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ARTICLE

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Relationship between Digital Citizenship and Mindfulness among University Students

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Abstract

Digital Citizenship encompasses the ability to promote growth opportunities and also may lead to reduction of risks and digital divide brought by the use of digital technology is a vital part of the contemporary society and education. Digital citizenship and mindfulness has been rising in its scope of having influencing impacts on students. The current research was designed to quantify the correlation existing between digital citizenship and mindfulness among higher learning students. In the present study quantitative method (Survey) are applied to measure the relationship. Data was collected using the Digital Socio Civic Skills Scale (DIGISOC) and Mindfulness Attention Awareness Scale (MAAS). The sample was comprised of 343 students of various Pakistan universities. In order to meet the objectives of the study, the test was carried out through correlation, regression testing and independent sample T test to establish the hypothesis. The result shows that digital citizenship and Mindfulness have a positive relationship amongst university students.

Key Words

Digital Citizenship, Mindfulness, University Students, Digital Technology, Contemporary Societies

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Introduction

The digital environment is changing at a very high rate, and this change has revolutionized the communication, collaboration, and access to information prompting the high increase in digital citizenship. It is also important to emphasize that due to an increase in the number of people using the Internet, the problem of responsible digital behavior is in urgent need of attention, and its effect on well-being can be negative (Diefenbach, 2018). The ancient tradition of meditation known as the Mindfulness, has been receiving more attention due to its possibilities in enhancing mental well-being and generally raising the quality of life in digital era (Olendzki, A.2005).

Digital citizenship describes the prudent and ethical application of technology which involves online communication, sharing of information as well as respecting digital rights and privacy. The importance of digital citizenship is enhanced by the fact that technology is present everywhere in the contemporary life with people spending most of their time on digital gadgets to work, study, and socialize. (Richardson, et al 2019). The increase in online communication leads to concerns on cyberbullying, intrusion of privacy, and digital dependency, and the necessity of encouraging healthy and mindful use of digital communication. Yap, et al 2021).

Mindfulness has been cited to have diverse psychological and physiological benefits as it involves the practice of nonjudgmental awareness and acceptance of the present moment. (Hildebrandt, et al 2017). Mindfulness-based interventions have been effectively used in other settings, such as stress management, mental health, and education (Singh, et al 2020). As mindfulness gains more and more interest regarding the value of its use, its application to digital citizenship activity may create a relatively healthier and more fulfilling online interaction. (Richardson, et al 2019).

Digital Citizenship

A digital citizen is the responsible utilization of technology by any person that uses computers, the internet and digital devices to interact with the society at any level (Chris Zook 2023). The term digital citizenship is intended to represent

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the potential of a novel form or rather different form of citizenship that happens when digital citizen engage in the limitations and opportunities that exist on the internet (Marie Heath 2020). Ribble and Bailey (2007) outlined the digital citizens features in schools that must possess in nine touchpoints. On these grounds, this study will be conducted to come up with a scale regarding digital citizenship. Digital citizen needs to possess certain traits that include the ability to understand human issues, cultural issues, and societal issues connected to technology and act in a lawful and ethical manner; promote and act in safe, legal, and responsible use of information and technology, display a positive attitude towards the use of technology that facilitates collaboration, learning, and productivity, display individual responsibility in lifelong learning and is a leader in digital citizenship (Ribble, 2008). According to one more research, digital citizenship should possess nine elements of behavior, which include access, commerce, communication, literacy, etiquette, law, rights and responsibilities, health and wellness, security(self-protection) (Ribble and Bailey 2007). The 21 st century digital citizenship targets are educated, empower and protect (Common Sense Media White Paper, 2011).

Such three were expounded as respect (etiquette, access, law), educate (communication, literacy, commerce) and protect (rights and responsibility, safety/security, health and welfare) by Ribble and Bailey (2007). Digital citizenship is a more significant phenomenon in the new age. Thus, in education, the students can be made digital citizens by considering some major characteristics to consider the 21st century digital citizenship objectives. These are; student learning and academic performance, student environment and student behaviour, student life outside the school environment (Ribble and Bailey 2007). Mindfulness refers to the ability of self-regulation of attention to help a person stay focused on the present experience in a curious and open-minded and accepting way (Bishop et al 2004). Kabat-Zinn (2017) defines mindfulness as a mindful mode of attention, non-judgmental, and non-distracted, present-moment attention.

Theoretical Framework

A theory is a logical system of thoughts that serve to explain information or phenomenon and also to make predictions. It is a fixed general statement (rules, assumptions, propositions or principles) which is applied in explaining facts (Meece 2002). A theory is composed of hypothesis or assumptions which are subject to tests to establish whether they are accurate (Santrock 2010). Two theories, namely Social Cognitive Theory and Theory of Planned Behavior, can be used to construct the theoretical framework of analyzing the relationship between digital citizenship and mindfulness in Pakistan.

Social Cognitive Theory

Theory of Planned Behavior

Social Cognitive Theory (SCT) is the fact that a person behaves in the way that there is a two-way interplay between environmental factors and personal factors, as well as behavior. Personal factors are cognitive, affective, and biological factors that cause behavior whereas the environmental factors are the social environment and physical environment which shape behavior. (Wang, S., et al (2019). SCT focuses on how observational learning, self-efficacy and expectation of outcomes affect behavior (Matei, S. A. (2006). When applied to digital citizenship and mindfulness, SCT allows considering that human behavior in the digital world is shaped by his or her individual characteristics, which include his or her attitudes, beliefs and values, as well as by his or her social and physical environment, which includes the presence of digital resources, social conventions, and laws that regulate the use of digital behavior (Bandura, A. (2009). According to SCT, the mindfulness of individuals can also be the reason why or how they can cope with the digital world because mindfulness can increase self-knowledge, self-control, and cognitive flexibility (Drigas, A., et al (2020).

Theory of Planned Behavior (TPB) assumes that the main determinant of a behavior is the intention of a person to commit a behavior. According to TPB, attitudes, subjective norms, and a sense of behavioral control are considered to be the three key factors influencing intentions (Al-Debei, et al 2013). Attitudes indicate the positive or negative assessment of the behavior made by that individual, subjective norms are the perceptions an individual has about societal pressure to behave and the perceived behavioral control is the belief that an individual has about the possibility of behaving (Yoon, 2011). Applying TPB to the topic of digital citizenship and mindfulness, it is possible that the intention of people to be responsible in their digital practices can be affected by their attitudes to digital citizenship, their

understanding of social expectations towards digital practices, and their belief in their capacity to manage their digital practices (Yoon 2011). It is also implied by the Theory of Planned Behavior that mindfulness of individuals can also affect their capacity to manage their digital behavior because mindfulness increases self-regulation and self-control. (Konstantoulaki, et al 2022). To conclude, there are two primary theoretical approaches that can be used to develop the theoretical framework about the connections between digital citizenship and mindfulness in Pakistan: the Social Cognitive Theory and the Theory of Planned Behavior. According to both theories, personal and environmental factors shape the behavior of individuals in the digital world, and that mindfulness can help people navigate the digital world and act responsibly in digital behavior.

Rationale

The study will examine the potential relationships between digital citizenship and mindfulness. The results of the study will be added to the existing literature on the topic of digital citizenship and mindfulness and will offer insights into their possible synergies and use in the enhancement of responsible online conduct and wellbeing. Moreover, the research will provide educators, policymakers, and mental health professionals with practical advice on the creation of programs and interventions that will influence the creation of a more conscious and responsible digital approach. According to a study, mindfulness training enhanced student digital citizenship capacity (online communication skills, information literacy, and responsible digital technology use, etc.,) (Wang, H., et al (2022). In the framework of Pakistan, the topic of the connection between digital citizenship and mindfulness among university students has to be researched since both the issues matter to foster positive online behaviors and mitigate the adverse effects of the technology on the mental health and wellbeing of students.

Literature Review

The need of digital citizenship is the topic of the subsequent literature review and the project. Numerous studies were conducted on the digital citizenship and mindfulness previously. Sherry et al (2017) in their digital mindfulness an emerging field of inquiry and practice explain that digital mindfulness helps to elicit thoughtfulness intentions and meaningful engagement in online. It redefines the discussion of our homes and learning institutions. The further idea of civic engagement which represents the shifting youth practices that are evident in the modern media landscape. The researcher has discovered empirically that the civic engagement of adolescents is closely connected with Internet information literacy rather than Internet skill literacy. It was further revealed that the Internet use of adolescents only had a role in new and alternative types of engagement. net literacy and civic engagement of digital natives (Kim, E M et al 2016).

In this research study the digital media literacy movement within the context of digital media literacy in Thailand can create a study on investigating and clarifying that Sati (mindfulness) is a mediated internal process of self-literacy to define digital media litera tablish digital media literacy. The priority should be on the inner process 264 of developing critical reflection through the use of Sati (mindfulness) to develop an intellectual process (wisdom), the capacity to observe and analyse thoughts and emotions that is the unique method of developing the Thai people formal and informal learning so as to develop into digital media literacy. Mediation between digital media literacy and Thai culture of Sati (mindfulness).

According to another study, a good number of students are already exposed to the use of technology at the elementary level and by the intermediate levels they are starting to venture in social media. In the literature review, the research concentrates on the research regarding digital citizenship and examines students as the present and future contributive members of Web 2.0. The site, which is a collaboration site, is an online citizenship and digital literacy tool of teachers of all levels of grades and experience in the field of technology. It contains information, materials and lesson plans any teacher can implement in order to introduce and teach their students digital citizenship and digital literacy; in order to teach these topics successfully, a community approach would be necessary. The site is open and consultative to everyone concerned with the online growth and development of children (Fong, J.J 2015).

Nowadays we live in the modern world of technology which has become an important part of our daily life and transformed the classroom atmosphere. The accessibility to information and the possibility of connecting with every

part of the world increases the classroom walls to much further than the physical limits of the school. Yet, even with immediate information and connectedness, it also introduces more distractions and problems, creating the more significant necessity to pay more attention to digital citizenship in our students (Emily MacLean 2017).

As Damico (2018) says, access to social media is almost everywhere, teachers and students should learn how to reduce distractors and unhealthy applications. In this mixed method research, the authors invited 60 pre-service teachers in two universities to develop mindfulness with regards to social media beliefs, habits and behaviors by administering a social media survey, diary and fast. Respondents cited motivations of frequent use of social media, such as automatic behavior, and came to new discoveries on what they receive and lose in the interactions of the social media. The respondents had hope of teaching the same lessons. The authors suggest the pedagogical principles of social media mindfulness permitting complexity, variance, and idiosyncrasy.

In most respects, the digital technologies have already become influential tools in modern society. Nonetheless, young people are now facing possible threats of cybercrimes without the relevant understanding and instructions. Therefore, this research aimed at comparing the people who are most at risk of cybercrimes, and to determine whether there is a significant difference in the digital competency between girls and boys in rural areas. Technology, cognitive, ethical knowledge and communication, and cybersecurity was measured as intellectual property, privacy, accuracy and accessibility were measured as digital competence. When comparing the cybersecurity characteristics, gender makes a distinction of the privacy implications, accuracy and accessibility behavior. Since the findings are disturbing, there is a need to put certain issues and emphasis on the use and education of youth in digital technology to ensure that they are not left behind, and as cyber victims but to create a responsible e-society with masterful digital citizenship qualities. (Maon, et al 2021). The mindfulness construct is considered to be examined mostly in the context of religious and philosophical spheres. Little concern has been taken about mindfulness in reference to organizational environment and work-related results. The current research offers the theoretical justification and procedure of the examination of the association between mindfulness and organizational citizenship behaviors (OCBs) with the mediation of empathy. The study presents an argument on the need to use self-regulation theory and social exchange theory in the case that mindfulness should be regarded as an antecedent of OCBs. The findings of the research indicated that mindfulness has a positive relationship with empathy and OCBs, and that empathy has got a positive relationship with OCBs. The results did not endorse empathy as the moderating variable in the relationship between mindfulness OCB. (Allred 2012).

The other studies reveal the correlation between mindfulness and the Organizational Citizenship Behavior (OCB) of future business executives, viz., the MBA students through the prism of resilience. We also assess the effects of mindfulness on their scholarly study in their business schools which is a pointer to a successful business in the future. It was concluded that mindfulness is an important predictor of OCB as well as of grades obtained by students of the MBA program. In addition, we obtain the partial mediation model. We establish that a third of the effect is attributed to increased resilience and the rest two thirds to mindfulness per se. With regards to the grades achieved by the MBA students, 37.5 per cent of the gains are emanated by resilience and the other portion directly by mindfulness. We observe that mindfulness achieves this goal of the students alongside other social goals of improving their OCB (Asthana 2021). Correlational survey research design was applied in collecting data in this research study. The data was quantitative as the researcher received quantified data. The approach employed in the present study was the quantitative method which stresses on numerical study and examining data by using questionnaire and survey. Creswell (2002) observed that quantitative research involves gathering, evaluating, and interpreting the findings of a study, Quantitative research can be considered as a method of testing objective theories through the study of the correlation between variables. These variables in turn can be measurable usually on instruments in such a way that data in terms of numbers can be studied via statistical processes. The end report follows a standard format which includes introduction, literature and theory, methods, results and discussion (Creswell, 2008). Quantitative research questions ask questions about the relationships existing between variables that the researcher would want to know. They are common with research in the social sciences and particularly in survey studies (Creswell 2004).

Survey

A survey design is a quantitative or numeric description of trends, attitudes or opinions of a population based on examining a sample of a population. Based on sample findings, the researcher makes claims or generalization of the population. Otherwise, in an experiment, researchers can refer to a sample and extrapolate to a population but the fundamental purpose of an experimental design is to measure the effect of a treatment (or some intervention) on an outcome without taking into consideration other possible influences on that outcome (Creswell 2002). Survey research helps in giving a quantitative or numeric description of trends, attitudes or opinion of a population by examining a sample of the population. It incorporates both cross-sectional and longitudinal studies where questionnaire or structured interviews are used to collect the data with a view of generalizing the findings of a sample to a population (Babbie, 1990).

Sample

To draw the sample of the students who belong to a normal population, purposive sampling technique was used to recruit 343 participants (F =180 & M= 163). The same data was utilized by the researcher to come up with the factorial structure of the scale and to carry out the quantitative analysis. The respondents were between 18 and 26 years. The learners enrolled in the Sciences, physical Science, Allied health science, social science and Arts and humanities tertiary faculties were selected. The information was gathered in universities of various cities of Pakistan i.e. IIUI, Ripah International ISB, Comsats ISB, University of Karachi, GC Faisalabad, University of Sargodha, University of Lahor, University of Peshawar, Agriculture University Peshawar, Women University Mardan, AWKUM, University of Swabi and Women University Swabi.

Procedure

Digital Socio Civic Skills Scale (DIGISOC) and Mindfulness scale (MAAS) were given to 343 respondents comprising of 180 Females and 163 males. The outputs were produced to make conclusion based on the analysis carried out using SPSS.

Table 1

Psychometric Properties For Scales

Scale	*M*	*SD*	Range	Cronbach's α	Skewness	Kurtosis
DSC	100.44	14.53	59 -152	.842	- .013	.121
MF	43.27	7.39	25-65	. 84	.162	-.045

Table 1 shows psychometric properties for the scale used in present study. The Cronbach's α for digital socio civic skill scale was .842 (>.70) which indicated high internal consistency. The Cronbach's α value for Mindfulness scale .84 (>.70) which indicated higher internal consistency. The standardized Skewness and Kurtosis values between -1 to +1, which shows data is normally distributed.

Table 2

Correlations

Scale	ScaleDCS	ScaleEMF
DSC		
Pearson Correlation	1	.201**
Sig. (2-tailed)		.000
N	343	343
MF		
Pearson Correlation	201**	1
Sig. (2-tailed)	.000	
N	343	343

**. Correlation is significant at 0.01 level (2-tailed).

Table 2 show Pearson Correlation of digital socio civic skill and mindfullness was found to be moderately positive and statistically significant (r=.201,p<.001). Hence H1 was accepted.

Table 3

Independent Samples Test

Levenes test for Equality of		t-test for Equality of Variance						t-test for Equality of Means			
		Means	SD	F	Sig.	t	df	Sig. (2. Tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Differences
											Lower Upper
DSC	M	42.9	7.13	1.45	.229	-.894	341	.372	-.723	.808	-2.31 .867
	F	43.9	7.74			-.883	.278	.378	-7.23	.819	-2.33 .89

An independent sample T- test was conducted to compare the digital citizenship for male and female. There were no significant differences (t (df)= -.894, p = .372 in scores for group 1(Male) (M= 42.9, SD = 7.13) and group 2 (female) M = 43.9 , SD= 7.74). The magnitude of the differences in the (means = -.723 , 95% of confidence interval -2.31 to .867) was very small. Hence H2 not accepted.

Discussion

The current study was used to investigate how mindfulness and digital citizenship are related to university students. Cornrelational survey research design was adopted to gather data in this research study. The data was quantitative since the researcher received quantified information. The sample was drawn by means of purposive sampling technique and 343 participants (F=180 & M=163) were recruited to represent the normal population of the students. The respondents were between 18-26 years. The demographic information sheet includes gender, socioeconomic status, age, educational level, and Social media time usage. Digital Socio Civic Skills Scale (DIGISOC) and Mindfulness scale (MAAS) were given on 343 participants (180 Females and 163 males). Statistical Package for social sciences was used to interpret and analyse the results.

This research proposed that mindfulness and digital citizenship have a positive relationship among university students. Pearson correlation was used to establish the correlation between digital citizenship and mindfulness. Correlation is significant with level of 0.01 (2 tailed). In results Table 2 reveals that Pearson Correlation between digital socio civic skill and mindfulness was moderate positive and significantly so (r.201,p<.001). Hence H1 was accepted. The findings of this research are congruent to the number of other studies.

To gather the information, a research study was planned to be implemented with the help of several techniques: the in-depth interview, the co-creation workshop, and the focus group discussion as research questions were stated initially, and preliminary codes and grouped information was then assigned under the key categories and sub-categories. Finally, the correlation of three keywords were plotted down with the view of supporting a theme map of the analysis and to explicitly extrapolate definitions and the conceptual framework of this research study. This study demonstrates that digital citizenship has a positive relationship with mindfulness (Monsak 2021).

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