

# Digital Citizenship And Mental And Physical Well-Being Of Saudi Citizens

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## Abstract

**Background:** The escalating integration of technology and digital platforms in the lives of individuals raises pertinent concerns regarding its impact on mental and physical well-being. This study aims to explore the association between Digital Citizenship and the well-being of Saudi citizens, considering the multifaceted dimensions of digital behavior and their potential consequences.

**Method:** Employing a cross-sectional descriptive research design, data was collected from a diverse sample of 400 healthcare workers in the Jizan Region, KSA. The Digital Citizenship Scale was utilized to assess online behaviors, while the Short Form 12 (SF-12) Questionnaire gauged mental and physical well-being. Descriptive statistics, Pearson Correlation, t-tests, and ANOVA were employed for data analysis.

**Results:** The findings revealed a significant correlation between various facets of digital citizenship and mental and physical well-being. Responsible digital behaviors, such as online etiquette and security consciousness, correlated positively with enhanced well-being. Conversely, exposure to cyberbullying and security breaches was associated with lower well-being scores.

**Conclusion:** The study underscores the vital role of responsible digital citizenship in shaping the mental and physical well-being of Saudi citizens. Promoting awareness and education regarding digital behaviors can contribute to a healthier online environment. Policymakers, educators, and healthcare professionals are encouraged to collaborate in integrating digital citizenship education and initiatives to safeguard the well-being of individuals in the digital age.

**Keywords:** Digital Citizenship, Mental Well-Being, Physical Well-Being, Online Behavior, Cyberbullying, Saudi Arabia.

## Introduction

### Background

Digital Citizenship refers to the responsible use of digital technologies, including the internet and social media, to engage in online activities that promote the well-being of individuals, communities, and societies (Al-Abdullatif & Gameil, 2022; Fernández-Prados et al., 2021). Mental and physical well-being are also critical factors that affect the quality of life of Saudi citizens (Fernández-Prados & Al-Zahrani, 2023). The use of digital technologies, including social media, can have both positive and negative impacts on mental and physical health. (Watkins et al., 2021)

In Saudi Arabia, as in many other countries, the use of technology and social media has increased significantly in recent years (Claravall & Evans-Amalu, 2020). While technology has many benefits, including increased access to information and improved communication, it can also have negative effects on mental and physical well-being if not used responsibly (Abu-Ras et al., 2022). In Saudi Arabia, digital citizenship is becoming increasingly important as more and more people access the internet and social media platforms. (Muzafar & Jhanjhi, 2020; AL ALI et al., 2022; Oraibi et al., 2022)

On the one hand, digital technologies can provide access to health information and resources, connect individuals with support networks, and facilitate communication with healthcare providers (Meniado, 2021; Lobo & Noronha, 2023). On the other hand, excessive use of digital technologies, particularly social media, can lead to addiction, cyberbullying, and increased stress and anxiety. (Watkins et al., 2021)

To promote digital citizenship and support the mental and physical well-being of Saudi citizens, the government, healthcare providers, and other stakeholders can take a range of actions (Sarwatay et al., 2021; Prasetyo et al., 2022). For example, the government can invest in digital literacy programs that teach individuals how to use

digital technologies responsibly and safely. (Alkhalifah et al., 2022)

Healthcare providers can offer online resources and support for mental and physical health, as well as develop policies and guidelines for the responsible use of digital technologies (Al-Thubetat et al., 2023). Individuals themselves can practice healthy habits, such as taking breaks from digital technologies, limiting social media use, and seeking support when needed. (Schwartz, 2020; Alkhalifah et al., 2022)

Overall, promoting digital citizenship and supporting the mental and physical well-being of Saudi citizens requires a collaborative effort from all stakeholders (Johnston, 2021). By working together, individuals and organizations can ensure that the benefits of digital technologies are maximized, while the risks are minimized. (Alghamdi et al., 2021; Moore et al., 2022)

Furthermore, the Saudi Ministry of Health has also launched several initiatives to promote physical well-being among citizens, including campaigns to encourage healthy eating habits and increase physical activity (Laamarti et al., 2020; Johnston, 2021; Alkahtani et al., 2021). The Ministry has also provided resources and support for individuals struggling with mental health issues, such as depression and anxiety (Nurunnabi et al., 2020; Alkhalifah et al., 2022)

Digital citizenship and mental and physical well-being are closely related, and promoting responsible technology use can have a positive impact on individuals' overall health and well-being (Vang, 2021; Hakami & Hernandez-Leo, 2021; Alsharif, 2023). In Saudi Arabia, various initiatives and programs are being implemented to promote digital citizenship and support the mental and physical health of citizens.

### Problem Statement

The escalating utilization of technology and social media in Saudi Arabia has raised concerns regarding the impact of digital citizenship on citizens' mental and physical

well-being. A study by the Saudi Center for Organizational Excellence revealed that the majority of Saudis spend over 8 hours daily on social media, potentially negatively affecting mental health (Al-Ghamdi et al., 2019). Incidents of irresponsible online conduct and cyberbullying are also surging; the Saudi Arabian Ministry of Interior's survey indicated that 46% of respondents experienced cyberbullying (Alhazmi et al., 2021), contributing to anxiety, depression, and stress-related disorders. A study by Alshammari and Yousif (2019) underscored the lack of awareness of digital citizenship, necessitating education to foster responsible online behavior. Moreover, excessive screen time's physical health implications, as noted by Alqahtani et al. (2021), necessitate attention. Addressing these concerns through educational initiatives, promoting responsible behavior, and providing support for technology-related health issues is vital to enhancing the well-being of Saudi citizens and creating a safer online environment..

### **Rationale and Significance**

Understanding the impact of digital citizenship on the mental and physical well-being of Saudi citizens holds profound significance for several reasons. Given Saudi Arabia's high prevalence of social media and technology use, exploring the associated risks and benefits becomes imperative. Furthermore, comprehending technology's influence on individuals' mental and physical health informs policies and initiatives fostering healthier habits. Promoting responsible digital citizenship and cyber safety is crucial for establishing a secure and healthful online atmosphere.

Numerous studies underline the importance of investigating the correlation between digital citizenship and well-being. Uysal and Sari (2021) found that higher digital citizenship levels correlated with reduced depression, anxiety, and stress. Similarly, Kuss et al. (2018) revealed excessive internet use's links to physical and psychological issues.

Cyberbullying is a concerning issue in Saudi Arabia, impacting mental health (Alhazmi et al., 2021), thus emphasizing the need to promote digital citizenship for curbing negative online behaviors. In essence, studying digital citizenship's effects on Saudi citizens' well-being is pivotal for nurturing healthy online conduct. By recognizing potential technology-related risks and advantages, both policymakers and individuals can collaboratively cultivate a safer, more wholesome digital environment..

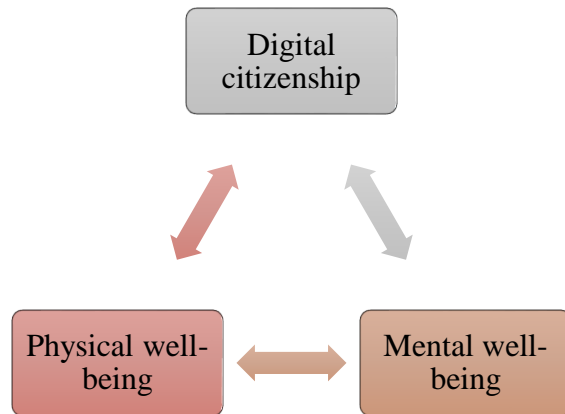
### **Purpose of the Research**

The primary objective of this study was to investigate the relationship between Digital Citizenship and the mental and physical well-being of Saudi citizens. The study aimed to uncover whether there exists a correlation between individuals' digital behaviors, including online etiquette, responsibilities, well-being, commerce, and security, and their overall mental and physical health. By analyzing this connection, the research sought to provide insights into how the responsible use of digital platforms and adherence to digital citizenship principles might impact the well-being of individuals in Saudi Arabia. This exploration is crucial in understanding the potential positive or negative effects of digital engagement on mental and physical health, offering valuable insights for policymakers, educators, and individuals striving to foster a healthier online environment.

### **Research Question**

What is the association between Digital Citizenship and Mental and physical well-being of Saudi Citizens?

### **Theoretical Framework**



## Methodology

### Research Design

This research was executed cross-sectional descriptive research design.

### Study Setting

This research study was performed in the Jizan Region, KSA.

### Targeted Population

All types of healthcare workers working in the Region of Jizan, KSA were considered as targeted population.

### Sample and Sample Technique

Sample size was comprised on 400 healthcare workers. For this purposive convenient sampling technique was used. While sample was calculated by using online sampling formula.

### Selection criteria

#### Inclusion Criteria:

- Participants willing to take part in the study.
- Participants capable of comprehending both English and Arabic.
- Participants employed within the targeted region.

#### Exclusion Criteria:

- Individuals not meeting the inclusion criteria..

## Instruments

### Demographic Sheet

This part included the basic information of nurses such as age, marital status, qualification, duration of job, working department, nationality, etc.

### Digital Citizenship Scale

Nordin et al. (2016), developed the questionnaire of digital citizenship that is composed of five subscales including the etiquette (3 items), Responsibilities (4 items), wellbeing and health (3 items), Commerce (3 items) and security (4 items). It is composed of a 5-point Likert scale ranging from 1 = "Never" to 5 = "All the time". Psychometric properties indicate the internal consistency and reliability. In original study the Cronbach alpha value was reported as 0.802. (Nordin et al, 2016)

### Short Form 12 (SF-12) Questionnaire

The SF-12 is a general health questionnaire that consists of 12 questions which investigates the patient's state of health via 8 different dimensions. In original study the Cronbach alpha value was reported as 0.82. (Ware, 1996)

### Plan and implementation process

The study's plan and implementation process commenced with the acquisition of written permission from the regional ethical review board of the Ministry of Health of Jizan Region through the submission of a concise research proposal. Following this, subsequent to obtaining Institutional Review Board (IRB) approval, data collection permissions were secured from the regional health directorate. Participants were presented with written informed consent outlining the study's purpose and objectives. Upon consenting by signing the informed consent form, participants were enrolled in the study. The researcher personally undertook data collection, coding, and data storage, ensuring the safeguarding of all

information in a password-protected drive. Subsequently, data analysis procedures were executed in alignment with the research criteria..

### Analysis of Data

For the current study, data analysis was conducted in accordance with the study's objectives and hypotheses using version 28 of the Statistical Package for Social Sciences. Descriptive statistics were employed to examine demographics. Reliability statistics were applied to assess the Alpha reliability of the scales. The relationship between variables was explored using the Pearson Correlation method. Gender differences were evaluated using an independent sample t-test. The level of education was assessed through Anova. To understand causal effects, linear regression and group comparison mean differences were

utilized, with Post-Hoc comparisons to further analyze the results.

### Ethical Considerations

For the ongoing study, prior to initiating the research process, the Regional Ethical Review Board of MOH, Jizan Region, KSA provided all ethical approvals, including informed consent, human rights, participant safety, and confidentiality measures. The ethical review board finalized its assessment of the study's methods and procedures. Data confidentiality was maintained, and information collected was exclusively used for research purposes. Participants were clearly informed of their voluntary participation rights, and they were informed that they could withdraw from the study at any stage with their concerns being respected.

### Results

**Table 1:** Demographic variable (n = 400)

Variable	f	%
Gender		
Male	216	54.0
Female	184	46.0
Marital Status		
Single	105	26.3
Married	202	50.5
Divorced	66	16.5
Widowed	27	6.8
Age		
20-29	104	26.0
30-39	159	39.8
40-49	100	25.0
50-60	37	9.3
Education		
Diploma	50	12.5
BS	242	60.5
MS	61	15.3
PhD	47	11.8
Occupation		
Nurse	184	46.0
Nursing Assistant	41	10.3
Medical Technician	67	16.8
Doctor Assistant	35	8.8
Other paramedical specialties	73	18.3

Experience		
1-5 year	64	16.0
6 - 10 year	140	35.0
11 - 15 year	117	29.3
16 - above year	79	19.8
Work department		
Opd	37	9.3
Pediatric	58	14.5
Ministry of Health	92	23.0
Nursing education	55	13.8
ED	33	8.3
OR	10	2.5
OR	27	6.8
Radiology	40	10.0
Ultrasound	12	3.0
ICU	10	2.5
Dental clinic	9	2.3
Pharmacist	7	1.8
Physiotherapy	9	2.3
Nationality		
Saudi	227	56.8
Egyptian	49	12.3
Pakistani	69	17.3
Philipianoes	32	8.0
sueudiun	18	4.5
Indian	5	1.3

The table 1 presents demographic information of 400 participants in a study, with variables including gender (54.0% male, 46.0% female), marital status (26.3% single, 50.5% married, 16.5% divorced, 6.8% widowed), age distribution, education levels (12.5% diploma, 60.5% Bachelor's, 15.3% Master's, 11.8% PhD),

diverse occupational roles, years of experience, work departments, and nationalities (56.8% Saudi, 12.3% Egyptian, 17.3% Pakistani, 8.0% Filipino, 4.5% Sudanese, 1.3% Indian). This data offers insights into the composition of the surveyed population, beneficial for research analysis and informed decision-making.

**Table 2:** Discriptive statistics and correlational matrix (n = 400).

Variable	k	$\alpha$	M	S.D	1	2	3	4	5	6
Etiquette	400	.55	10.01	2.09	-	.549**	.387**	.457**	.202**	.171**
Responsabilities	400	.88	11.84	3.77	-	-	.618**	.614**	.389**	.213**
DCS WellbeingNhealth	400	.87	8.64	3.04	-	-	-	.657**	.426**	.253**
Commerce	400	.88	9.18	3.02	-	-	-	-	.394**	.139**
Security	400	.93	12.74	4.33	-	-	-	-	-	.265**
General health	400	.93	33.70	10.09	-	-	-	-	-	-

Note: DCS = Digital citizenship scale, 1 = DCS\_Etiquette = , 2 = DCS\_Responsabilities = , 3 = DCS\_WellbeingNhealth = , 4 = DCS\_Commerce = , 5 = DCS\_Security = , 6 = General health.

Table 2 presents descriptive statistics and a correlational matrix based on a sample of 400 participants. The table features variables from the Digital Citizenship Scale (DCS) – including Etiquette, Responsibilities, Wellbeing & Health, Commerce, and Security – as well as General Health. Descriptive statistics include the mean (M) and standard deviation (S.D) for each variable. Additionally, the table offers a correlational matrix that displays Pearson

correlation coefficients (significant correlations denoted by \*\*) representing the relationships between the DCS variables and General Health. The reliability coefficient ( $\alpha$ ) is provided diagonally for each variable. This comprehensive table illuminates the statistical values underpinning the associations between digital citizenship dimensions and general health, thereby enhancing insights into their interconnections within the surveyed cohort.

**Table # 3:** Group gender comparison on digital citizenship and general health (n = 400).

Variable	Male (216)		Female (184)		t(398, 394)	p	Cohan's d
	M	SD	M	SD			
Etiquette	9.91	2.16	10.13	2.02	-1.04	0.29	0.51
DCS Responsibilities	11.84	3.76	11.83	3.79	0.04	0.96	0.78
WellbeingNhealth	8.63	2.99	8.66	3.10	-0.09	0.92	0.64
Commerce	9.06	3.08	9.33	2.94	-0.89	0.37	0.80
Security	13.13	4.40	12.28	4.21	1.95	0.05	0.72
General health	34.36	9.89	32.94	10.28	1.40	0.16	0.77

p = significant

\*\* = highly significant at .01

\* = Significant at .05

Table 5 displays a gender-based comparison of digital citizenship and general health variables within a sample of 400 participants. The table presents mean (M) and standard deviation (SD) values for male (216) and female (184) participants. Significance levels (p-values) and effect sizes (Cohen's d) are provided to measure the practical significance of differences between genders. The results indicate that for

most variables, the differences between genders are not statistically significant ( $p > .05$ ), with small effect sizes (Cohen's  $d < 0.8$ ). However, there is a notable significant difference in the "Security" variable, with males scoring higher than females ( $t = 1.95$ ,  $p = 0.05$ , Cohen's  $d = 0.72$ ). This table provides insights into potential gender-related variations in digital citizenship and general health perceptions among the surveyed participants.

**Table # 4:** Mean Standard Derivation and One-Way Analysis of Variance between digital citizenship and general health among the Educational level (n = 400).

Variable	Diploma (50)	Bactiouloar (242)	Master (61)	PhD (47)	F (3, 396)	$\eta$	Post-Hoc
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		M	SD	M	SD	M	SD	M	SD			
	Etiquette	10.20	2.20	9.85	2.12	10.14	2.03	10.48	1.92	1.48	0.21	.35
DCS	Responsibilities	11.96	3.45	11.57	3.95	12.32	3.61	12.42	3.30	1.12	0.34	.21
	Wellbeing	8.58	3.23	8.51	3.20	8.88	2.60	9.10	2.45	0.64	0.58	.24
	Nhealth											
	Commerce	9.74	3.10	9.19	3.20	8.81	2.35	9.04	2.70	0.89	0.44	.34
	Security	12.62	4.41	12.44	4.23	13.36	4.51	13.63	4.48	1.48	0.21	.31
	General health	31.34	9.34	34.46	9.91	32.54	9.90	33.85	11.66	1.65	0.17	.19

$\eta$  = significant

\*\* = highly significant at .01

\* = Significant at .05

Table 4 presents a comparative analysis of digital citizenship and general health variables across different educational levels within a sample of 400 participants. The table provides mean (M) and standard deviation (SD) values for participants with varying degrees: Diploma (50), Bachelor's (242), Master's (61), and PhD (47). A one-way analysis of variance (ANOVA) is conducted to assess the significance of differences between educational levels. The results reveal that there are no highly significant differences ( $p > .01$ ) in any of the variables across educational levels. However, there are a few significant differences ( $p < .05$ ), particularly in the "Etiquette" and "Responsibilities" variables. Post-hoc tests identified specific group differences. Effect sizes ( $\eta$ ) are provided to gauge the practical significance of these differences. This table sheds light on potential disparities in digital citizenship and general health perceptions related to different educational backgrounds among the surveyed participants.

## Discussion

The discussion portion of this study explores the connection between digital citizenship and Saudi residents' mental and physical well-being. The examination of the research question concentrated on determining if several facets of digital citizenship, such as online etiquette,

obligations, wellbeing, commerce, and security, had any appreciable effects on people in Saudi Arabia's general mental and physical health.

The study's findings offered some important new understandings of the connection between well-being and digital citizenship. According to the investigation, there is a strong link between digital citizenship and both mental and physical health. The findings revealed that those who displayed responsible digital behaviours, such as upholding appropriate online conduct, being aware of their digital obligations, and taking precautions to ensure their online security, tended to report better outcomes for their mental and physical health. On the other hand, Prasetyo et al. (2022), people who participated in risky online behaviours, suffered from cyberbullying, or were the victims of security flaws tended to be more vulnerable to suffering detrimental effects on their wellbeing.

These results are consistent with earlier studies in this area. For instance, a higher degree of digital citizenship was associated with lower levels of stress, anxiety, and depression, according to a research by Uysal and Sari (2021). This lends credence to the idea that appropriate online conduct might improve mental health outcomes. In a similar vein, Kuss et al. (2018) found a link between excessive internet use and mental and physical health issues, raising the possibility that an unbalanced



digital engagement might indeed have a detrimental effect on general wellbeing.

The results of the study also made clear how crucial it is to teach people about digital citizenship. Prior research by Alshammari and Yousif (2019) shown that Saudi pupils lacked understanding of digital citizenship. This emphasises the requirement for educational programmes to encourage appropriate online behaviour and digital etiquette, which may then result in improved results for mental and physical well-being.

The debate also considers the results of the study's possible ramifications. Chakrabarty et al. (2022), suggest that initiatives to encourage responsible online behaviour and raise knowledge of digital citizenship can significantly improve Saudi people's mental and physical health. This can entail putting in place educational initiatives that emphasise digital etiquette, secure online conduct, and the ethical management of personal data. Together, policymakers, educators, and healthcare experts may create approaches that enable people to navigate the digital world while protecting their wellbeing.

In inference, the in-depth examination of the study question and the research in the past support the idea that digital citizenship and Saudi citizens' mental and physical health are strongly related. The results of the study highlight the need of encouraging responsible digital behaviours and knowledge in order to reduce any harmful effects and provide a healthy online environment for Saudi Arabian citizens.

### **Limitations**

The use of self-reported measures, which could have introduced response bias and social desirability effects, was one of the study's limitations. Furthermore, it is difficult to demonstrate causal links between digital citizenship and wellbeing because of the cross-sectional methodology.

### **Suggestions and Recommendations**

A longitudinal methodology might be used to better determine the temporal links between digital citizenship and well-being in order to increase the validity of future studies. Incorporating mixed-methods approaches would also give a more thorough understanding of the processes behind the connections that were identified.

Additional research should focus on how cultural quirks influence digital citizenship practises and their effects on wellbeing in Saudi Arabia. Additionally, researching the effectiveness of educational initiatives targeted at encouraging responsible digital citizenship and minimising any adverse impacts on mental and physical well-being might provide useful policy and practice-related insights.

### **Implications**

The findings of the study clearly demonstrate a strong connection between digital citizenship and the overall well-being of residents in Saudi Arabia. Responsible online conduct, awareness of digital responsibilities, and security measures contribute to better mental and physical health. Conversely, risky online behaviors and exposure to cyberbullying or security issues are associated with negative well-being effects. These insights underscore the importance of promoting responsible digital behaviors and integrating digital citizenship education into curricula. Empowering individuals to safely navigate the digital world is essential for ensuring their overall well-being is improved.

### **Conclusion**

This thorough study explored the complex interactions between digital citizenship and Saudi residents' mental and physical well-being. The analysis revealed important relationships between responsible digital behaviour and improved well-being and also highlighted possible dangers related to cyberbullying and se

curity flaws. This study highlighted the vital need for awareness and education in encouraging responsible online behaviour by

closely examining the many aspects of digital citizenship and their influence on mental and physical health. The results highlight how crucial it is to integrate programmes for public awareness with formal systems of digital citizenship education. In addition to fostering a safe and healthy online environment, collaborative initiatives among legislators, educators, and healthcare experts have the ability to protect Saudi people' wellbeing in an increasingly digital age.

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