Social media use for health, cultural characteristics, and demographics: A survey of Pakistani millennials

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Abstract

Objective: Over the last 10 years, an extensive body of literature has been produced to investigate the role of social media in health. However, little is known about the impact of cultural characteristics (e.g. masculinity, collectivism, and uncertainty avoidance) on social media use regarding health-related information, especially in developing countries like Pakistan. The present study employed Hofstede's cultural characteristics framework and uses and gratification theory to examine how Pakistani millennials' demographic attributes and cultural characteristics are associated with their social media use for health-related information.

Method: An online survey of 722 people aged 18–35 living in Pakistan was conducted in spring 2020 to examine the intensity and frequency of social media use, health-related use of social media, cultural characteristics, and demographic attributes.

Results: Results showed that cultural characteristics—masculinity, collectivism, and uncertainty avoidance—are strongly related with their perceptions of social media importance, usefulness, and perceived ease of access for health-related information even when controlling for demographic characteristics. Age and gender are also significantly associated with their perspectives on social media for health.

Conclusions: We found that communicating and sharing information is the most important motivation for Pakistani millennials to use social media in the area of health with WhatsApp and YouTube being most preferred social media sites for health-related issues.

Keywords

Cultural characteristics, digital health, Pakistani millennials, social media, uses and gratification theory

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Introduction

Over the last two decades, an extensive body of literature has been produced to understand the role of social media in health communication. Health communication scholars have explored the use of social media from diverse perspectives to investigate the effects of social media on individuals. For instance, studies analyzed how social media are used for health by individuals such as ordinary citizens[1,2] and medical students.[3] Another line of research examined how people turn to social media for social and emotional support or join an online community to seek information and treatment options on a particular health issue.[4,5] Additionally, studies have investigated how online campaigns can be used to change health behaviors,

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such as healthy diet, smoking cessation, and reduction of alcohol consumption.[6–8]

Examining cultural characteristics is important in understanding people's use of social media for health, as previous studies have shown the effects of cultural characteristics on social media use and health behaviors.[9–15] According to Hofstede,[16] culture can be defined as "the collective programming of the mind which distinguishes the members of one category of people from those of another" (p. 389). Indeed, Lin and Ho's[10] survey of residents in Taiwan suggested cultural characteristics affect people's use of social media in health. Other studies[9,11,12] revealed significant differences in the ways people from different cultures adoption and use social media or perceive content on social media.

Despite the growing body of research in the area of social media and health, there is insufficient research on how individuals' cultural characteristics might influence their uses of social media for health-related matters. Studies in this area that focus on developing countries are particularly lacking. Against this background, the current research analyzes what motivates people in Pakistan to use social media for health and how their cultural characteristics influence their social media use in this area. Empirical data come from a survey of adults ages 18–35 living in Pakistan. Using Hofstede's[16] cultural characteristics framework and the uses and gratification (U&G) theory, the present study contributes to advancing research in the area of social media and health by analyzing how cultural characteristics influence social media use in health even when controlling for demographic characteristics.

Literature review and theoretical framework

Social media and gratification

Social media use continues to grow worldwide and is especially prevalent among younger adults.[17] As of January 2022, the number of social media users around the world exceeded 4.20 billion[18,19] with a high proportion of people accessing social media sites via mobile devices. Facebook and YouTube are the most popular social media sites with about 2.5 billion users and 2 billion users, respectively.[18,20] For the purpose of this study, we define social media as different forms of digital communication technologies that allow individuals and organizations to build and maintain social networks and create and share information.[21] Social media have evolved rapidly, and this phenomenon is observed not only in developed countries but also in developing nations. In the last decade, social media use has increased in developing regions in Africa, Asia, and the Middle East[22] For instance, Pakistan has recently had a substantial increase in social media use[23] and WhatsApp has become the most used social media site in India in recent years.[2] Developing countries in the Middle East are among the top nations for social media use even though they are not as technologically advanced as Western countries.[24] A survey study conducted in Qatar[25] found that socio-political conditions such as privacy concerns affect people's attitudes toward and interactions on social media.

Different theories and models have been used to understand how and why people use social media. Some of the most frequently used theoretical frameworks in this area of research are the technology acceptance model,[10,26] U&G theory,[27–30] social cognitive theory,[31] motivation theory,[32] and diffusion of innovation theory.[33] Of these, this study adopted the U&G theory, as it involves most relevant constructs concerning why and how Pakistani millennials use social media for health-related matters.

In the mass communication field, U&G theory has long been used to study traditional media.[34,35] Over the last decade, however, it has been widely applied to research on social media use.[29,36] The U&G theory covers "social and psychological needs" that motivate people to choose particular media channels and content, as well as "the subsequent attitudinal and behavioral effects" (p. 332).[31] Social media offer a wide variety of choices to audiences looking for different platforms to fulfill their diverse needs.[30,31] For example, people use social media for "pastime, affection, share problems, sociability, and social information" (p. 358).[29] Previous research suggested that people use different platforms for multiple purposes. Boczkowski et al.[37] examined social media use in Argentina and found that WhatsApp is a preferred platform for "multifaceted communication," whereas Facebook is generally used for "socially acceptable issues." In addition, Instagram was utilized for "self-presentation," Twitter for "information," and Snapchat for "spontaneous connections" (p. 255). Health is one of the important areas that people examine through social media,[38] as we discuss in detail in the next section.

Social media and health communication

Social media have made considerable contributions to the health sector. Different social media platforms help medical professionals and the public interact and engage online[39,40] and allow users to gain social support around medical conditions.[4,41] Lerman et al.[42] studied Facebook groups designed to help depressed young adults and teenagers. The study suggested that these social media groups were created for people who share similar experiences and for sharing mental health resources. A similar study on a diabetes-related Facebook group revealed that its members share information, communicate about their emotions, and build online communities.[43]

Facebook is not the only platform that facilitates group discussions in this area. Health-related conversations also take place on Twitter and while it does not have a function to create a group, people discuss health issues using specific

hashtags and creating lists. Health organizations have realized the potential of social media and have adopted these platforms for promotion, awareness, and advertising related to health products and campaigns. Online information and discussions can be cost-effective, which is especially helpful for those who do not have healthcare professionals to consult. Park et al.[44] investigated the organizational use of Facebook for promotion and advertising and suggested that "social media technology is more appealing to public and non-profit health sectors, as an inexpensive but effective way to communicate with target audiences, despite their lack of staffing and resources" (p. 71).

Social media communities address health issues and provide relevant support not only in the developed world but also in developing countries. In China, Sina Weibo and WeChat are popular social media sites. Netizens, also known as users of the internet, use both networks for various reasons, including health issues. Guo and Goh[45] studied an AIDS support group on Sina Weibo, a Chinese microblogging site and found that most of the content was socio-emotional and informational with users discussing both medical and non-medical issues. Zhang et al.'s[46] studied WeChat and revealed that while it can be challenging to find credible health-related information on the platform, WeChat facilitates interactions between users and clinicians and users' information seeking and attainment. With its increasing popularity in recent years and potential to visually inform, educate, and support people on health-related issues, Instagram has been used for advertisements related to tobacco and alcohol.[47] Examining health organizations' public engagement on Instagram and Twitter regarding the Ebola epidemic, Guidry et al.[48] revealed that Doctors Without Borders/Médecins Sans Frontières (MSF) uses Instagram frequently, whereas the World Health Organization (WHO) and the Centers for Disease Control and Prevention (CDC) rely more on Twitter. Organizations and individuals use different platforms to achieve different goals. However, there is a dearth of scholarly research about Pakistani millennials social media usage, particularly when it comes to health topics.

Social media and internet use in Pakistan

The number of social media users has increased steadily around the world, and Pakistan is no exception. As of January 2021, Pakistan had 61.34 million internet users (27.5% of the entire population) and 46 million active users on social media with 77.7% of Pakistanis using mobile devices.[23,49] With over 58% of people in Pakistan using the internet at least once a day, YouTube, Facebook, WhatsApp, and Twitter are among the top 10 most used social media sites in Pakistan.[23] Most of the country's internet and social media users are those ages 18–35, and the vast majority of Facebook users (about 80.3%) and Twitter users (about 88.2%) are male.

Previous research on social media use in Pakistan suggests that the usage varies by gender, age, and race.[50–52] In general, people use social media to participate in political discussions[53] or attain information during a disaster.[52] College students often use social media to express their views on issues like freedom of expression and political rights and to communicate with friends and families.[54] Most of the studies in this area are based on surveys of students attending colleges or universities in Pakistan.[50,51,55–58]

Social media and mobile applications play an increasingly significant role in the health sector in Pakistan. For instance, Ittefaq and Iqbal's[59] study found that Marham (a health-related mobile application) has helped create awareness among the public around health issues in Pakistan. Marham also has a Facebook group, a popular forum for women's health issues, children's diseases, and psychological issues that are frequent discussion topics. To the best of our knowledge, this is the only study on social media usage on health-related issues in Pakistan. A systematic review conducted by Kapadia et al.[60] on Pakistani women's mental health and use of social media in the UK suggests that "there is a stigma associated with having and speaking about mental illness and it is directly linked with Pakistani culture; family and community members were seen as source of stigmatizing attitude" (p. 1312). Despite potentially important roles cultural characteristics play in social media use for health in Pakistan, there is little empirical research on how specific cultural characteristics influence health-related social media use in the country. To help close this gap in the literature, we analyze cultural characteristics and their influences on attitudes toward seeking health-related information on social media.

Culture characteristics and health

The role of culture in health communication has received increased scholarly attention.[61–64] Prior research suggests that culture-specific beliefs play an essential role in health behavior.[65] In analyzing the relationships between cultural characteristics and health-related social media use in Pakistan, we adopt Hofstede's cultural characteristics.[16,66] Hofstede's framework classified cultural characteristics into five broad categories. First, *masculinity/femininity* refers to a society that is "assertive, tough, and focused on material success," or "more modest, tender, and concerned with the quality of life," respectively[66] (p. 91). Second, in *individualistic/collectivist* cultures, the "interest of the individual prevails over the interests of the group and societies" or alternately, "the interest of the group prevails over the interest of the individual" (p. 140). Third, *uncertainty avoidance* is defined as "the extent to which the members of a culture feel threatened by ambiguous or

unknown situations" (p. 191). Fourth, *power distance* "is the degree to which the less powerful members of an organization accept an unequal distribution of power" (p. 191). Finally, *long-term orientation* "is the degree to which virtues that are fostered by society are oriented toward future rewards" (p. 140).

While the role of culture on health behaviors has been widely studied in different fields including psychology[67] and sociology,[68] there is little research on the topic in the field of digital health and mass communication. Lin and Ho[10] analyzed how cultural characteristics influence perceptions and behaviors related to health information on social media in Taiwan. They found that "the cultural characteristics of social media users in Taiwan significantly affect their perceptions of the usefulness and ease of using their online social media platform" (p. 1071). To better understand the relationship between cultural characteristics and social media use in health, more empirical studies are needed to analyzing health-related issues in different cultures. In this context, we examine the influence of three cultural characteristics (masculinity, collectivism, and uncertainty avoidance) on social media use for health-related information in Pakistan. The power distance is related to organizational behavior and the long-term orientation was also excluded due to the validity issues.[10] In the light of above-mentioned literature, the following research questions and hypotheses are proposed.

Research questions and hypotheses

RQ1: What are the primary reasons for Pakistani millennials to use social media for health-related matters?

RQ2: Which social media sites do Pakistani millennials use the most regarding health-related matters?

H1: Demographic characteristics are associated with perceived social media importance (H1a), perceived social media usefulness (H1b), and perceived ease of access to social media (H1c) regarding health.

H2: Cultural characteristics—masculinity, collectivism, and uncertainty avoidance—are strongly associated with Pakistani millennials' perceptions of social media importance (H2a), social media usefulness (H2b) and social media access (H2c) for health even when controlling for demographic characteristics.

Method

An online survey of Pakistani nationals aged 18–35 living in Pakistan was conducted in spring 2020 to examine the intensity and frequency of social media use, health-related use of social media, cultural characteristics, and demographic attributes. Before launching the survey, we conducted a pretest of the survey questionnaire with 64 Pakistani nationals to identify questions, answer choices, or statements that are ambiguous or difficult to comprehend.[21] Based on their feedback, we rephrased some questions, answer choices, and statements to enhance their clarity, and more answer options were added. The final survey questionnaire, which included a total of 39 close-ended questions, was created via Qualtrics.

In recruiting participants in the survey, we used a convenience sampling approach due to its affordability, efficiency, and availability of participants. However, we note that a random sampling approach would have produced more representative findings. Specifically, the survey link was distributed to members of various professional associations via their email listservs and social media pages including Facebook groups of Pakistan Dental Association, Marham, Digital Journalists of Pakistan, and The Pakistan Film Forum and WhatsApp groups of Read, Lahore High Court Bar Association, and Mass Communication Teachers. Additionally, the research team recruited survey respondents through personal connections in colleges/universities, press clubs, and bar associations. On the consent page of the survey, participants were provided an overview on the purpose of the study including the study objectives, expected time to complete the survey, and their rights as study participants. The study instrument was approved by the Institutional Review Board (IRB) of the authors' university.

Measurements

Social media use. The intensity of social media use was measured by six items that were adopted from previous studies.[50,69] Specifically, the items included in this study are: (1) I am proud to tell people that I am on social media; (2) Social media has become part of my daily routine; (3) I feel out of touch when I have not logged onto social media for a day; (4) I feel I am part of the social media community; (5) I would be sorry if social media shut down; and (6) I feel out of touch when I have not logged onto social media for a while. We used a five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree.*

To measure the frequency of social media use among Pakistani millennials, we asked the following questions and adopted a scale used by the Pew Research Center[24] (p. 3): (1) Overall, how often do you visit or use social media?; (2) How often do you visit or use Facebook?; (3) How often do you visit or use Twitter?; (4) How often do you visit or use WhatsApp?; and (5) How often do you visit or use YouTube? The scale used for these questions included the following options: (1) *several times a day,* (2) *once a day,* (3) *a few days a week,* (4) *every few weeks,* and (5) *less often.*

Additionally, we asked about the specific amount of time they spend on social media sites by including the following

questions: (1) Overall, how much time do you spend on social media?; (2) How much time do you spend on Facebook?; (3) How much time do you spend on Twitter?; (4) How much time do you spend on WhatsApp?; and (5) How much time do you spend on YouTube? The answer options were (1) *10 h or more per day*, (2) *7–9 h per day,* (3) *4–6 h per day,* (4) *1–3 h per day*, and (5) *less than an hour per day.*

Perspectives on social media for health. Prior studies suggested that people use social media to seek information related to their health issues.[4,40,41,43] The usefulness of social media refers to how people think about social media information regarding a health issue. In this survey, the following items were used to measure participants' understanding on the usefulness of social media related to health issues[10]: (1) I think social media are useful to get health-related information; (2) I think social media health-related information is improving my health knowledge; (3) I think social media are useful to communicate and share health-related information; (4) I think social media are useful to interact with online community regarding specific health issues; and (5) I think it is important to use social media to get information regarding health-related issues. We used a five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree.*

The survey measured participants' perspectives on the access to social media use by asking them to rate the following items that were adopted from Lin and Ho[10] and Zhang et al.[46] studies: (1) I think it is easy to access health-related information through social media; (2) I think it is easy to get access to social media to discuss health issues; (3) I access social media to improve my health knowledge; (4) I access social media to share health-related information; (5) I access social media to read health-related articles/blogs; (6) I access social media to like, share, and comment on health-related information; (7) I access social media to seek social support regarding my health problems; and (8) I access social media to provide health-related information to others. We used a five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree.* In asking these questions, we used Facebook, Twitter, YouTube, and WhatsApp as examples since these are the most used social media sites in Pakistan.[23,50]

Cultural characteristics. Masculinity refers to a society that is "assertive, tough, and focused on material success"[66] (p. 140). Previous studies have examined the role of masculinity regarding health behaviors. For example, men are considered as strong and assertive, and they do not need to seek medical care.[70] Being strong, men are more likely to be involved in health-risk behaviors compared to women.[71] To measure this variable, we used items adapted from previous studies[10,72,73]: (1) Some jobs can be performed better by a man than by a woman; (2)

Recognition and promotion at work are more important for men than for women; and (3) Professional career is more important for men than for women. We used a five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree.*

Collectivism refers to "the interests of the group prevail over the interest of the individual"[66] (p. 140). In this study, we measured collectivism in Pakistan by using Lin and Ho's[10] study items. The three items are: (1) Loyalty to a group is more important than individual gain; (2) Acceptance by a group is more important than independence; and (3) Group welfare is more important than individual rewards. We used a five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree.*

Uncertainty avoidance can be defined as "the extent to which the members of a culture feel threatened by ambiguous or unknown situations"[66] (p. 191). Three items were adopted to study uncertainty avoidance: (1) I fear to start a new job; (2) I fear uncertainty about the future; and (3) I fear ambiguous situations and unfamiliar environments. We used a five-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree.* Existing studies reveal that collectivist cultures like Pakistan have a high degree of uncertainty avoidance. This uncertainty can lead to behavioral change regarding adopting the new role, and people are uncertain about their future.[10]

Reliability scores of the index variables according to Cronbach's alpha tests are masculinity ($\alpha = .709$), collectivism ($\alpha = .724$), uncertainty avoidance ($\alpha = .757$), social media importance ($\alpha = .673$), social media usefulness ($\alpha = .865$), and social media access ($\alpha = .888$).

Demographic characteristics. A set of demographic questions were included at the end of the questionnaire. Respondents were asked to indicate their nationality, gender, highest educational degree earned, age, and household income. This study focuses on younger adults aged between 18 and 35, as generally they are heavy users of social media and most likely to use social media for health-related matters.[24,37,74]

Results

Demographical characteristics of participants

Responses from 722 Pakistani adults ages 18–35 were included in our analysis. Of the 722 survey participants, 56.5% were women, 43.4% men, and 0.1% other. The mean age was 23 years old ($M = 23.4$, $SD = 4.09$). In terms of highest level of education completed, the majority of the respondents hold a bachelor's degree (52.2%), followed by master's degree (27.3%), high school (18.8%), and doctoral degree (1.7%). About 26.7% of the respondents reported household income above 80,000 PKR

Table 1. Characteristics of survey participants.

Variable	Value	Percent
Gender	Female	56.5%
	Male	43.4%
	Other	0.1%
	Total	100%
Education	Bachelor	52.2%
	Master's	27.3%
	High school	18.8%
	Doctorate	1.7%
	Total	100%
Household income	Above 80,000	26.7%
	60,001–80,000	13.3%
	40,001–60,000	17%
	20,001–40,000	19.2%
	20,000 or less	23.8%
	Total	100%

(Pakistani Rupee) per month, followed by less than 20,000 PKR (23.8%), 20,001–40,000 PKR (19.2%), 40,001–60,000 PKR (17%), and 60,001–80,000 PKR (13.3%) per month. About 82% of the respondents reside in the 10 most populated cities in Pakistan (Karachi, Lahore, Faisalabad, Rawalpindi, Multan, Hyderabad, Gujranwala, Peshawar, Quetta, and Islamabad). Table 1 shows full demographic information.

Social media use. WhatsApp is the most used social media site among millennials in Pakistan (87.3%), followed by YouTube (63.3%), Facebook (62.7%), and Twitter (26.6%). About 93.1% of the participants stated they use WhatsApp several times a day, whereas 58% said they use Facebook and YouTube several times a day. About 20% of the participants reported spending 10 h or more each day on WhatsApp with the proportion being 5.8%, 4.6%, and 2.8% for YouTube, Facebook, and Twitter, respectively.

Reasons for using social media in health (Rq1)

Our first research question concerned primary reasons for Pakistani millennials' use of social media for health. Results from the survey (Table 2) indicate that communicating and sharing health-related information is the most important motivation to use social media in the area of health ($M = 3.74$, $SD = .910$), followed by interacting with online community regarding specific health issues ($M = 3.72$; $SD = .893$), receiving health-related information ($M = 3.62$, $SD = .963$), and improving health knowledge ($M = 3.45$, $SD = .982$).

Preferred social media sites for health (Rq2)

The second research question asked what specific social media sites were used for health-related issues. As indicted in Table 3, YouTube was the most popular social media site ($M = 3.60$, $SD = 1.195$). This is consistent with the overall popularity of the platform in Pakistan (We are Social, 2019). The second most popular social media site was WhatsApp ($M = 3.18$, $SD = 1.345$), followed by Facebook ($M = 2.83$, $SD = 1.208$), and Twitter ($M = 2.56$, $SD = 1.304$). In the "other" option, a small number of participants indicated that they use Instagram, Snapchat, LinkedIn, Pinterest, and Dailymotion to receive health-related information.

Demographics and social media use in health (H1)

Our first set of hypotheses suggested that demographic characteristics would be associated with perceived social media importance (H1a), perceived social media usefulness (H1b), and perceived ease of access to social media (H1c) regarding health. In this study, we considered age,

Table 2. Reasons for using social Media for health-related matters.

Variable	M	SD	N
To communicate and share health-related information	3.74	.910	722
To interact with online community regarding specific health issues	3.72	.893	722
To get health-related information	3.62	.963	722
To improve my health knowledge	3.45	.982	722

Note: Respondents were asked to indicate on a five-point scale (1 = *strongly disagree,* 5 = *strongly agree*) for each of the reasons for using social media.

Table 3. Social Media sites used for health-related matters.

Network	M	SD	N
YouTube	3.60	1.195	722
WhatsApp	3.18	1.345	722
Facebook	2.83	1.208	722
Twitter	2.56	1.304	722
Other	2.91	1.260	722

Note: Respondents were asked to indicate on a five-point scale (1 = *strongly disagree,* 5 = *strongly agree*) for each of the social media use for health-related information.

gender, education level, and household income as demographic characteristics. Index variables were created for masculinity, collectivism, uncertainty avoidance, social media importance, social media usefulness, and social media access variables. The mean of the items used to measure the index variable is used for the variable value. Specific items used for each index variable are discussed in the Method section.

Regression analysis results showed support for the hypotheses. Specifically, we found that men ($\beta = .081$, $p <.05$) and younger millennials ($\beta = -.096$, $p <.05$) are more likely to consider social media important for health-related matters. In addition, the younger the participants, the more likely they considered social media as useful for health-related matters ($\beta = -.207$, $p <.05$). Similarly, compared with their older counterparts, younger millennials were more likely to report social media as being easy to access for health-related matters ($\beta = -.171$, $p <.001$). Participants' levels of education and household income had no statistically significant associations with their social media perceptions related to health. Tables 4 to 6 (Model 1) provide detailed statistics related to the hypothesis testing results.

Table 4. Results of regression analysis (DV: social media importance).

Model	Independent variable	β	t	R^2	$A-R^2$	F
1	Education	.038	.859	.015	.010	2.735*
	Gender	.081*	2.176			
	Age	−.096*	−2.116			
	Income	−.045	−1.196			
2	Education	.048	1.088	.050	.041	5.407***
	Gender	.067	1.776			
	Age	−.078	−1.733			
	Income	−.036	−.959			
	Masculinity	.072	1.817			
	Collectivism	.120**	3.064			
	Uncertainty avoidance	.073*	1.919			

Note: *p < .05, **p < .01, ***p < .001.

Table 5. Results of regression analysis (DV: social media usefulness).

Model	Independent variable	β	t	R^2	$A-R^2$	F
1	Education	−.059	−1.346	.051	.045	9.575***
	Gender	−.207***	−5.653			
	Age	−.018	−.405			
	Income	−.029	−.773			
2	Education	−.052	−1.239	.122	.114	14.188***
	Gender	−.226***	−6.218			
	Age	.009	.217			
	Income	−.018	−.500			
	Masculinity	.089*	2.328			
	Collectivism	.204***	5.402			
	Uncertainty avoidance	.064	1.757			

Note: *p < .05, **p < .01, ***p < .001.

Table 6. Results of regression analysis (DV: social media access).

Model	Independent variable	β	t	R^2	$A-R^2$	F
1	Education	−.063	−1.432	.032	.027	5.971***
	Gender	−.171***	−4.633			
	Age	.034	.761			
	Income	−.029	−.771			
2	Education	−.054	−1.289	.141	.132	16.721***
	Gender	−.194***	−5.387			
	Age	.068	1.582			
	Income	−.015	−.421			
	Masculinity	.112**	2.987			
	Collectivism	.235***	6.298			
	Uncertainty avoidance	.104**	2.867			

Note: *$p < .05$, **$p < .01$, ***$p < .001$.

Cultural characteristics and social media use in health (H2)

Our second set of hypotheses posited that cultural characteristics—masculinity, collectivism, and uncertainty avoidance—would be strongly associated with Pakistani millennials' perceptions of social media importance (H2a), social media usefulness (H2b) and perceived ease of access to social media (H2c) for health even when controlling for demographic characteristics. In this analysis, age, gender, education level, and household income were controlled for. We found support for these hypotheses in our data. Participants who demonstrated more collectivism (β = .120, p <.05) and uncertainty avoidance (β = .073, p = .05) were more likely to report social media as important for health information. In comparison, those who showed more masculine (β = .089, p <.05) and collectivist (β = .204, p <.001) cultural views were more likely to report social media being useful for health information. When it comes to perceived ease of access to social media for health information, all of the cultural characteristics analyzed for this study—masculinity (β = .112, p <.01), collectivism (β = .235, p <.001), and uncertainty avoidance (β = .104, p <.01) had statistically significant effects. Tables 4 to 6 (Model 2) provide detailed statistics related to the hypothesis testing results.

Discussion

The main objective of this study was to examine how cultural characteristics such as collectivism, masculinity, and uncertainty avoidance influence Pakistani millennials' use of social media for health-related matters even when

controlling for demographic characteristics. In addition, we analyzed what motivates them to use social media sites in the area of health and which specific sites they use in that regard. Based on a survey of 722 adults ages 18–35 living in Pakistan, this study offers scholarly and policy implications for social media use among Pakistani millennials, social media use for health information, and the influence of cultural characteristics on social media use from a developing country perspective.

In this study, we found that cultural characteristics—specifically, masculinity, collectivism, and uncertainty avoidance—are strongly associated with Pakistani millennials' perceptions of social media importance, usefulness, and perceived ease of access for health-related matters even when controlling for age, gender, household income, and education level. The statistically significant relationship between cultural characteristics and use of social media in health is in line with previous research that examined similar issues in different cultural contexts.[10] Not surprisingly, younger respondents were more likely to report that they find social media useful and easy to access for health-related matters. In addition, male and younger millennials were more likely to consider social media important in handling health-related matters. The significantly higher level of social media use for health among male participants could be explained by the gender digital divide in Pakistan in terms of accessing and using digital communication technologies.[23] For example, recent data[23] suggests that only 12% of women in Pakistan use Twitter and only 18% use Facebook, as compared with 88% and 82% of men in Pakistan using Twitter and Facebook, respectively. Given this gender digital divide and our findings regarding gender differences in using social media for health, Pakistan

needs to focus on increasing internet access and social media use among women so as they can better seek information online about their health issues. Further, offering digital literacy and information literacy courses in schools, colleges, and universities could help them gain relevant information from credible online health sources. Our results related to this area contribute to advancing research on gender differences in digital health and social media as men and women exhibit different health diagnosis even with similar diseases. Our findings indicate that relevant policies and support measures need to be developed to facilitate Pakistani millennial women's access and use of digital resources for health, especially given the increasing importance of health information online. Our study suggests that younger millennials are more likely to consider social media important for health-related information. This finding is in line with the fact that the younger population is educated and technologically savvy making it easier for them to access health resources online compared to older populations.

Pakistan's culture is considered as masculine where male gender understanding of health issues is regarded as an important trait of men by women. In addition, people with high masculinity tend to be high achievers and many consider social media use for health information, which would be useful to their situation, as an achievement or advancement in their knowledge. Shared values are important in collectivist cultures like Pakistan and so is behavior modeling. The results seem to suggest that being a collectivist society, people perceive that social media use would be beneficial not only for themselves but for overall society. Lastly, uncertainly avoidance was positively associated with perceived importance of social media for health information seeking. This indicates that those seeking to reduce life's uncertainty are more likely to use social media for health information as more and more health communication is conducted via social media these days. Overall, our findings imply that the willingness to use social media to seek and share health-related information can be enhanced by emphasizing the usefulness, importance, and the ease of using these platforms in countries like Pakistan.

The varying effects of different cultural characteristics and demographic attributes on Pakistani millennials' perspectives on social media and health suggest that health communication researchers and practitioners should consider the intersectionality in developing health campaigns. In addition, as previous research suggests that those who perceive social media important are more likely to change their behaviors concerning communicating, sharing, and seeking support from social media,[75] people's perceptions on the importance of social media in the health arena should be properly considered in developing engagement strategies.

Our results concerning popular social media platforms for health among Pakistani millennials offer important insights into roles and uses of different social media sites that are popular in Pakistan. While WhatsApp was the most widely and frequently used social media site among Pakistani millennials, YouTube was the most preferred social media site for health-related matters, followed by WhatsApp, Facebook, and Twitter. There are several reasons why YouTube is frequently used by Pakistani millennials with regard to health. Most of all, it should be noted that YouTube is the second most used website in Pakistan after Google.[76] Therefore, this population already spends a lot of time on YouTube for various activities. In addition, previous studies suggest that people often opt for YouTube to receive health information as it is a visually engaging platform and tend to consider information on the platform credible especially when it is offered by government health departments.[77,78] In digital health, people turn to YouTube, which is easy and free to use, for various reasons including seeking and getting social support, looking for answers on a particular health topic, and discussing health issues via comment features[79–81] (p. 59). The frequent use of WhatsApp among the survey participants is in line with the rising popularity of WhatsApp in Pakistan and around the world.[23,82] In particular, compared with other social media platforms such as Facebook, WhatsApp is generally considered to allow direct, personalized, expressive, and "intimate communications"[83,84] (p. 892). In addition, Gil de Zúñiga et al.'s study[85] suggested that "the positive effect of WhatsApp discussion on participation seems to be stronger for younger than for older respondents" (p. 14).

Scholarly and practical implications

Analyzing the effects of cultural characteristics on social media use in health-related issues in developing countries is important in enhancing scholarly and practical understanding of social media use for health-related matters around the world.[59] This research contributes to advancing empirical approaches to analyzing relationships between cultural characteristics, social media use, and health information seeking. The findings from this study are useful for health organizations to create awareness campaigns by strategically targeting certain demographics to achieve campaign goals. In designing social media-facilitated interventions for health issues, governmental and nongovernmental organizations, both domestically and internationally, should consider cultural characteristics accordingly. Our results about Pakistani millennials' perceived importance and time spent on different social media sites with regard to health provide helpful insights for those who want to engage this population via social media. In addition, the findings of this study contribute to advancing the scholarship in U&G theory and Hofstede's[16] cultural characteristics framework implications in the Global South. In particular, by conducting empirical research on Pakistan, a Global Southern country with highly collectivist, masculine, and

uncertainty avoidance culture, this study fills a gap in the existing literature that focuses heavily on individualistic and Western countries.[9,12,30,63,65]

Limitations & future research

As is the case with any other study, this study has several limitations. First, this study used convenient sampling for survey data collection and thus readers should be careful not to generalize the findings to a broader population. This study still offers relevant and helpful insights, especially as the composition of the survey sample is reflective of that of the millennial population in Pakistan. In analyzing cultural characteristics, this study focused on three aspects: masculinity, collectivism, and uncertainty avoidance. While this approach aligns with previous studies in this area,[10] examining additional cultural characteristics might be useful. Future studies may conduct similar surveys in multiple countries to conduct a comparative analysis on the issues. Future research could also investigate the trust, believability, accuracy, authenticity, and reliability of health-related information on social media in relation to cultural attributes.

Despite these limitations, this study makes important theoretical and practical contributions to the area of research. Pakistani social fabrics are changing, and these findings can be useful for technology companies to reach out to more remote areas. Also, to the best of our knowledge, this is the first study that explores effects of demographic characteristics and cultural characteristics on perceived social media usefulness, importance, and access for health-related matters in Pakistan.

Conclusion

Our study highlights the importance of taking into account cultural characteristics—specifically, masculinity, collectivism, and uncertainty avoidance—in understanding Pakistani millennials' use of social media for health-related matters. In addition, the results of the survey identify specific social media platforms (i.e. YouTube and WhatsApp) that the Pakistani adults prefer in seeking and sharing health information and communicating health concerns with relevant social connections. These and other findings from the current research are relevant for scholarly and policy communities working in the areas of digital health, health communication, intercultural studies, and public health. Moreover, health communication professionals may apply the framework and results from the study in developing tailored communication strategies specific populations.

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