"—while simultaneously advocating for strong family cohesion, reflects the complex balance between independence and interdependence that characterizes effective resilience, which is also supported in Ishikawa, Rickwood, Bariola, & Bullar (2022). Her advocacy for psychological reframing—"Where there is love and respect, a person will feel fulfilled and satisfied, even with a single slice of bread"—aligns with contemporary positive psychology approaches to adversity management (Malin, Morton, Nadal, & Smith, 2019). Also, participants' consistent emphasis on relationship values as a strong foundation for resilience, which was exemplified by recommendations associated with "mutual trust, respect, and love". This too offers important insights for contemporary family resilience frameworks, suggesting that interpersonal ethics remain central to collective adaptation regardless of technological and cultural transformations (Elsayed, 2024).

While the narratives provided by these women offer different and personal perspectives, which may be considered biased, it is evident that they also provide valuable data associated with gender-specific experiences of conflict, displacement, adaptation mechanisms, and

intergenerational transmission of resilience factors as set forth in Niyonsenga, Jansen, Rutembesa, Hermans, Monacelli, & Caricati (2025). Each of these factors contributes to our understanding of historical trauma responses and contemporary approaches to managing adversity across diverse contexts.

Discussion

This exploratory qualitative case study examined resilience-building strategies among Turkish Cypriot women who survived the 1960-1974 Cyprus conflict. Five research questions guided the inquiry: how resilience is built and maintained; relocation-based adaptation; changes in gender roles; generational perspectives for today; and recommendations for today's younger generation. Participant narratives reveal intergenerational knowledge transmission occurs through two pathways: explicit, detailed accounts and implicit, partial disclosures that contextualize present circumstances. This dual pathway aligns with current understandings of how families discuss difficult pasts and how event centrality shapes trauma narratives across generations (Greenblatt-Kimran et al., 2021). Understanding ancestral trauma experiences constitutes a significant epistemological resource for contemporary generations. Recent work suggests memories of trauma survivors serve as living repositories of adaptive knowledge, acting as present-day coping mechanisms (Niyonsenga et al., 2025). The transmission of survival strategies from collective trauma offers insights that transcend time and space. Contemporary scholarship emphasizes bidirectional transmission of intergenerational trauma, encompassing both vulnerability factors and protective mechanisms that shape how later generations respond to adversity (El-Khalil et al., 2023; Greenblatt-Kimran et al., 2021).

A significant finding concerns participants' perceptions of generational capacity differentials. Women consistently expressed skepticism about younger generations' ability to navigate comparable traumatic circumstances, citing technological dependence and underdeveloped practical competencies as vulnerability factors. This concern aligns with empirical work showing complex relationships among technology, cognitive development, and household dynamics, suggesting that digital immersion can alter patterns of skill acquisition across generations (Kuş, 2025; Erstad et al., 2024). Generational research also confirms substantial differences in digital engagement and psychological orientations between older and younger cohorts, corroborating participants' observations of meaningful intergenerational disparities (Lissitsa et al., 2022; Cirilli et al., 2019). Participants self-critically recognized their role in shaping these gaps, partially blaming themselves for raising offspring who had access to resources they did not have during the trauma era. This reflects compensatory parenting—attempting to shield children from hardships—which can complicate the transmission of resilience. Research on parental self-efficacy in the face of adversity shows that survivors often overcompensate to protect their children from hardship (Scannell, 2020). Participants described creating a “lazy generation” marked by technological dependence and reduced self-sufficiency. Recent work indicates excessive parental protection can impair developmental outcomes in emerging adulthood, diminishing adaptive capacity and self-sufficiency (Urone et al., 2024). Participants identified specific deficiencies in psychological resources

among younger generations, notably patience, responsibility, and delayed gratification. These traits, deemed foundational for survival during displacement and adaptation, reflect an appreciation of resilience factors rooted in their primary experiences. Studies link self-reliance, autonomous functioning, and purpose to resilience and coping in the face of adversity, supporting participants' assessments (Ishikawa et al., 2022; Malin et al., 2019).

Recommendations for younger generations emphasize resilience-building: cultivating patience, embracing responsibility and accountability, preserving family values, and pursuing education and career advancement. These align with frameworks that strengthen internal resources alongside social connections (Niyonsenga et al., 2025). Emphasis on women's financial independence signals a shift from pre-displacement views, suggesting trauma can reshape gendered beliefs about economic autonomy as a resilience factor. This echoes findings that collective hardship catalyzes changing gender-role attitudes, positioning women's economic agency as a key post-displacement empowerment strategy (Zetter & Ruaudel, 2018). Only one participant supported full intergenerational trauma narrative transmission, reflecting tension between preservation and retraumatization; reviews note secondary traumatization risks despite benefits (El-Khalil et al., 2023; Greenblatt-Kimran et al., 2021).

Conclusion

This study investigates trauma-informed survival strategies and resilience among Turkish Cypriot women displaced prior to and during the 1974 conflict, revealing findings that diverge from expected frameworks. Hope maintenance emerged as the primary psychological survival mechanism, buffering against repeated traumatization, harassment, and lethal threats. Paradoxically, each traumatic exposure strengthened resilience, aiding the transition and adaptation to a new geography. This contrasts with contemporary youth, who tend toward premature goal abandonment and consumption-oriented behavior. Compensatory parenting minimized offspring's exposure to hardship, suggesting that overprotection may undermine the transmission of resilience.

Economic adaptation formed a second key dimension. Despite limited post-displacement infrastructure availability in north Cyprus, participants leveraged pre-existing skills—notably sewing/seamstress abilities—to achieve economic viability. While husbands found security or factory work, women's contributions were essential to household sustainability. This contrasts with recent observations of prolonged economic dependence among young North Cypriot adults, hinting at a disruption in the transmission of self-sufficiency.

Relationship maintenance was a major finding. Participants showed flexibility and tolerance toward husbands' post-traumatic symptoms after imprisonment, yet accommodation expectations were one-sided, leaving women to absorb spouse trauma despite their own. Documenting generational trauma is vital to preserving knowledge of resilience; transmission is hindered by the risks of retraumatization, though each retelling adds insight.

Limitations and Future Directions

This study has several limitations. First, the sample size is small, which limits generalizability to the broader population, though it is acceptable for exploratory case studies. Second, the age group is restricted to a specific generation; including more generations would enable generational comparisons and analyses. Third, analytical constraints arise from small sample sizes, which limit opportunities to explore nuances in depth and may hinder corroboration.

Future research could adopt mixed methods to provide deeper contextual information. It should also examine the specific strategies women used to adapt economically during displacement as part of their empowerment experience. Further work could investigate the mechanisms of silent versus narrative transmission, including cultural practices and rituals that sustain trauma across generations. Additionally, future work should explore how technological solutions might displace experiential wisdom and shape resilience among generations with limited direct exposure to trauma. Finally, cross-conflict cultural comparisons could reveal universal and culturally specific coping mechanisms.

Declarations

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No funding was received for this study.

Ethics Committee Approval

This study was conducted in accordance with the Helsinki Declaration. Ethics approval was obtained from the Cyprus International University Ethics Committee (decision number EKK22-23/013/008, dated 11/05/2023).

Informed Consent Statement

Informed consent was obtained from all participants in the study.

Statement of Data Availability

Raw data will be provided upon reasonable request.

Conflicts of Interest

No conflict.

Authors' Contributions

All procedures, including study conceptualization, planning, interviewing, data collection, data coding, analysis, and writing of the manuscript, were carried out solely by the author.

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All applications must be accompanied by the ICMJE Conflict of Interest Forms.

Ethics Committee:

Local ethics committee approval should be obtained for researches. In the manuscripts that report the results of the experimental studies, there should be a sentence indicating that the informed consent of the volunteer or the patients were taken after all the procedure(s) is fully described. In the case of such a study, the authors must accept internationally recognized guidelines and Turkish provisions of the regulations and also send the approval of the Ethics Committee from the institution. Studies on animals should be made clear of what has been done to prevent pain and discomfort.

Medical research involving human subjects must be conducted according to the World Medical Association Declaration of Helsinki.

<https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>

Submitted manuscripts should conform to the ICMJE Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals.

<http://www.icmje.org/icmje-recommendations.pdf>

All papers reporting animal and/or human studies must state in the methods section that the relevant Ethics Committee or Institutional Review Board provided (or waived) approval.

All submissions must be accompanied by a title page.

Write the manuscript title.

Provide the full name and institution of the review committee, in addition to the approval number.

Include a statement to the editor that the paper being submitted has not been published, simultaneously submitted, or already accepted for publication elsewhere.

Include a statement that the manuscript has been read and approved by all the authors, that the requirements for authorship as stated earlier in this document have been met, and that each author believes that the manuscript represents honest work.

The author must declare that the manuscript, to the best of the author's knowledge, does not infringe upon any copyright or property right of any third party.

Information on informed consent to report individual cases or case series should be included in the manuscript text. A statement is required regarding whether written informed consent for patient information and images to be published was provided by the patient(s) or a legally authorized representative. Please do not submit the patient's actual written informed consent with your article, as this in itself breaches the patient's confidentiality. The Journal requests that you confirm to us, in writing, that you have obtained written informed consent, but the written consent itself should be held by the authors/investigators themselves, for example, in a patient's hospital record. The confirmatory letter may be uploaded with your submission as a separate file.

Please also refer to the ICMJE Recommendations for the Protection of Research Participants.

<http://www.icmje.org/recommendations/browse/roles-and-responsibilities/protection-of-research-participants.html>

All research involving animals submitted for publication must be approved by an ethics committee with oversight of the facility in which the studies were conducted. The journal has adopted the Consensus Author Guidelines on Animal Ethics and Welfare for Veterinary Journals published by the International Association of Veterinary Editors.

<http://www.veteditors.org/consensus-author-guidelines-on-animal-ethics-and-welfare-for-editors/>

Clinical Studies:

The Cyprus Turkish Journal of Psychiatry and Psychology complies with the requirement of the ICMJE that clinical trials are recorded in a WHO approved public trials registry as an evaluation condition for publication at or before the initial patient registration. At the end of the abstract, the trial registration name and URL and registration number should be included.

Reporting Guidelines:

Relevant EQUATOR Network reporting guidelines should be followed depending on the type of study. For example, all randomized controlled trials submitted for publication must include a complete CONSORT flowchart as figure. Systematic reviews and meta-analyses should be arranged according to the completed PRISMA flowchart. The EQUATOR wizard can help you determine the appropriate grid.

Other resources can be found in NLM's Research Reporting Guidelines and Initiatives.

Research Data:

As the Cyprus Turkish Journal of Psychiatry and Psychology, we believe that the clarity, transparency and reproducibility of the research should be facilitated. Regarding the subject, we encourage authors to share their research data in an appropriate public repository subject to ethical considerations and to include a data accessibility statement in their article files.

ARTICLE WRITING RULES AND FEATURES

General Information:

The language of the Cyprus Turkish Journal of Psychiatry and Psychology is Turkish and English. Manuscripts should be written in a clear, fluent, simple language and long narratives should be avoided. Turkish equivalents of foreign words and abbreviations must be fully written in parenthesis where they crossed. Generic names of drugs should be used. Footnotes should not be used.

The names of the authors should be placed at the bottom right of one line of the article title and the title, institution, address, telephone, e-mail address should be given with the asterisk (*). Authors / text-specific terminology and / or abbreviations should be explained in footnotes. The author (s) must be the person (s) who makes the work and writes directly.

If the research has received financial support from an organization or has been presented in a congress, it should be placed on the last word of the title of the manuscript (*) and should be indicated as a bottom note.

Articles are on one side of A4 paper size, 2.5 cm on all sides. It should be written with "Times New Roman" font with 12 pt and one and a half line spacing. The Turkish title should not exceed 19 words. Subheadings must be preceded by line spacing, no space between paragraphs and no paragraph indented.

Footnotes should be used to provide additional information, not for source representation, should be numbered on the page, written in 10 pt and 1 line spacing and justified. The page numbers must also be placed at the bottom with 11 pt.

Accepted articles are published in order.

Preparation of articles:

Title page:

The Turkish and English title of the article should not exceed 19 words. Abbreviations should not be used in the title. In the article, only the names and surnames of the authors who directly contributed to the study, their titles, and the institutions they work for should be written clearly. Funds and organizations supporting the study should be specified on the title page.

Contact information of the author to be contacted should be written at the bottom of the title page (Author's name, surname, full address, postal code, telephone number, fax number and e-mail address should be written).

Abstracts:

Abstracts should be written in Turkish and English and should contain a maximum of 250 words. The abstract should be organized according to purpose-method-results-discussion sections. Turkish and English key words (3-8) for the article should be given right after the abstracts. English keywords should be given in accordance with "Medical Subject Headings (MESH)" (<http://www.nlm.nih.gov/mesh/MBrowser.html>). Turkish keywords should be in accordance with Turkey Science Terms (TBT) (<http://www.bilimterimleri.com>). Using abbreviations in abstracts should be avoided as much as possible. When abbreviations must be used, they should be used after they are defined in parentheses at the first mention.

Research articles: After the abstract, the subtitles of introduction-method and materials-results-discussion-resources should be included, the latest information on the subject should be included, the method should be written clearly, the validity and reliability studies of the measurement tools used and the tests used for evaluation, standard deviation, test values must be specified. In the discussion, the clinical and theoretical benefits of the results, application areas, and innovations should be emphasized. Articles should not exceed 3500 words. The article should contain a maximum of 6 tables or figures. Care should be taken that the number of references does not exceed 50 resources.

Review articles: The purpose, the method used, the sources used, the results obtained should be stated. Articles should not exceed 3500 words. The article should contain a maximum of 6 tables or figures. Care should be taken that the number of references does not exceed 50 resources.

Case reports: Case reports should include introduction, description of the cases, discussion and references sections. The article should not exceed 3000 words. It should be noted that the number of references for typical or rare cases that are found useful in terms of clinical or theoretical education should not exceed 30 references. The number of tables or figures should not exceed 2.

Perspectives: In these articles, experience-based opinions on controversial or controversial issues affecting the profession should be discussed with the introduction of the literature. The article should not exceed 2500 words. Number of Resources should not exceed 20. The number of tables or figures should not be more than 2.

Practical Psychotherapy: In these articles, the introduction and information about psychotherapy application should be discussed in the light of the literature. The article should not exceed 2500 words. Number of Resources should not exceed 20. The number of tables or figures should not be more than 2.

Comments: The features of the article discussed with the introduction should be discussed in the light of the literature. The article should not exceed 2500 words. Number of Resources should not exceed 20. The number of tables or figures should not be more than 2.

Letter: Opinions in which a discussion forum can be formed on various issues in the journal are included in the letter section. The article should not exceed 500 words.

Translation, book and thesis presentation: Translation, book and thesis introductions should be short, an original copy of the translation texts and thesis should be sent. The article should not exceed 500 words.

Thank letter: The letter of acknowledgment can be added to the individuals who contributed or to the funds and organizations supporting the study, if any.

Resources: In-article citations and bibliography in the journal should be shown according to the international APA format. For detailed information, see the Resources section on the website.

Reference in Text:

References should be written in parentheses in the text by including the surnames and publication date of the manuscripts. If more than one source is to be shown, the (;) sign must be used between the references. References should be sorted alphabetically.

Single author References;

(Akyolcu, 2007)

References with two authors;

(Saymer and Demirci, 2007, p. 72)

References with three, four and five authors;

For the first use in the text: (Ailen, Ciambune and Welch 2000, pp. 12 .13) In repeated use within the text: (Ailen et al., 2000).

References with six and more authors;

(Çavdar et al., 2003)

References in References Section

All references should be given in a separate section at the end of the text in alphabetical order.

Examples of literature writing are given below.

Book

a) Book Example

Onur, B. (1997). *Developmental Psychology*, Ankara: İmge Kitapevi.

b) Translation of Books

Schuckit MA. (1993). *Alcohol and Substance Abuse*. K Kamberoglu (trans.), Izmir: Kanyilmaz Matbaasi.

c) Multi Writer Turkish Book

Tonta, Y., Bitirim, Y. and Sever, H. (2002). *Performance evaluation in Turkish search engines*. Ankara: Total Informatics.

d) English Book

Kamien R., & amp; Kamien, A. (2014). *Music: An appreciation*. New York, NY: McGraw-Hill Education.

e) Section in English Book

Bassett, C. (2006). *Cultural studies*. In G. Hall & C. Birchall (Eds.), *New cultural studies: Adventures in theory* (pp. 220 Bir237). Edinburgh, UK: Edinburgh University Press.

f) Section in Turkish Book

Erkmen, T. (2012). *Organizational culture: Functions, elements, the importance of business management and leadership*. M. Zencirkiran (Ed.), *In the book of Organizational Sociology* (pp. 233an263). Bursa: Dora Edition Publication.

Article

a) Article

Mutlu, B. and Savaşer, S. (2007). *Causes of stress in parents in the intensive care unit after surgery and attempts to reduce*. *Istanbul University Florence Nightingale Nursing Journal*, 15 (60), 179ing182.

b) More Than Seven Writers in Article

Lal, H., Cunningham, A. L., Godeaux, O., Chlibek, R., Diez-Domingo, J., Hwang, S.-J. ... Heineman, T. C. (2015). *Efficacy of an adjuvanted herpes zoster subunit vaccine in older adults*. *New England Journal of Medicine*, 372, 2087 *Medicine2096*. <http://dx.doi.org/10.1056/nejmoa1501184>

Thesis, Presentation, Paper

a) Thesis

Yellow, E. (2008). *Cultural identity and policy: Interculturalism in Mardin*. (Unpublished PhD Thesis). Ankara University Institute of Social Sciences, Ankara.

b) Congress Presentation

Çepni, S., Bacanak, A. and Özsevgeç, T. (2001, June). *The relation of science teacher candidates attitudes towards science branches and their success in science branches*. Paper presented at the X. National Educational Sciences Congress, Abant İzzet Baysal University, Bolu

Tables and Figures:

Tables should be written on a separate page with single spacing. Each table should have a number and descriptive information on top. If abbreviations are included in the table, the expansions of these abbreviations should be placed under the table in the form of subtitles and in alphabetical order.

When using previously printed or electronically published tables, written permission must be obtained from both the author and the publisher, and this must be sent to the editor of the journal by fax or mail.

Transverse and longitudinal lines should not be used in the table, only straight lines should be drawn at the top and bottom.

The visuals and note examples in the articles should be numbered as Figure / Table 1.... with their short explanations centered. All images should be sent separately in JPG format with a minimum resolution of 300 dpi in order to avoid resolution problems in printing. Placements in the text can be changed according to the page layout when necessary.

Tables, graphics, figures and photographs should not be more than six, they should be placed on a separate page and their place in the text should be specified. Periods should not be used in arabic numbers and decimals.

Article Submission:

Article submissions are through the magazine park system and are given below;

Link: <https://dergipark.org.tr/tr/>

THE BLIND REVIEW AND EVALUATION PROCESS

Blind refereeing is a method applied for publishing scientific publications with the highest quality. This method forms the basis of the objective evaluation process of scientific studies and is preferred by many scientific journals. All studies submitted to the Cyprus Turkish Journal of Psychiatry and Psychology are evaluated by blinding according to the following stages.

Blind Arbitration Type:

The Cyprus Turkish Journal of Psychiatry and Psychology uses the double blind method in the evaluation process of all studies. In the double blind method, the identities of the authors and referees of the studies are hidden.

Initial Evaluation Process:

Studies submitted to the Cyprus Turkish Journal of Psychiatry and Psychology are first evaluated by the editors. At this stage, studies that do not comply with the purpose and scope of the journal, are weak in terms of language and expression rules in Turkish and English, contain scientific critical errors, have no original value and do not meet the publication policies are rejected. Authors of rejected studies are informed within one month at the latest from the date of submission. Studies that are deemed appropriate are sent to a field editor for the field of interest for pre-evaluation.

Pre-Evaluation Process:

In the pre-evaluation process, field editors examine the introduction and literature, method, findings, conclusion, evaluation and discussion sections of the studies in detail in terms of journal publishing policies and scope and originality. Studies deemed unsuitable as a result of this review are returned within four weeks at the latest with the field editor's evaluation report. Studies found appropriate are taken into the refereeing process.

Refereeing Process:

Studies are refereed according to their content and expertise of the referees. The editor of the field who examines the study suggests at least two referees from the referee pool of the Cyprus Turkish Journal of Psychiatry and Psychology, or may suggest new referees suitable for the field of study. The referee suggestions from the field editor are evaluated by the editors and the studies are forwarded to the referees by the editors. Referees must guarantee that they will not share any process and document about the work they evaluate.

Referee Reports:

Referee evaluations are generally; It is based on originality, method used, compliance with ethical rules, consistent presentation of findings and results, and review of the literature. This review is based on the following factors: Introduction and literature: the evaluation report includes the presentation and aims of the problem in the study, the importance of the subject, the scope of the literature on the subject, its currency and the originality of the study.

Method: The evaluation report includes information on the suitability of the method used, the selection and characteristics of the research group, validity and reliability, as well as an opinion on the data collection and analysis process

Findings: The evaluation report includes opinions on the presentation of the findings obtained within the framework of the method, the accuracy of the analysis methods, the consistency of

the findings reached with the aims of the research, the presentation of the tables, figures and visuals needed, and the conceptual evaluation of the tests used.

Evaluation and discussion: the evaluation report includes discussion of the topic based on the findings, compliance with the research question (s) and hypothesis (s), generalizability and applicability.

Conclusion and suggestions: the evaluation report includes a contribution to the literature, an opinion on suggestions for future studies and applications in the field.

Style and expression: the evaluation report includes the opinion about the content of the study title, the use of Turkish in accordance with the rules, the submission and references to the language of the full text in accordance with the examples under the journal publication principles.

General evaluation: the evaluation report includes an opinion about the originality of the study as a whole, and its contribution to the literature and practices in the field.

During the evaluation process, the referees are not expected to make adjustments according to the typographical features of the study.

Referee Evaluation Process:

The time given to the referees for the referee evaluation process is 3 weeks. Correction suggestions from referees or expert editorial board members must be completed by the authors within 3 weeks. Referees can examine the revisions of a work and decide whether it is appropriate or, if necessary, request corrections more than once.

Evaluation Result:

Comments from referees are reviewed by the field editor within two (2) weeks at the latest. As a result of this review, the editor of the field transmits its final decision regarding the study to the editors.

Editorial Board Decision:

Editors prepare editorial board opinions on the study based on the opinions of the field editor and referees. The opinions prepared are forwarded to the author (s) by the editor together with the field editor and referee recommendations within 1 week at the latest. In this process, the works that are given negative opinions are returned without requesting a plagiarism check. The final decision is made according to the results of the plagiarism audit reports for the studies with positive opinions.

Publication Evaluation Process:

It is envisaged that the publication evaluation process of the studies submitted to the Cyprus Turkish Journal of Psychiatry and Psychology will be completed within approximately 3 months. However, the period between the date when the referees or editors request a correction from the author (s) and the date when the author (s) complete the corrections are not included in this 3-month period.

Citation and Reference Control:

According to the publication ethics of the Cyprus Turkish Journal of Psychiatry and Psychology, it is mandatory to cite the articles accurately and completely. Authors must ensure that they have written entirely original works and that if authors have used the works and / or words of others, it is properly quoted or quoted. This audit is done first by the referees during the evaluation and then by the editors according to the result of the similarity-plagiarism (iThenticate) program. All works plagiarism report is also checked over intihal.net.

Early View and Publishing of the Article:

The articles that are edited in the Cyprus Turkish Journal of Psychiatry and Psychology are published in electronic media under the title of "Early View" by giving a Digital Object Identifier (DOI). Minor adjustments can be made, if necessary, while early view articles are published in the journal. Articles in early view are published in volumes and numbers determined by the Editorial Board, by removing the "EARLY VIEW" watermark on it. After the electronic journal is published, the printed version of the Cyprus Turkish Journal of Psychiatry and Psychology, which includes the same articles, is also published in the same month.

Archiving:

The data and full texts of the articles published in the Cyprus Turkish Journal of Psychiatry and Psychology are published as .pdf on the server of TÜBİTAK ULAKBİM DERGİPARK.

OCLC WorldCat and EBSCOhost digital archiving (<https://dergipark.org.tr/en/pub/ktppdergisi/archive>), (<https://www.worldcat.org/>) stored and archived in a closed way. (LOCKSS; <https://dergipark.org.tr/en/pub/ktppdergisi/lockss-manifest>).

EASE Statement on Quality Standards

The European Association of Science Editors encourages all editors to ensure that reports of research on COVID-19 meet required standards and comply with agreed guidelines, and that any limitations are clearly stated. Members of EASE have noted poor standards of reporting in many studies related to the COVID-19 pandemic. Medical and public health measures to treat infected patients and to limit the spread of the coronavirus have to be based on high quality evidence if they are to succeed. EASE urges all involved in collecting and publishing data related to the pandemic to adhere to ethical guidelines, and to follow standard reporting guidelines (see www.equator-network.org), for example CONSORT for clinical trials and STROBE for epidemiological studies. Demographic data should include age and sex of all individuals and follow the SAGER guidelines to ensure that data on sex and gender are fully and correctly reported. We encourage full and open sharing of data where possible.

We recognise that in times of crisis it may not always be possible to obtain all required data, and that reporting may – of necessity – be curtailed. To avoid misinterpretation, but also to facilitate the rapid sharing of information, we encourage editors to ensure that authors include a statement of limitations on their research. This will inform readers and strengthen the usefulness of any published research.

In addition, whilst always advocating high language standards, we acknowledge that to facilitate rapid dissemination of important research it may be necessary to limit editorial involvement to ensuring that the published research is understandable, and not to enforce stringent language requirements on authors.

The relevant statement can be found at the website <https://ease.org.uk/publications/ease-statements-resources/ease-statement-on-quality-standards/>.

YAZARLARA BİLGİLER

GENEL BİLGİLER

Amaçlar ve Kapsam:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nin amacı, Kıbrıs Türkiye ve Dünya'da Psikiyatri ve Psikoloji başta olmak üzere kuramsal bilgileri ve klinik deneyimleri bilimsel düzeyde sunmak, yayımlaştırmak bir forum oluşturmaktır. Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nde Psikiyatri ve Psikoloji ile ilgili alanlardaki araştırma, gözden geçirme/ derleme, olgu sunumu, eğitimde/ uygulamada ve psikiyatride yeni ufuklar açacak özgün yazılar/görüşler, çeviri yazılar, mektup/tartışma, kitap ve tez tanıtımı yayımlanır. Kısa Adı KTPP Dergisi olan Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi hem basılı (ISSN: 1302-7840) hem de online (E-ISSN: 2667-8225) olarak yayımlanmaktadır. Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi, yazarların International Committee of Medical Journal Editors (ICMJE) tarafından formüle edilen Tıbbi Dergilerde Bilimsel Çalışmanın Yürütülmesi, Raporlanması, Düzenlenmesi ve Yayımlanması için Önerilere uymalarını önermektedir. Link: <http://www.icmje.org/icmje-recommendations.pdf>

Yayın Sıklığı:

Dergi Mart, Haziran, Eylül ve Aralık olmak üzere üç ayda bir, dört sayı olarak yayımlanır. Dergiye gönderilen yazılar yayın kurulu ve en az iki danışmanın incelemesinden ve gerekli düzeltmeler yapıldıktan sonra yayımlanır.

Yayın Dili:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nin yayın dili Türkçe ve İngilizce'dir. Türkçe tam metin yayımlanan makalelerde İngilizce başlık, öz ve anahtar sözcükler de yer alır. Yine İngilizce Yayınlanan Makalelerde Türkçe başlık, öz ve anahtar sözcükler yer alır.. Makalelerin yazımı ve dil bilgisi kurallarına uygun olması, Editörleri Kurulunun önem verdiği bir politikadır. Makalelerin dil bilgisi, yazım kuralları ve alan yazına uygun, anlaşılır, açık ve yalın bir dil ile yazılması beklenir.

Editörler Kurulu'nca yayına kabul edilen makaleler, dil (Türkçe, İngilizce) editörlerince okunur. Yazarlara, makalelerin değerlendirme sürecinde editörler kurulu, hakemler ya da dil editörlerince makalenin yazımına ilişkin düzeltmeler önerilebilir. Bu düzeltmelerin yapılması, yazarların sorumluluğundadır.

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi herhangi bir çeviri hizmeti vermemektedir. Derginin beklentilerine uyması için İngilizce düzenleme, çeviri veya şekil ve makale biçimlendirme konusunda yardım arayan yazarlar, Kıbrıs Ruh Sağlığı Enstitüsü Dil Hizmetlerini kullanmayı düşünebilirler. Kıbrıs Ruh Sağlığı Enstitüsü'ndeki dil hizmetleri için enstitünün web sitesi <http://ruhsagligienstitusu.com>'u ziyaret edebilirler.

Açık Erişim Politikası:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi, açık erişimli, çift kör hakemli bir dergidir. Hakem değerlendirmesi sonrasında kabul edilen her makale, yayımlandıktan hemen sonra çevrimiçi olarak ücretsiz olarak bir Creative Commons lisansı altında yayımlanır ve sürekli olarak çevrimiçi olarak barındırılır. Dergiye makale göndermenin herhangi bir bedeli yoktur.

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi, yayıncılıkta saydamlık, açık erişim sağlama ve bilginin paylaşılması politikasıyla yayımlanmaktadır. Dergimiz, Budapeşte Açık Erişim Girişimi'ni desteklemektedir. Bu amaçla <http://www.budapestopenaccessinitiative.org/boai-10-translations/turkish-translation> web adresinde bulunan açık erişim politikaları, Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi Editörler Kurulu'nca benimsenmektedir. Ayrıca, açık erişim sağlama politikaları kapsamında Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nde yayımlanan makaleler "Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License" ile lisanslanmıştır.

(<https://dergipark.org.tr/en/pub/ktppdergisi/archive>)

Dergi yazım içeriği:

Gönderim aşamasında, başvuru mektubu, başlık, yazarlar ve kurumları, iletişim adresi, Türkçe özet ve yazının İngilizce başlığı ve özeti ilgili aşamalarda yazılmalıdır. İngilizce yazılan çalışmalara da Türkçe özet eklenmesi gerekmektedir. Yazının ana metnindeyse şu sıra kullanılacaktır: Giriş, Gereç ve Yöntem, Bulgular, Tartışma, Teşekkür, Kaynaklar. Yazıların daha önce

yayımlanmamış ya da yayımlanmak üzere başka dergiye gönderilmemiş olması gerekir.

Yazı Cesitleri:

Dergi aşağıdaki yazı türlerini yayın için kabul eder:a)Özgün Makaleler: Bunlar sadece deneysel tasarımlar gibi yüksek kaliteli planlanmış araştırma çalışmalarından orijinal bulgular içeren sonuç çalışmaları, vaka-kontrol serileri, yüksek yanıt oranlarına sahip anketler, randomize kontrollü çalışmalar, müdahale çalışmaları, tarama ve teşhis testleri çalışmaları ile maliyet-etkinlik analizleri.

b)Derleme makaleleri: Bunlar, literatürün sistematik ve eleştirel değerlendirmeleridir.

c)Vaka Serileri: Bu bölümde belirli bir tanıya / klinik özelliğe / tedaviye ait birden fazla yeni, ilginç ve nadir vaka rapor edilebilir.

d)Bakış Açılırları: Bu yazılar, mesleği etkileyen tartışmalı veya tartışmalı konulara ilişkin deneyime dayalı görüş ve görüşler olmalıdır. Yazar konu hakkında yeterli ve güvenilir deneyime sahip olmalıdır.

e)Pratik Psikoterapi: Tek vakada veya bir dizi vakada psikoterapinin kullanımını anlatan yazılar bu bölüme gönderilebilir. Esas olarak psikoterapi uygulamasındaki pratiklikleri, karşılaşılan engelleri, nasıl aşıldıklarını vb. Açıklayan makaleler arıyoruz.

f)Yorumlar: Bunlar önemli konuları ele almalıdır ve Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nde yakın zamanda yayımlanan birden fazla veya belirli bir makaleye bağlanabilir.

g)Editöre Mektup: Bu bölümde yazarlar ruh sağlığı alanı ile ilgili kısa gözlemlerini bu bölümde yayımlarlar.

Yazarlık:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi, Uluslararası Tıp Dergisi Editörleri Komitesi tarafından yazarlık için önerilen gereksinimlerini takip etmektedir. Makaleler, yalnızca katkıda bulunan tüm yazarlar tarafından onaylandıktan sonra değerlendirilmek üzere sunulmalıdır. Makale gönderim aşamasında Yazar Formu da birlikte gönderilmelidir. Makaleyi gönderenler, makaleye katkıda bulunan herkesin katkıda bulunan yazarlar olarak kabul edildiğini dikkatlice kontrol etmelidir.

Yazar listesi, yasal olarak yazarlık iddia edebilecek herkesi içermelidir. Buna göre, her yazar aşağıdaki kriterlerin tümünü karşılamalıdır:

Çalışmanın ana fikir veya tasarımına önemli katkılar veya çalışma için verilerin toplanması, analizi veya yorumlanması; VE Çalışmanın taslağını hazırlamak veya önemli entelektüel içerik için eleştirel olarak yeniden gözden geçirmek; VE Yayınlanacak versiyonun son onayı; VE

İşin herhangi bir kısmının doğruluğu veya bütünlüğü ile ilgili soruların uygun şekilde araştırılıp çözülmesini sağlamada çalışmanın tüm yönlerinden sorumlu olmayı kabul etmek

Yazarlık kriterlerini karşılamayan tüm katkıda bulunanların Teşekkür bölümünde belirtilmelidir. Yazarlık hakkında daha fazla bilgi için lütfen International Committee of Medical Journal Editors (ICMJE) yazarlık kılavuzuna bakın.

Telif Hakkı Devir Formu:

Yazarlar makalelerinin telif haklarını, makale başvurusu sırasında Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'ne devretmek zorundadır. Bunun için "Telif Hakları Devir Formu" doldurularak yazıların yayın hakları dergiye devredilir. Formu tüm yazarlar imzalar, tarayıcıda tarar ve elektronik olarak makaleyle birlikte TÜBİTAK ULAKBİM DERGİPARK sistemine (<https://dergipark.org.tr/en/pub/ktppdergisi>) yükler. Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi Editörler Kurulu, makalenin yayımlanmasında yetkilidir.

Ayrıca yazarların telif hakkı dışında kalan patent hakları, dersleri, sunumları ve kitap çalışmalarında makaleyi ücret ödemeksizin kullanabilme hakkı, satmamak koşuluyla kendi amaçları için makaleyi çoğaltma hakkı, postayla veya elektronik yolla dağıtma hakkı saklıdır. Ayrıca makalenin herhangi bir bölümünün başka bir yayında kullanılmasına Dergiye yollamada (atıfta) bulunulması koşuluyla yazarına izin verilir. Telif Hakları Devir Formu'nu makale başvurusu ile sisteme yüklemeyen yazarların makalelerine işlem yapılmaz. Telif hakkı devri yalnız Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nde yayımlanan makaleler için geçerlidir.

Finansman:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi, tüm yazarların fonlarını tutarlı bir şekilde ayrı bir başlık altında belirtmelerini talep etmektedir. Finansman bulunmaması durumunda teşekkür metninde sonra ve kaynaklar bölümünden önce şu ifadelerin bulunması gerekir: "Bu araştırma, kamu, ticari veya kar amacı gütmeyen sektörlerdeki herhangi bir finansman kuruluşundan özel bir hibe almadı."

Çatışan Çıkarların Beyanı:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nin politikası, tüm yazarlardan çatışan çıkar beyanını yazılarında belirtmeleridir. Çatışma yoksa lütfen 'Yazar (lar) çıkar çatışması olmadığını beyan eder' ifadesinin kullanılması gerekir. Çıkar çatışması bildirimleri hakkında rehberlik için lütfen ICMJE önerilerine bakın.

<http://www.icmje.org/recommendations/browse/roles-and-responsibilities/author-responsibilities-conflicts-of-interest.html#two>

Tüm başvurulara ICMJE Çıkar Çatışması Formları eşlik etmelidir.

Etik Kurul:

Araştırmalar için yerel etik kurul onayı alınmalıdır. Deneysel çalışmaların sonuçlarını bildiren yazılarda, çalışmanın yapıldığı gönüllü ya da hastalara uygulanacak prosedür(lerin) özelliği tümüyle anlatıldıktan sonra, onaylarının alındığını gösterir bir cümle bulunmalıdır. Yazarlar, bu tür bir çalışma söz konusu olduğunda, uluslararası alanda kabul edilen kılavuzlara ve T.C ve/veya K.K.T.C. Sağlık Bakanlığı tarafından getirilen yönetmelik ve yazılarda belirtilen hükümlere uyulduğunu belirtmeli ve kurumdan aldıkları Etik Komitesi onayını göndermelidir.

İnsan denekleri içeren tıbbi araştırmalar Dünya Tıp Birliği Helsinki Deklarasyonu'na göre yapılmalıdır.

<https://www.wma.net/policies-post/wma-declaration-of-helsinki-ethical-principles-for-medical-research-involving-human-subjects/>

Gönderilen makaleler, Tıbbi Dergilerde Bilimsel Çalışmanın Yürütülmesi, Raporlanması, Düzenlenmesi ve Yayınlanması için ICMJE Tavsiyelerine uygun olmalıdır.

<http://www.icmje.org/icmje-recommendations.pdf>

Hayvan ve / veya insan çalışmalarını bildiren tüm makaleler ile ilgili Etik Kurul veya Kurumsal İnceleme Kurulunun verdiği onay yöntemler bölümünde belirtilmelidir.

Tüm başvurulara bir başlık sayfası eşlik etmelidir.

Makalenin başlığı olmalı.

Onay numarasına ek olarak inceleme komitesinin tam adı ve kurumu belirtilmeli.

Editöre, gönderilen makalenin basılmadığına, eşzamanlı olarak gönderilmediğine veya başka bir yerde yayınlanmak üzere kabul edilmediğine dair bir açıklama eklenmeli.

Yazının tüm yazarlar tarafından okunduğuna ve onaylandığına, bu belgede daha önce belirtildiği gibi yazarlık gereksinimlerinin karşılandığına ve her yazarın yazının dürüst çalışmayı temsil ettiğine inandığına dair bir açıklama eklenmeli.

Yazar, yazının bilgisi dahilinde, herhangi bir üçüncü şahsın telif hakkını veya mülkiyet hakkını ihlal etmediğini beyan etmeli

Bireysel vakaları veya vaka serilerini bildirmek için bilgilendirilmiş onam hakkındaki bilgiler makale metnine dahil edilmelidir. Yayınlanacak hasta bilgileri ve görüntüleri için yazılı bilgilendirilmiş onamın hasta (lar) tarafından mı yoksa yasal olarak yetkili bir temsilci tarafından mı sağlandığına dair bir açıklama gereklidir. Kendi başına hastanın gizliliğini ihlal ettiği için, lütfen makale ile hastanın gerçek yazılı bilgilendirilmiş onayı gönderilmemelidir. Dergi, yazılı bilgilendirilmiş onay aldığını yazılı olarak onaylamanızı talep etmektedir. Ancak yazılı izin kendisi, örneğin bir hastanın hastane kaydında yazarlar / araştırmacılar tarafından tutulması gerekmektedir. Onay mektubu ayrı bir dosya olarak yüklenebilir. Lütfen ayrıca Araştırma Katılımcılarının Korunması için ICMJE Önerilerine bakın.

<http://www.icmje.org/recommendations/browse/roles-and-responsibilities/protection-of-research-participants.html>

Yayınlanmak üzere gönderilen hayvanları içeren tüm araştırmalar, çalışmaların yürütüldüğü tesisin gözetiminde bir etik komite tarafından onaylanmalıdır. Hayvanlar üzerinde yapılan çalışmalarda ağrı, acı ve rahatsızlık verilmesi için neler yapıldığı açık bir şekilde belirtilmelidir.

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi, International Association of Veterinary Editors tarafından yayınlanan Veterinerlik Dergileri için Hayvan Etiği ve Refahına İlişkin Mutabakat Yazım Kılavuzunu benimsemiştir.

<http://www.veteditors.org/consensus-author-guidelines-on-animal-ethics-and-welfare-for-editors/>

Klinik Araştırmalar:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi, ICMJE'nin , klinik araştırmaların DSÖ onaylı bir kamu araştırmaları kayıt defterine ilk hasta kaydı sırasında veya öncesinde, yayın için bir değerlendirme koşulu olarak kaydedilmesi şartına uyar. Özetin sonunda deneme kayıt adı ve URL'si ve kayıt numarası yer almalıdır.

Raporlama Yönergeleri:

İlgili EQUATOR Ağrı raporlama kılavuzları, çalışmanın türüne bağlı olarak takip edilmelidir. Örneğin, yayınlanmak üzere gönderilen tüm randomize kontrollü çalışmalar , şekil olarak tamamlanmış bir CONSORT akış şemasını içermelidir. Sistematik incelemeler ve meta-analizler, tamamlanmış PRISMA akış şemasına göre düzenlenmelidir. EQUATOR sihirbazı uygun kılavuz belirlemenize yardımcı olabilir.

Diğer kaynaklar, NLM'nin Araştırma Raporlama Yönergeleri ve Girişimlerinde bulunabilir.

Araştırma Verileri:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi olarak, araştırmaların açıklığının, şeffaflığının ve tekrarlanabilirliğinin kolaylaştırılması gerektiği düşüncesindeyiz. Konuyla ilgili olarak yazarları, araştırma verilerini etik değerlendirmelere tabi olarak uygun bir kamuya açık depoda paylaşmaya ve makale dosyalarına bir veri erişilebilirliği beyanı eklemeye teşvik ederiz.

MAKALE YAZIM KURALLARI VE ÖZELLİKLERİ**Genel Bilgileri:**

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nin dili Türkçe ve İngilizcedir. Yazılar anlaşılır, akıcı, yalın bir dille yazılmalı ve uzun anlatımlardan kaçınılmalıdır. Yabancı sözcüklerin ve kısaltmaların Türkçe karşılıkları ilk geçtikleri yerde parantez içinde tam olarak yazılmalıdır. İlaçların jenerik adları kullanılmalıdır. Yazılarda dipnot kullanılmamalıdır.

Yazarların adları makale başlığının bir satır sağ altında yer almalı ve yıldız (*) dipnotla unvanı, kurumu, adresi, telefonu, e-posta adresi verilmelidir. Yazara/metne özgü terminoloji ve/veya kısaltmalar ilk kullanımlarında dipnotla açıklanmalıdır. Yazar(lar) doğrudan çalışmayı yapan ve yazan kişi(ler) olmalıdır. Araştırma herhangi bir kuruluş tarafından maddi bir destek görmüşse veya bir kongrede tebliğ edilmişse makalenin başlığının son kelimesi üzerine (*) konularak dip not olarak belirtilmelidir. Makaleler A4 kağıt boyutunun bir yüzüne, tüm kenarlardan 2,5 cm. boşluk bırakılarak, Times New Roman yazı karakteriyle, 12 punto ve 1,5 satır aralığıyla iki yana yaslı olarak yazılmalıdır. Alt başlıklar ve başlık sonrası paragraflar arasında boşluk olmamalı ve hiçbir paragraf girintili yazılmamalıdır. Dipnotlar kaynak gösterimi için değil ek bilgi vermek için kullanılmalı, sayfa altında numaralandırılmalı, 10 punto ve 1 satır aralığı ile iki yana yaslı olarak yazılmalıdır. Sayfa numaraları da 11 puntoyla, sağ altta yer almalıdır. Kabul edilen yazılar sıraya alınarak yayımlanır.

Makalelerin hazırlanması:

Başlık sayfası

Yazının Türkçe ve İngilizce başlığı 19 kelimeyi geçmemelidir. Başlıkta kısaltma kullanılmamalıdır. Yazıda sadece çalışmaya doğrudan katkısı bulunan yazarların ad ve soyadları, unvanları, çalıştıkları kurumlar açık olarak yazılmalıdır. Çalışmayı destekleyen fon ve kuruluşlar başlık sayfasında belirtilmelidir. Başlık sayfasının en altına iletişim kurulacak yazarın iletişim bilgileri yazılmalıdır (Yazarın adı, soyadı, açık adresi, posta kodu, telefon numarası, faks numarası ve e-posta adresi yazılmalıdır).

Özetler:

Özetler Türkçe ve İngilizce olarak yazılmalı ve en fazla 250 kelime içermelidir. Özet, amaç-yöntem-sonuçlar-tartışma bölümlerine göre düzenlenmelidir. Makale için verilecek Türkçe ve İngilizce anahtar sözcükler (3-8 adet) özetlerden hemen sonra verilmelidir. İngilizce anahtar kelimeler "Medical Subject Headings (MESH)"e uygun olarak verilmelidir (<http://www.nlm.nih.gov/mesh/MBrowser.html>). Türkçe anahtar kelimeler Türkiye Bilim Terimleri (TBT)'ne uygun olarak verilmelidir (<http://www.bilimterimleri.com>). Özetlerde kısaltma kullanılmasından mümkün olduğunca kaçınılmalıdır. Kısaltma

kullanılması mutlaka gerektiğinde, ilk geçtiği yerde parantez içinde tanımlandıktan sonra kullanılmalıdır.

Makale Metni Gövdesi:

Araştırma yazıları: Özetten sonra giriş-yöntem ve gereç-sonuçlar tartışma-kaynaklar alt başlıklarını taşımalı, konuyla ilgili en son bilgiler yer almalı, yöntem açık olarak yazılmalı, kullanılan ölçüm araçlarının geçerlilik ve güvenilirlik çalışmaları ile değerlendirme için kullanılan testler, standart sapma, test değerleri belirtilmelidir. Tartışmada sonuçların klinik ve kuramsal yönlerden yararları, uygulanma alanları, getirdiği yenilikler vurgulanmalıdır. Yazılar 3500 kelimeyi geçmemelidir. Yazıda en çok 6 tablo veya figür olmalıdır. Kaynak sayısının 50 kaynağı aşmamasına dikkat edilmelidir.

Derleme yazıları: Amacı, kullanılan yöntem, yararlanılan kaynaklar, çıkarılan sonuçlar belirtilmelidir. Yazılar 3500 kelimeyi geçmemelidir. Yazıda en çok 6 tablo veya figür olmalıdır. Kaynak sayısının 50 kaynağı aşmamasına dikkat edilmelidir.

Olgu sunumu: Olgu sunumlarında giriş bölümü, olguların tanımı, tartışma ve kaynaklar bölümü yer almalıdır. Yazı 3000 kelimeyi geçmemelidir. Klinik veya kuramsal eğitim yönünden yararlı görülen tipik veya az görülen olguların kaynak sayısının 30 kaynağı aşmamasına dikkat edilmelidir. Tablo veya figür sayısı en fazla 2 olmalıdır.

Bakış Açıları: Bu yazılarda giriş bölümü ile mesleği etkileyen tartışmalı veya tartışılmalı konulara ilişkin deneyime dayalı görüşler literatür eşliğinde tartışılmalıdır. Yazı 2500 kelimeyi geçmemelidir. Kaynak Sayısı 20'yi geçmemelidir. Tablo veya figür sayısı 2'den fazla olmamalıdır.

Pratik Psikoterapi: Bu yazılarda giriş bölümü ile psikoterapi uygulaması ile ilgili bilgiler literatür eşliğinde tartışılmalıdır. Yazı 2500 kelimeyi geçmemelidir. Kaynak Sayısı 20'yi geçmemelidir. Tablo veya figür sayısı 2'den fazla olmamalıdır.

Yorumlar: Giriş bölümü ile tartışılan makalenin özellikleri literatür eşliğinde tartışılmalıdır. Yazı 2500 kelimeyi geçmemelidir. Kaynak Sayısı 20'yi geçmemelidir. Tablo veya figür sayısı 2'den fazla olmamalıdır.

Mektup: Dergide yer alan değişik konularda tartışma forumu oluşturulabilecek görüşler mektup bölümünde yer almaktadır. Yazı 500 kelimeyi geçmemelidir.

Çeviri, kitap ve tez tanıtımı: Çeviri, kitap ve tez tanıtımları kısa olmalı, çeviri yazılarının ve tezin bir özgün kopyası gönderilmelidir. Yazı 500 kelimeyi geçmemelidir.

Teşekkür: Teşekkür yazısı katkı koyan bireylere veya çalışmayı destekleyen fon ve kuruluşlara varsa eklenebilir.

Kaynaklar: Dergide makale içi atıflar ve kaynakça uluslararası APA formatına göre gösterilmelidir. Ayrıntılı bilgi için web sayfasında Kaynaklar bölümüne bakınız.

Metin İçinde Kaynak Gösterme

Kaynaklar metinde parantez içinde yazarların soyadı ve yayın tarihi yazılarak belirtilmelidir. Birden fazla kaynak gösterilecekse kaynaklar arasında (;) işareti kullanılmalıdır. Kaynaklar alfabetik olarak sıralanmalıdır.

Tek yazarlı kaynak;

(Akyolcu, 2007)

İki yazarlı kaynak;

(Sayiner ve Demirci, 2007, s. 72)

Üç, dört ve beş yazarlı kaynak;

Metin içinde ilk kullanımda: (Ailen, Ciambri ve Welch 2000, s. 12-13) Metin içinde tekrarlayan kullanımlarda: (Ailen ve ark., 2000)

Altı ve daha çok yazarlı kaynak;

(Çavdar ve ark., 2003)

Kaynaklar Bölümünde Kaynak Gösterme

Kullanılan tüm kaynaklar metnin sonunda ayrı bir bölüm halinde yazar soyadlarına göre alfabetik olarak numaralandırılmadan verilmelidir.

Kaynak yazımı ile ilgili örnekler aşağıda verilmiştir.

Kitap

a) Kitap Örneği

Karasar, N. (1995). Araştırmalarda rapor hazırlama (8.bs). Ankara: 3A Eğitim Danışmanlık Ltd.

b) Kitap Çevirisi

Mucchielli, A. (1991). Zihniyetler (A. Kotil, Çev.). İstanbul: İletişim Yayınları.

c) Çok Yazarlı Türkçe Kitap

Tonta, Y., Bitirim, Y. ve Sever, H. (2002). Türkçe arama motorlarında performans değerlendirme. Ankara: Total Bilişim.

d) İngilizce Kitap

Kamien R., & Kamien, A. (2014). Music: An appreciation. New York, NY: McGraw-Hill Education.

e) İngilizce Kitap İçerisinde Bölüm

Bassett, C. (2006). Cultural studies and new media. In G. Hall & C. Birchall (Eds.), New cultural studies: Adventures in theory (pp. 220-237). Edinburgh, UK: Edinburgh University Press.

f) Türkçe Kitap İçerisinde Bölüm

Erkmen, T. (2012). Örgüt kültürü: Fonksiyonları, öğeleri, işletme yönetimi ve liderlikteki önemi. M. Zencirkıran (Ed.), Örgüt sosyolojisi kitabı içinde (s. 233-263). Bursa: Dora Basım Yayın. Makale

a) Makale

Granqvist, P. ve Kirkpatrick, L. A. (2004). Religious conversation and perceived childhood attachment: a meta-analysis, The International Journal for the Psychology of Religion, 14(4), 223-250.

b) Yediden Fazla Yazarlı Makale

Rodriguez, E.M., Dunn, M.J., Zuckerman, T., Hughart, L., Vannatta, K., Gerhardt, C.A., Saylor, M., Schuele, C.M. ve Compas, B.E. (2011). Mother-child communication and maternal depressive symptoms in families of children with cancer: integrating macro and micro levels of analysis. Journal of Pediatric Psychology, 38 (7), 732-743

Tez, Sunum, Bildiri

a) Tezler

Karaaziz, M. (2017). Kıbrıs ve Türkiye Doğumlu Kumar Bağımlılarının Kumar Oynama Nedenlerinin ve Kültürlenme Tutum Farklılıklarının Karşılaştırılması. (Yayınlanmamış Doktora Tezi). Yakın Doğu Üniversitesi, Sosyal Bilimler Enstitüsü, Lefkoşa-KKTC.

b) Kongre Bildirisi

Çepni, S., Bacanak A. ve Özsevgeç T. (2001, Haziran). Fen bilgisi öğretmen adaylarının fen branşlarına karşı tutumları ile fen branşlarındaki başarılarının ilişkisi. X. Ulusal Eğitim Bilimleri Kongresi'nde sunulan bildiri, Abant İzzet Baysal Üniversitesi, Bolu.

Tablolar ve Şekiller:

Tablolar tek satır aralıklı olarak ayrı bir sayfaya yazılmalıdır. Her tablonun üstünde numarası ve açıklayıcı bilgi olmalıdır. Tabloda kısaltmalara yer verilmişse bu kısaltmaların açılımı alt yazı şeklinde tablonun altında ve alfabetik sıraya göre yer almalıdır. Daha önce basılmış veya elektronik olarak yayınlanmış tablolardan yararlanıldığında hem yazarı hem de basım evinden yazılı izin alınmalıdır ve bu, dergi editörlüğüne faks veya posta ile gönderilmelidir.

Tablo içerisinde enlemesine ve boylamasına çizgiler kullanılmamalı, sadece üst ve altına düz çizgi çizilmelidir.

Makalelerde yer alan görseller ve nota örnekleri kısa açıklamalarıyla birlikte ortalananmış olarak Şekil/Tablo 1. ... şeklinde numaralandırılmalıdır. Tüm görseller, baskıda çözünürlük problemi olmaması için minimum 300 dpi çözünürlükte ve JPG formatında ayrıca gönderilmelidir. Metin içerisindeki yerleştirmeler, gerektiğinde sayfa düzenine göre değiştirilebilirler.

Tablo, grafik, şekil ve fotoğraflar altıdan çok olmamalı, ayrı bir sayfaya konmalı, yazıdaki yeri belirtilmelidir. Arabik rakamlar ve ondalıklarda nokta kullanılmamalıdır.

Makale Gönderme:

Makale gönderimleri dergi park sistemi üzerinden olup aşağıda verilmiştir;

Link: <https://dergipark.org.tr/tr/>

KÖR HAKEMLİK VE DEĞERLENDİRME SÜRECİ

Kör hakemlik, bilimsel yayınların en yüksek kalite ile yayınlanması için uygulanan bir yöntemdir. Bu yöntem, bilimsel çalışmaların nesnel (objektif) bir şekilde değerlendirilme sürecinin temelini oluşturmaktadır ve birçok bilimsel dergi tarafından tercih edilmektedir. Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi gönderilen tüm çalışmalar aşağıda belirtilen aşamalara göre körleme yoluyla değerlendirilmektedir.

Körleme Hakemlik Türü:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi, tüm çalışmalarında değerlendirme sürecinde çifte körleme yöntemini kullanmaktadır.

Çift körleme yönteminde çalışmaların yazar ve hakem kimlikleri gizlenmektedir.

İlk Değerlendirme Süreci:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi gönderilen çalışmalar ilk olarak editörler tarafından değerlendirilir. Bu aşamada, derginin amaç ve kapsamına uymayan, Türkçe ve İngilizce olarak dil ve anlatım kuralları açısından zayıf, bilimsel açıdan kritik hatalar içeren, özgün değeri olmayan ve yayın politikalarını karşılamayan çalışmalar reddedilir. Reddedilen çalışmaların yazarları, gönderim tarihinden itibaren en geç bir ay içinde bilgilendirilir. Uygun bulunan çalışmalar ise ön değerlendirme için çalışmanın ilgili olduğu alana yönelik bir alan editörüne gönderilir.

Ön Değerlendirme Süreci:

Ön değerlendirme sürecinde alan editörleri çalışmaların, giriş ve alan yazın, yöntem, bulgular, sonuç, değerlendirme ve tartışma bölümlerini dergi yayın politikaları ve kapsamı ile özgünlük açısından ayrıntılı bir şekilde inceler. Bu inceleme sonucunda uygun bulunmayan çalışmalar en geç dört hafta içerisinde alan editörü değerlendirme raporu ile iade edilir. Uygun bulunan çalışmalar ise hakemlendirme sürecine alınır.

Hakemlendirme Süreci:

Çalışmalar içeriğine ve hakemlerin uzmanlık alanlarına göre hakemlendirilir. Çalışmayı inceleyen alan editörü, Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi hakem havuzundan uzmanlık alanlarına göre en az iki hakem önerisinde bulunur veya çalışmanın alanına uygun yeni hakem önerir. Alan editöründen gelen hakem önerileri editörler tarafından değerlendirilir ve çalışmalar editörler tarafından hakemlere iletilir. Hakemler değerlendirdikleri çalışmalar hakkındaki hiçbir süreci ve belgeyi paylaşmayacakları hakkında garanti vermek zorundadır.

Hakem Raporları:

Hakem değerlendirmeleri genel olarak çalışmaların; özgünlük, kullanılan yöntem, etik kurallara uygunluk, bulguların ve sonuçların tutarlı bir şekilde sunumu ve literatür açısından incelenmesine dayanmaktadır. Bu inceleme aşağıdaki unsurlara göre yapılır:

Giriş ve literatür: değerlendirme raporu çalışmada ele alınan problemin sunumu ve amaçları, konunun önemi, konuyla ilgili literatür kapsamı, güncelliği ve çalışmanın özgünlüğü hakkında görüş içerir.

Yöntem: değerlendirme raporu, kullanılan yöntemin uygunluğu, araştırma grubunun seçimi ve özellikleri, geçerlik ve güvenilirlik ile ilgili bilgilerin yanı sıra veri toplama ve analiz süreci hakkında görüş içerir.

Bulgular: değerlendirme raporu, yöntem çerçevesinde elde edilen bulguların sunumu, analiz yöntemlerinin doğruluğu, araştırmanın amaçları ile erişilen bulguların tutarlılığı, ihtiyaç duyulan tablo, şekil ve görsellerin verilmesi, kullanılan testlerin kavramsal açıdan değerlendirilmesine yönelik görüşler içerir.

Değerlendirme ve tartışma: değerlendirme raporu, bulgulara dayalı olarak konunun tartışılması, araştırma sorusuna/larına ve hipoteze/lerere uygunluk, genellenebilirlik ve uygulanabilirlik ile ilgili görüş içerir.

Sonuç ve öneriler: değerlendirme raporu literatüre katkı, gelecekte yapılabilecek çalışmalara ve alandaki uygulamalara yönelik öneriler hakkında görüş içerir.

Stil ve anlatım: değerlendirme raporu, çalışma başlığının içeriği kapsamı, Türkçe'nin kurallara uygun kullanımı, gönderme ve referansların Dergi yayın ilkeleri başlığı altındaki örneklere doğrultusunda tam metnin diline uygun verilmesi ile ilgili görüş içerir.

Genel değerlendirme: değerlendirme raporu çalışmanın bir bütün olarak özgünlüğü, literatüre ve alandaki uygulamalara sağladığı katkı hakkında görüş içerir.

Değerlendirme sürecinde hakemlerin çalışmanın tipografik özelliklerine göre düzeltme yapmaları beklenmemektedir.

Hakem Değerlendirme Süreci:

Hakem değerlendirme süreci için hakemlere verilen süre 3 haftadır. Hakemlerden veya uzman yayın kurulu üyesinden gelen düzeltme önerilerinin yazarlar tarafından 3 hafta içerisinde tamamlanması zorunludur. Hakemler bir çalışmanın düzeltmelerini inceleyerek uygunluğuna karar verebilecekleri gibi gerekliyse birden çok defa düzeltme talep edebilir.

Değerlendirme Sonucu:

Hakemlerden gelen görüşler, alan editörü tarafından en geç iki (2) hafta içerisinde incelenir. Bu inceleme sonucunda alan editörü çalışmaya ilişkin nihai kararını editörlere iletir.

Yayın Kurulu Kararı:

Editörler, alan editörü ve hakem görüşlerine dayanarak çalışma ile ilgili yayın kurulu görüşlerini hazırlar. Hazırlanan görüşler editör tarafından alan editörü ve hakem önerileri ile birlikte en geç 1 hafta içerisinde yazar(lar)a iletilir. Bu süreçte olumsuz görüş verilen çalışmalar intihal denetimi talep edilmeksizin iade edilir. Olumlu görüş verilen çalışmalar için son karar, intihal denetim raporları sonuçlarına göre verilir.

Yayın Değerlendirme Süreci:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'ne gönderilen çalışmaların yayın değerlendirme sürecinin yaklaşık 3 ay içerisinde sonuçlandırılması öngörülmektedir. Ancak, hakem ya da editörlerin yazar(lar)dan düzeltme istedikleri tarih ile yazar (lar)ın düzeltmeleri tamamladıkları tarih arasındaki süre, bu 3 aylık süreye dahil edilmemektedir.

Değerlendirme Sonucuna İtiraz Etme:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nde değerlendirme sonucuna, yazar (lar)ın itiraz etme hakkı saklıdır. Yazar(lar), çalışmalarını için yapılan değerlendirme sonucu görüş ve yorumlara ilişkin itiraz gerekçelerini bilimsel bir dille ve dayanaklarını referans göstererek "mehmet.cakici@neu.edu.tr" adresine e-postayla iletmelidir. Yapılan itirazlar editörler tarafından en geç bir ay içerisinde incelenerek (Çalışmanın hakemlerine yapılan itirazlar hakkında görüş talep edilebilir) yazar (lar)a olumlu veya olumsuz dönüş sağlanır. Yazar (lar)ın değerlendirme sonucuna itirazları olumlu bulunması durumunda, yayın kurulu çalışmanın konu alanına uygun yeni hakemlendirme yaparak değerlendirme sürecini yeniden başlatır.

Atf ve Kaynakça Denetimi:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi yayın etiğine göre, makalelere atıfların doğru ve eksiksiz verilmesi zorunludur. Yazarlar tamamen orijinal eserler yazdıklarından ve yazarlar başkalarının eserlerini ve / veya sözlerini kullanmışlarsa, bunun uygun şekilde alıntılanmış olduğundan veya alıntı yapıldığından emin olmalıdırlar. Bu denetim, önce değerlendirme sırasında hakemlerce, sonra benzerlik-intihal (iThenticate) programı sonucuna göre editörlerce yapılır. Tüm çalışmalar intihal raporu intihal.net üzerinden kontrol edilmektedir.

Makalenin Erken Görünümü ve Yayınlanması:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nde sayfa düzenlemesi yapılan makaleler elektronik ortamda "Erken Görünüm" başlığı altında Dijital Nesne Kimlik Numarası (Digital Object Identifier, DOI) verilerek yayınlanır. Erken görünümdeki makaleler dergide yayınlanırken gerekli olduğunda küçük düzenlemeler yapılabilir. Erken görünümdeki makaleler sırası geldiğinde Editörler Kurulu'nun belirlediği cilt ve sayıda, üzerindeki "ERKEN GÖRÜNÜM" filigranı kaldırılarak yayınlanır. Elektronik dergi yayımlandıktan sonra, aynı ay içerisinde aynı makalelerin yer aldığı Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nin basılı hali de yayınlanır.

Arşivleme:

Kıbrıs Türk Psikiyatri ve Psikoloji Dergisi'nde yayımlanan makalelere ilişkin veriler ve tam metinler .pdf olarak TÜBİTAK ULAKBİM DERGİPARK, OCLC WorldCat ve EBSCOhost dijital arşivleme sunucusunda yayımlanmaktadır (<https://dergipark.org.tr/en/pub/ktppdergisi/archive>), (<https://www.worldcat.org/>) erişime kapalı bir şekilde saklanır ve arşivlenir (LOCKSS; <https://dergipark.org.tr/en/pub/ktppdergisi/lockss-manifest>).

Kalite Standartları Hakkında EASE Açıklaması

Avrupa Bilim Editörleri Birliği, tüm editörleri COVID-19 hakkındaki araştırma raporlarının gerekli standartları karşılaması ve üzerinde anlaşılacak yönergeler uymasını ve tüm sınırlılıkların açıkça belirtilmesini sağlamaya teşvik eder. EASE üyeleri COVID-19 pandemisi ile ilgili birçok çalışmada kötü raporlama standartlarına dikkat çekmiştir. Enfekte hastaları tedavi etmek ve koronavirüsün yayılmasını sınırlamak için tıbbi ve halk sağlığı önlemlerinin başarılı olması, yüksek kaliteli kanıtlara bağlıdır. EASE, pandemi ile ilgili verilerin toplanmasına ve yayımlanmasına dahil olan herkesi etik yönergeler uymaya ve standart raporlama yönergelerine (bkz. www.equator-

network.org), örneğin klinik arařtırmalar için CONSORT'a ve epidemiyolojik çalışmalar için STROBE'ye baęlı kalmaya davet etmektedir.

Demografik veriler tüm bireylerin yař ve cinsiyetini içermeli ve cinsiyet ve toplumsal cinsiyet hakkındaki verilerin tam ve doęru bir şekilde raporlanmasını saęlamak için SAGER yönergelerini takip etmelidir. Mümkmün olduęunda verilerin tam ve açık olarak paylařılmasını teřvik ediyoruz.

Kriz zamanlarında, gerekli tüm verilerin elde edilmesinin her zaman mümkmün olmayabileceęini ve zorunlu olarak raporlamanın kısıtlanabileceęini kabul ediyoruz. Yanlıř yorumlardan kaçınmak ve aynı zamanda bilgilerin hızlı bir şekilde paylařılmasını kolaylařtırmak için, editörleri yazarların arařtırmalarına bir sınırlama bildirimini eklemeye teřvik ediyoruz. Bu, okuyucuları bilgilendirecek ve yayınlanan herhangi arařtırmaların kullanılıřlıęını güçlendirecektir.

Buna ek olarak, her zaman yüksek dil standartlarını savunurken, önemli arařtırmaların hızlı bir şekilde yayılmasını kolaylařtırmak amacıyla, yayımlanmıř arařtırmanın anlaşılabilir olmasını saęlamak ve yazarlar üzerinde katı dil gereklilikleri uygulamamak için, editöryal katılımı sınırlamanın gerekli olabileceęini kabul ediyoruz.

İlgili bildiriye <https://ease.org.uk/publications/ease-statements-resources/ease-statement-on-quality-standards/web> adresinden ulařılabilir.



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 - ✓ PSİKODRAMA EĞİTİMİ
 - ✓ SPOR PSİKOLOJİSİ EĞİTİMİ
- ✓ TERAPİDE KLİNİK GÖRÜŞME TEKNİKLERİ EĞİTİMİ
 - ✓ ADLİ PSİKOLOJİ EĞİTİMİ
- ✓ ÇOCUK DİKKAT TESTLERİ EĞİTİMİ
 - ✓ YAŞAM BECERİLERİ EĞİTİMİ
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