

## HEALTH INFLUENCER EXPOSURE AND REPRODUCTIVE HEALTH AWARENESS AMONG YOUNG WOMEN IN PAKISTAN

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### Keywords

Health influencers, Reproductive Health Awareness, Young Women, Social Media, Pakistan, Digital Health Communication, Parasocial Interaction Theory, HIERHA, Health Information-Seeking Behavior, Menstrual Health.

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### Abstract

Social media health influencers have emerged as significant sources of information about reproductive health to young women, particularly in situations where the culture prevents free discussion. This paper looks into the relationship between exposure to health influencers (HIE) and reproductive health awareness (RHA) in 300 female university students based in Islamabad, Pakistan. Data were analyzed using descriptive statistics, correlation, and regression analysis using a valid online questionnaire (Cronbach's 0.873). The findings indicate that there is a strong positive correlation between HIE and RHA ( $r = 0.395$ ,  $p < 0.01$ ), and HIE predicts 15.4% awareness ( $R^2 = 0.156$ ,  $F(1,298) = 55.018$ ,  $P < 0.001$ ). The active involvement of students in the influence shows that they have better knowledge of menstrual health, contraception, fertility, and prevention of STIs. The findings are guided by the para-social interaction theory and the HIERHA model and propose that a perceived relationship with health influencers enhances trust and engagement of digital health content. The article identifies influencers as relatable digital personalities and points to the potential of social media in enhancing reproductive health literacy in culturally competent contexts.

### INTRODUCTION

Health influencer exposure refers to the extent to which people are exposed to and interact with health-related information that is shared by social media influencers on social networks, including Facebook, YouTube, TikTok, and Instagram. Social media influencers have emerged in the past few years as effective players in influencing the general perceptions of health, wellness, and lifestyle behaviors, especially by young people (Goodyear et al., 2019). In the reproductive health field, the influencers tend to disseminate messages on menstrual health, contraceptives, fertility, sexual health, and maternal

health, thus supporting the informal eco-systems of health communication. Within the context of a young Pakistani woman, where the discourse on reproductive health remains limited under the influence of cultural sensibilities and social taboos, exposure to health influencers can be an alternative source of information and knowledge.

In Pakistan, many reproductive health issues affect young women, such as lack of access to accurate sexual education, misinformation about contraception, menstrual stigma, and restricted communication in families about reproductive issues (Population

Council, 2022; UNFPA, 2023). Even though there is an improvement in digital access, reproductive health literacy is still uneven, especially among adolescents and young adults living in semi-urban and rural areas. In this regard, social media platforms have evolved into more powerful platforms of health communication. Advocates of reproductive health, especially female health advocates, medical practitioners, and creators of lifestyle content, tend to deliver the information in a relatable and approachable manner, which may raise awareness that lessens stigma (Pilgrim & Bohnet-Joschko, 2019).

International studies have shown that exposure to social media is associated with a wide impact on health-related knowledge and attitudes, as well as behavioral intention among young women (Goodyear et al., 2019). Influencers in the field of health can positively influence the spread of awareness by normalizing the discussion on the topic of reproductive health, spreading evidence-based information, and encouraging preventive actions, including gynecology check-ups and the use of birth control. Nevertheless, exposure too has its dangers, such as the transmission of false information, commercializing the health-related advice, and unproven assertions about fertility interventions or menstrual cures (Vraga and Bode, 2020). These two dynamics indicate the necessity to investigate empirically the relationships between influencer exposure and reproductive health awareness.

In Pakistan, the emergence of online writers who talk about menstrual hygiene, polycystic ovarian syndrome (PCOS), and fertility myths and family planning indicates a change in health communication trends. Influencer partnerships have become part of the campaigns on menstrual health and reproductive rights targeting young female audiences (UNICEF Pakistan, 2022). In addition, the number of mobile subscribers and social media subscribers has grown at an alarming rate in Pakistan, and young women have become a significant portion of the online user population (Qalbi and Herawati, 2024). These changes imply that influencer exposure can have a significant part in the development of reproductive health awareness in young women.

Reproductive health awareness involves menstrual health knowledge, contraception, sexually transmitted infections (STIs), fertility, maternal health, and access

to reproductive healthcare (World Health Organization [WHO], 2023). It also encompasses knowledge of body autonomy, awareness of symptoms to be addressed by a doctor, and knowledge of existing health resources. Although studies have been conducted in the past in Pakistan focusing on reproductive health literacy and obstacles to accessing healthcare (Alhussaini et al., 2025), there is scant literature on how digital health influencers affect reproductive health awareness in young women.

Even though the influence of social media on health behaviors has been increasingly recognized in the global scholarship, the impact of influencer exposure and awareness of reproductive health in the context of culturally sensitive countries like Pakistan is understudied. The current literature has a tendency to move in a general direction of digital health communication or media consumption by youth in general, without necessarily breaking down the particular role of health influencers in forming reproductive knowledge. Thus, this paper fills an important empirical gap since it seeks to establish the association between exposure to health influencers and reproductive health awareness among young Pakistani women. Using a combination of international evidence and local socio-cultural realities, this study will help to comprehend the role played by digital media environments in shaping reproductive health knowledge in environments where formal reproductive education is still at a disadvantage.

The research paper is of great relevance in the socio-cultural environment in Pakistan, where debate on menstruation, reproductive health, and contraception has always been shrouded in secrecy, stigma, and gender-based limitations. In the past, most women, especially in conservative and resource-poor environments, have been unable to access reliable health information because of cultural taboos, limited mobility, and poor health care facilities. Even visits to medical experts have been limited by social values and institutional barriers in most cases. In these regards, social media has become a democratizing and revolutionary platform that allows women to privately access, share, and discuss reproductive health information that was previously seen as taboo or something that cannot be openly discussed (Alhussaini et al., 2025). The current study is

significant as it focuses on how the digital spaces are transforming access to information, breaking cultural silence, and possibly enhancing reproductive health awareness among Pakistani women (Klassen et al., 2018).

In addition to the simple sharing of information, social media platforms are also emerging as platforms of digital empowerment through which young women can bargain knowledge, voice, and agency in relation to their reproductive health. Online health information will enable women to have greater capacity to make reproductive choices that are informed and therefore reinforce their substantive reproductive rights that are normally confined by socio-cultural settings. Health influencers who tend to make complex medical information available and relatable to ordinary people, in this respect, can have a strong impact on the process of bringing awareness and establishing an open and normalized conversation about reproductive health concerns among young women.

### Study Objectives

- To determine the level of exposure to health influencers on social media among Pakistani young women.
- To examine the dimensions of health influencer engagement that are most frequently engaged in, including following behavior, active interaction, and perceived relevance, that are most strongly related to reproductive health knowledge.

The study aims to determine how health influencer exposure affects reproductive health awareness.

### Conceptualization

#### **Independent Variable: Health Influencer Exposure**

Health Influencer Exposure is the level to which the young women are exposed to, follow, and interact with social media influencers who distribute information about their reproductive and general health. This construct includes passive activities, i.e., post-viewing or video watching, and active ones, i.e., comments, sharing, and subscribing to health-related accounts (Lou and Yuan, 2019). Health influencers' exposure is regarded as a potent cause of reproductive health awareness because influencers are digital role models and a source of information that influences knowledge, attitudes, and health-related behavior.

The independent variable may be further explained using three main dimensions: frequency of exposure, following behavior, and engagement level.

#### **Dependent Variable: Reproductive Health Awareness**

The conceptualization of Reproductive Health Awareness is the level of correct knowledge, awareness, and informed attitudes among young women about the issues of reproductive health (World Health Organization [WHO], 2022). The awareness: Menstrual Health Knowledge, contraception knowledge, fertility awareness, STI awareness, and knowledge about when to seek medical care.

#### **Control Variables**

Several demographic and socio-economic factors will be balanced to guarantee valid causal inference, and they will be age, educational level, socio-economic status, urban/rural residence, and previous exposure to reproductive health education.

#### **Literature Review**

Health influencer exposure is becoming a mainstream topic of interest in the field of digital health communication especially in relation to the reproductive health awareness of young women. The role of social media figures who share health-related information with online users as health influencers can become more and more important in forming the perception, knowledge, and health behaviors of youth (Qalbi and Herawati, 2024). In such contexts, such as in Pakistan, where reproductive health is a socially sensitive topic, digital platforms provide alternative ways through which young women can get information on menstruation, contraception, fertility, sexual health, and the well-being of the mother. The conceptualization of reproductive health awareness in that women can make responsible decisions regarding their reproductive life is based on the degree of knowledge and understanding, and informed attitudes (World Health Organization [WHO], 2022). Recent findings have shown that exposure to health influencers can have a considerable impact on the health knowledge acquisition, attitudes to reproductive health, and perceived social norms (Pilgrim & Bohnet-Joschko, 2019).

It is emphasized in the international scholarship that social media influencers can be informal health educators, especially to young audiences who might not trust institutional messages or have a barrier to accessing formal healthcare services (Abdoh, 2022). Credibility of the influence, perceived authenticity, and relatability have always been among the key determinants of the level of engagement and the ability to obtain knowledge among the audience (Lou and Yuan, 2019). In the reproductive health environment, influencers who touch upon such issues as menstrual hygiene, contraception myths, polycystic ovarian syndrome (PCOS), or sexual consent help to desensitize otherwise stigmatized conversations in conservative societies (Baker et al., n.d.). Nevertheless, the scholar warns that the validity of information shared by the influencers and its scientific validity is not constant and that there are multiple issues of misinformation and not verified assertions (Vraga and Bode, 2020). Accordingly, the exposure to health influencers is not a neutral process but is mediated by views of credibility, engagement behaviour, and digital literacy.

The issue of reproductive health awareness among young women has been studied in a variety of contexts. Increased reproductive health knowledge is linked to better menstrual hygiene, use of contraceptives, and preventive screening behaviors in the world (UNFPA, 2023). Digital media has become one of the main channels of receiving reproductive health information among adolescents and young adults and can substitute or complement traditional family or school-based education (Kamran et al., 2019). In South Asia, where socio-cultural norms limit open debates of sexual and reproductive health, online opportunities offer informative sources, which are confidential through online communication (Gul et al., 2025).

In Pakistan, the level of awareness of reproductive health among young women is not homogeneous because of socio-cultural taboos, the lack of formal sexuality education, and gendered mobility (Al-Kahtani et al., 2022). Research reveals that a significant proportion of young females do not possess the correct information regarding contraception, menstrual disorders, and sexually transmitted diseases despite the growing access to the internet (Malik et al., 2023). Recent studies show that the Pakistani young

generation is increasingly turning to blogs, bloggers and influencers by their peers (Qalbi and Herawati, 2024). Influencers often present the issues of reproductive health in simple words, using a mix of medical explanations and personal stories to make them more relatable and attractive. However, there is a fear that there is no content regulation, fact-checking, and that misinformation may spread in health-related content created by influencers (Bajwa et al., 2024).

Although the research on social media health communication has been growing, there are still considerable gaps. The field of international studies tends to investigate digital health engagement in general without focusing on reproductive health awareness as a particular outcome. In addition, most of the literature that exists is based in a Western setting, and thus it cannot be relevant to the conservative, low- and middle-income nations like Pakistan. Although national research indicates an increase in social media among the young generation, not many examine how exposure to health influencers is directly related to health awareness about reproduction among young women. Besides, there is little literature that quantitatively evaluates the frequency of exposure, perceived credibility, and exposure to influencer content as contributive factors to reproductive health knowledge and awareness.

Altogether, exposure to health influencers is a dynamically changing aspect of health communication that collides with gender, culture, and access to technology. According to both international and national studies, influencers could be used to promote reproductive health awareness by normalizing the conversation and making information more accessible. Nonetheless, the issues of misinformation, credibility, and socio-cultural sensitivities are of importance. The current study is a timely addition to the existing body of knowledge on the role of informal digital actors in developing health knowledge in culturally complicated settings by empirically investigating the connection between exposure to health influencers and reproductive health awareness among young Pakistani women.

**Theoretical Framework**

**Parasocial Interaction Theory (PSI)**

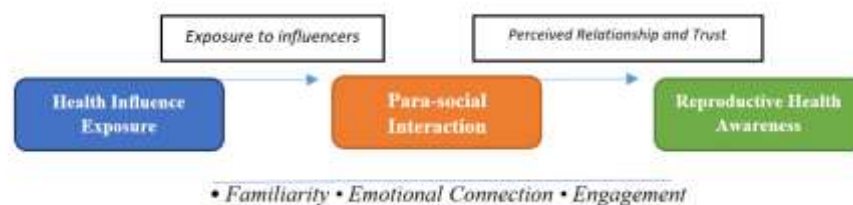
Health Influencer Exposure and Reproductive Health Awareness (HIERHA) defines the processes through which young women in Pakistan watch, interact, and internalize health-related content that is posted by social media influencers. A proper theoretical framework that can be used to explain this phenomenon is the Para-social Interaction Theory (PSI), which was initially proposed by Horton and Wohl (1956).

Parasocial Interaction Theory describes the one-way relationships of the media personality that the audience develops when they are exposed to them over a long period of time in mediated settings. In spite of the fact that the interaction does not occur conventionally, media personalities tend to become familiar, trusted, and relatable to the audience. This is aggravated by social media sites, where influencers often reveal personal experiences, engage with their followers in comments and messages, and publish their content in the form of conversations (Giles, 2002).

The use and interaction with health influencers can develop a perception of proximity and trust in health influencers among young women in Pakistan. When such influencers talk about sensitive aspects of

menstruation, contraception, fertility, or sexual health, they can feel more comfortable approaching such information due to the delivery of such information by leaders whom they believe are relatable and authoritative.

In the context of the HIERHA model, para-social interaction can be used to clarify how exposure to content created by an influencer can be converted into awareness of reproductive health. Recurrent exposure to posts, videos, and discussions of influencers can enhance the perceived bond between them and their followers, making them pay more attention to health information and motivating them to learn. The engagement behavior, which can be liking, commenting, or sharing posts, can also enhance this perceived relationship and make the educational messages more memorable and effective. Therefore, the theory of parasocial interaction will be an adequate explanation of how reproductive health awareness should be developed by young women with the help of digital influencers. Influencers can also be useful as a source of information, perceived familiarity, emotional attachment, and trust, and can be used to create awareness on reproductive health issues in socially sensitive contexts.



*Framework: 1*

**Methodology**

**Research Design**

This research design was a quantitative research design, which was used to test the relationship between digital health information-seeking behaviors (DHISB) and reproductive health awareness among university students in Islamabad, Pakistan. The quantitative methods were selected as they are capable of systematic measurement of relationships, patterns, and predictive relationships. The purpose of the study was to find out whether students who actively seek health information on digital platforms would display

greater rates of health awareness, and the study would give an insight into the impact of technology on health literacy and behavior.

**Population and Sample**

The respondents were female university students who were in universities in Islamabad. The choice of university students was caused by their active work with digital technologies and their age of formation of health knowledge, attitudes, and behaviors. A group

of 300 students was selected from various universities to represent the academic and socioeconomic status. Random sampling was used to reduce the chances of selection bias, and all people had equal opportunities to participate, which further increases the generalizability and reliability of results.

**Data Collection**

The structural online questionnaire conducted through Google Forms was used to gather the data. The questionnaire was shared with the use of the university social media groups, email lists, and student networks, and the respondents filled out the questionnaire under the control of the researcher. The tool had three parts, including demographics (age, academic level, and field of study), digital health information, and health awareness (knowledge of reproductive health, disease prevention, healthy lifestyle practices, and confidence in making decisions related to health). Everything was measured on a four-point Likert scale (Strongly Agree to Strongly

Disagree) to facilitate quantification of the perception and response facilitation.

**Measures**

In this study, data collection was done using a structured self-administered questionnaire. The questionnaire was constructed on two major sections to determine the construct of the research, which are health influencer exposure (independent variable) and reproductive health awareness (dependent variable). In order to warrant reliability and internal consistency of the measurement scales, the Cronbach alpha coefficient was used. Cronbach's alpha is a very popular coefficient of reliability that evaluates the extent to which individual items in a scale have a consistent tendency to measure the same underlying construct (Cronbach, 1951). The Cronbach alpha value of a =.851 obtained in the reliability analysis of the independent variable, health influencer exposure, comprising 10 items, shows that items in the health influencer exposure scale had a high level of internal consistency.

**Table 1: Reliability Scale of Independent Variable (Health Influencer Exposure)**  
Reliability Statistics

Cronbach's Alpha	N of Items
.851	10

In the same vein, the reliability test on the dependent variable, Reproductive Health Awareness, which had 11 items, had a Cronbach alpha score of 1 =.841,

indicating a high internal consistency of the items used to assess the respondents' reproductive health awareness.

**Table 2: Reliability Scale of Dependent Variable (Reproductive Health Awareness)**  
Reliability Statistics

Cronbach's Alpha	N of Items
.841	11

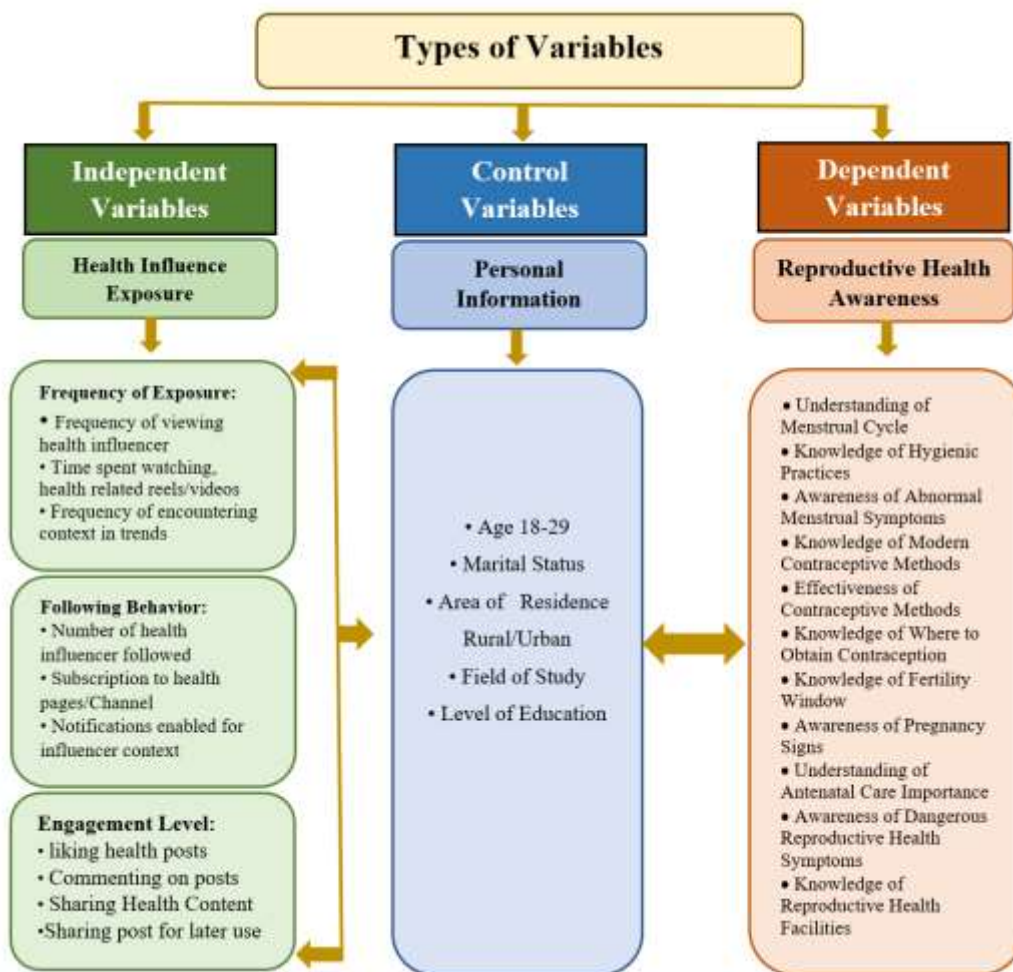
**Ethical Considerations**

The research ethics were taken into consideration during the conduct of the research in order to promote credibility and integrity of the study. The questionnaire was structured with the use of neutral and non-leading statements to reduce bias on the part of the researcher and prevent influencing the participants to give certain answers. Involvement in the study was voluntary, with the respondents being informed about the purpose of the research prior to offering their answers. The researcher did not pressure or coerce the participants to fill out the questionnaire, as they could do so without any

pressure or influence. All the data were collected without manipulation or alteration. Moreover, the participants had their confidentiality and anonymity, and the data given by the respondents was only utilized to conduct scholarly research.

**Operationalization**

Operationalization of variables, dimension and indicators are presented in the following framework. The measurement scales are established as per the common-place rules in digital health and social media studies.



Conceptual Framework: 1

**Descriptive Analysis**

**Descriptive Statistics**

The researchers surveyed 300 female university students in Islamabad to investigate the correlation between exposure to health influencers (HIE) and reproductive health awareness (RHA). Table 1 shows the demographics of the respondents. The majority of the participants were between the ages of 21 and 23 years (49%), single (84%), and lived in urban locations

(71%). Most of them were in social sciences courses (65%), whereas the rest of the respondents had varied academic subjects. A majority were undergraduates (79%), which is why the sample included young women at the age when digital media use and knowledge about reproductive health are still in progress.

**Table 1: Frequency and Percentage Distribution of Demographic Variables (N = 300)**

Variable	Category	F (%)
Age	18-20	112 (37%)
	21-23	148 (49%)
	24-26	26 (8%)
	27-30	14 (4%)
Marital Status	Single	269 (84%)
	Married	31 (9%)
Area of Residence	Urban	228 (71%)
	Rural	72 (22%)
Field of Study	Social Sciences	208 (65%)
	Medical & Health Sciences	4 (1.3%)
	Other	88 (29.3%)
Level of Education	Undergraduate	253 (79%)
	Graduate	24 (7.5%)
	Postgraduate	23 (7.2%)

Table 1 shows the demographic description of the respondents (N = 300). Most of the respondents were in the 21-23 years (49%), 18-20 years (37%), 24-26 years (8%), and 27-30 years (4%) age bracket, which implies that a high proportion of respondents were young adults. On the marital status, the majority of the participants were single (84), and 9% were married. Regarding residence, 71 percent of the residents were urban, and 22 percent were rural residents. With regards to academic discipline, 65

percent had been pursuing social sciences, 1.3 percent in medical and health sciences, and 29.3 percent in other studies. Regarding the level of education, most of them were undergraduate students (79%), then the graduate students (7.5%), and the postgraduate students (7.2%). On the whole, the sample is mostly representative of young and unmarried students of universities and mainly urban in terms of background.

**Table 2: Descriptive Statistics of Items Measuring “Health Influencer Exposure”**

Statements	Agree f(%)	Disagree f(%)	Strongly Disagree f(%)	Mean	SD	Mode	Min	Max
I frequently view content created by health	227(70%)	57(17%)	16(5%)	2.70	0.56	3	1	3

influencers on social media platforms.									
I spend a significant amount of time watching or reading health-related content shared by influencers.	191(59%)	91(28%)	18(5%)	2.58	0.60	3	1	3	
Health-related influencer content appears regularly in my social media feed through platform recommendations.	196(61%)	90(28%)	14(4%)	2.61	0.57	3	1	3	
I follow one or more health influencers on social media.	179(55%)	106(33%)	15(4%)	2.55	0.59	3	1	3	
I subscribe to health-related pages or channels managed by influencers.	150(46%)	124(38%)	26(8%)	2.41	0.64	3	1	3	
I have enabled notifications to receive updates from health influencers I follow.	136(42%)	138(43%)	26(8%)	2.37	0.63	2	1	3	
I like posts shared by health influencers.	217(67%)	68(21%)	15(4%)	2.67	0.56	3	1	3	
I comment on posts shared by health influencers.	90(30%)	159(49%)	42(13%)	2.19	0.66	2	1	3	
I share health-related posts from influencers with others.	177(55%)	100(31%)	23(7%)	2.51	0.63	3	1	3	
I save or bookmark health-related posts for future reference.	202(63%)	79(24%)	19(5%)	2.61	0.60	3	1	3	

Table 2 shows the descriptive statistics of the Health Influencer Exposure (HIE). The findings indicate that most of the interviewees are often exposed to health-related posts by influencers. In particular, 70 per cent of them said that they see health influencer content quite often, and only 17 and 5 per cent disagreed and strongly disagreed respectively ( $M = 2.70, SD = 0.56$ ). In the same way, 59% said that they spent a lot of time watching or reading influencer health content, whereas 28% said otherwise, and 5% said strongly no ( $M = 2.58, SD = 0.60$ ). Moreover, 61 percent said that the content of health influencers can be frequently seen in their social media feeds, and 28 percent of

participants disagreed, and 4 percent strongly disagreed ( $M = 2.61, SD = 0.57$ ).

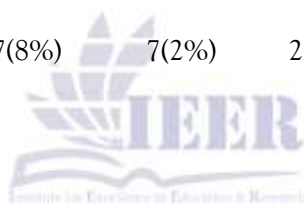
Regarding the following behavior, 55% said that they followed one or more health influencers, and 33% said they did not agree with this, and 4% strongly disagreed ( $M = 2.55, SD = 0.59$ ). Further, 46% of them indicated that they subscribe to health influencer pages or channels, whereas 38% and 8% disagreed and strongly disagreed ( $M = 2.41, SD = 0.64$ ). Only 42% allowed influencer updates notifications, which is compared to 43% disagreements and 8% strong disagreements ( $M = 2.37, SD = 0.63$ ).

Concerning the engagement behaviors, 67% shared that they liked posts posted by health influencers, 21% did not agree, and 4% strongly disagreed (M = 2.67, SD = 0.56). Nonetheless, interaction was less active; only 30 percent of them stated that they commented on posts made by influencers, 49 percent did not agree, and 13 percent strongly did not agree (M = 2.19, SD = 0.66). Also, 55 percent of them said that they shared influencer posts with others (as opposed to 31 percent who disagreed and 7 percent who strongly disagreed) (M = 2.51, SD = 0.63). Finally, 63% have said they save or bookmark posts by influencers to refer to them later, 24% have disagreed

with the statement, and 5% have strongly disagreed (M = 2.61, SD = 0.60). In general, the findings suggest that the respondents are often exposed and exposed to health influencer content, which is often delivered in passive ways by viewing, liking, and saving posts. The option of strongly agree is not in the tables since a very small number of the participants chose it. This is an indication of how sensitive reproductive health issues are in Pakistan, whereby young women tend to give a moderate agreement over extreme responses owing to cultural beliefs and the desire to respond socially desirably.

Table 3: Descriptive Statistics of Items Measuring “Reproductive Health Awareness”

Statements	Agree f(%)	Disagree f(%)	Strongly Disagree f(%)	Mean	SD	Mode	Min	Max
I understand the phases and average duration of the menstrual cycle.	250(78%)	41(12%)	9(2%)	2.80	0.46	3	1	3
I am aware of recommended hygienic practices during menstruation (e.g., regular changing of sanitary products).	266(83%)	27(8%)	7(2%)	2.86	0.40	3	1	3
I can identify abnormal menstrual symptoms such as excessive bleeding, severe pain, or prolonged irregular cycles that require medical consultation.	255(79%)	38(11%)	7(2%)	2.83	0.43	3	1	3
I am knowledgeable about modern contraceptive methods such as oral pills, intrauterine devices (IUDs), and condoms.	198(61%)	85(26%)	17(5%)	2.60	0.59	3	1	3
I understand that different contraceptive methods vary in their effectiveness in preventing pregnancy.	173(54%)	110(34%)	17(5%)	2.52	0.60	3	1	3



I know where contraceptive services or products can be obtained in my community.	162(50%)	118(36%)	20(6%)	2.47	0.62	2	1	3
I understand the concept of the fertile window within the menstrual cycle.	173(54%)	113(35%)	14(4%)	2.53	0.58	3	1	3
I can recognize early signs of pregnancy such as missed periods, nausea, or breast tenderness.	183(57%)	94(29%)	23(7%)	2.53	0.63	2	1	3
I understand the importance of regular antenatal check-ups during pregnancy.	190(59%)	90(28%)	20(6%)	2.57	0.61	3	1	3
I can identify warning signs during pregnancy such as severe bleeding, high fever, or severe abdominal pain that require immediate medical attention.	166(51%)	97(30%)	37(11%)	2.43	0.70	3	1	3
I am aware of healthcare facilities in my area that provide reproductive health services.	211(65%)	69(21%)	18(5%)	2.65	0.59	3	1	3

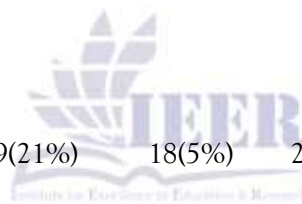


Table 3 shows the descriptive statistics of Reproductive Health Awareness (RHA). The findings show that there is a relatively high awareness of menstrual health. In particular, 78 percent of the respondents stated that they are knowledgeable about the stages and length of the menstrual cycle, 12 percent disagreed, and 2 percent strongly disagreed (M = 2.80, SD = 0.46). On the same note, 83 percent of them indicated that they were aware of suggested hygienic measures when they were on their menstrual days, 8 percent disagreed, and 2 percent strongly disagreed (M = 2.86, SD = 0.40). Further, 79% indicated that they are able to recognize abnormal menstrual symptoms that need medical attention, whereas only 11% responded in the opposite, and 2% strongly disagreed (M = 2.83, SD = 0.43).

The same respondents provided information on contraception awareness; 61 percent of them responded that they were aware of modern contraceptive methods, and 26 percent and 5 percent disagreed and strongly disagreed, respectively (M = 2.60, SD = 0.59). Moreover, 54% realized that the methods of contraceptives are not all equal, 34% disagreed, and 5% strongly disagreed (M = 2.52, SD = 0.60). Also, half of them stated that they are familiar with the place where they can get contraceptive services, and 36% denied it, and 6% strongly denied (M = 2.47, SD = 0.62).

Regarding fertility awareness, 54% indicated that they were familiar with the fertile window concept, with 35% disagreeing and 4% strongly disagreeing (M = 2.53, SD = 0.58). On the same note, 57% indicated that they were aware of the early pregnancy symptoms,

with 29% contradicting the statement and 7% strongly disagreeing (M = 2.53, SD = 0.63). In terms of pregnancy care, 59 percent, 28 percent, and 6 percent identified the significance of attending regular antenatal check-ups as opposed to disagreeing and strongly disagreeing (M = 2.57, SD = 0.61). Moreover, half of them (51) said they could recognize warning signs during pregnancy, 30% did not agree, and 11% strongly disagreed (M = 2.43, SD = 0.70). Lastly, 65%

indicated that they knew about healthcare facilities that offer reproductive health services, with 21 and 5 per cent disagreeing and strongly disagreeing, respectively (M = 2.65, SD = 0.59). In general, the findings suggest that the respondents have a moderate to high degree of reproductive health awareness.

Statistical Analysis

Correlation Analysis

Table 4: Pearson Correlation Between HIE and RHA

Variable	HIE	RHA
Health Influencer Exposure	1	.395
Reproductive Health Awareness	.395	1

Table 4 displays the Pearson correlation between the Health Influencer Exposure (HIE) and Reproductive Health Awareness (RHA). The findings demonstrate that there is an average positive association (r = 0.395,

p < 0.01) between exposure to health influencers and reproductive health awareness among the respondents.

Regression Analysis

Table 5: Regression Results

Model	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of Estimate
1	.395	.156	.153	.32801

The regression analysis indicates that the exposure of health influencers is a significant predictor of reproductive health awareness. The model describes 15.4 percent (R<sup>2</sup> = 0.156) of the variation in reproductive health awareness. The statistical

significance of the model (F (1,298) = 55.018, p < 0.001) shows that the model is statistically significant. These results indicate that exposure to health influencers helps to raise the awareness of reproductive health in young females.

## ANOVA (Model Significance)

Table 6: ANOVA for Regression Model

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5.919	1	5.919	55.018	.000
Residual	32.062	298	.108		
Total	37.982	299			

The results of the ANOVA mean that the regression equation of Reproductive Health Awareness (RHA) as a predictive variable of Health Influencer Exposure (HIE) is significant. The F-value of 55.018 has a p-value of .000 (Less than 0.001) indicates that the model is not just by chance, as the model explains such a large percentage of the variance in RHA. This proves that HIE is a significant predictor of reproductive health awareness among young Pakistani women.

### Discussion and Findings

This research has shown that digital health information-seeking behavior (HIE) plays a great role in determining the level of reproductive health awareness (RHA) among young women in Pakistan. The correlation analysis ( $r = 0.395$ ,  $p < 0.01$ ) and regression findings ( $R^2 = 0.156$ ,  $F(1,298) = 55.018$ ,  $p < 0.001$ ) show that, having high levels of reproductive health knowledge, including contraception, menstrual health, fertility, STI prevention, and informed decision. Such outcomes are in line with the Health Influencer Exposure and Reproductive Health Awareness (HIERHA) model, which is a conceptualization of influencer engagement as a preventive, cognitive, and motivated health behavior. The number of exposures, post-behavior, and active disposition to influencer content are relevant contributions to reproductive health awareness. The internalization of knowledge among students who view influencers as credible, relatable, and authentic is higher, which is consistent with the HIERHA framework and previous studies regarding digital health communication (Lou and Yuan, 2019).

Theoretically, the results are well supported by the parasocial interaction theory (Vraga and Bode, 2020; Horton and Wohl, 1956), which is based on the concept that repeated exposure through a mediator helps the audience to establish a perceived social relationship with the personality in the media. Health influencers who were used in the current research are credible online personalities whose personal stories, educational material, and participatory engagement give the follower a feeling of familiarity and closeness. The perceived relationship prompts young women to be more attentive to influencer content and increases the chances that information about reproductive health will be internalized and retained. The moderate positive relationship ( $r = 0.395$ ,  $p < 0.01$ ) means that an increment in exposure to health influencers is highly related to an increment in the level of reproductive health awareness.

The results are in line with the earlier studies in digital health communication. As an example, Lou and Yuan (2019) have discovered that perceived credibility and relatability of social media influencers are vital factors in increasing information acceptance and knowledge acquisition by the audience. Equally, Chung et al. (2022) have concluded that health influencer activity has a positive impact on health knowledge and attitudes in the younger users. Within the framework of reproductive health, Hussain and Yousaf (2024) also noted that Pakistani young people have been turning to social media influencers when seeking information related to their health, and it is resulting in better awareness and lowered stigma. Thus, the current research is consistent with the available literature as it confirms the fact that exposure to health influencers has a significant influence on

reproductive health awareness, especially in digital and culturally sensitive settings. The results of the linear regression analysis show that HIE is moderately correlated with RHA ( $R = 0.395$ ) and explains 15.4% of the variance ( $R^2 = 0.156$ ), whereas the results of ANOVA ( $F(1, 298) = 55.018, p = 0.001$ ) prove that the regression model is statistically significant. Such results support the relevance of the explanatory role of PSI, indicating that, through repeated interaction with the influencer, perceived social relations, trust, and interest towards the health messages increase. HIERHA goes further to theorize this interaction as one of the routes through which digital interaction can improve knowledge on reproductive health.

The paper highlights the essential nature of the digital platform in the socio-cultural environment of Pakistan, which is strict, predominantly patriarchal, and culturally inhibiting when it comes to the topic of reproductive health (Vraga and Bode, 2020). Other issues like contraception, menstruation, and reproductive health, especially among unmarried women, are not openly discussed due to stigma and the limits of society (Alhussaini et al., 2025). Social media has emerged as an alternative, comparatively anonymous, and accessible source of information where young women are not ashamed or hesitant to obtain reproductive health information. They can inquire, consult, and access credible information, which would otherwise be limited in the face-to-face environment, leading to agency in health-related decision making.

Although HIE is an important predictor of RHA, it only explains 15.4 per cent, which means that other variables, including family communication, school-based sexual education, socio-economic status, and digital literacy, are also important predictors of reproductive health awareness. The issues of misinformation, trustworthiness of online content, and differences in engagement levels are some of the issues that highlight the necessity of digital health literacy interventions.

In general, the results offer solid empirical support for the idea that social media health influencers can be regarded as effective digital role models, enhancing knowledge, decreasing stigma, and creating a positive attitude towards reproductive health among young women in Pakistan. Both PSI and the HIERHA model are justified by the results, which prove how

digital exposure, engagement, and credibility increase reproductive health literacy in restrictive cultures. These results also show that digital media is an important addition to education in areas where traditional health resources are scarce.

### Conclusion

This paper finds that digital health information-seeking behavior (HIE) is an important tool in improving reproductive health awareness (RHA) among Pakistani young women. Learners who interact with health influencer materials actively by watching, liking, and commenting on posts report greater knowledge about menstrual health, contraception, fertility, and sexually transmitted infections.

The results affirm the HIERHA conceptual model in the sense that exposure to health influencers through frequency, engagement, and perceived credibility mediates to enhanced awareness and knowledge-based health behaviors. Perceived social associations lead to attention, trust, and internalization of health information.

The socio-cultural and patriarchal environment in Pakistan is strict, and thus, the subject of contraception, menstruation, and all aspects of reproductive health, especially among unmarried women, is not openly discussed because of the stigma and social constraints. Social media, therefore, comes out as a crucial source of information, and young women will be able to acquire reproductive health information without feeling shame or hesitation. Such platforms enable them to raise questions, consult and interact with trustworthy materials, which will enable them to be digitally empowered and gain agency to make informed health choices.

With reference to sociological and policy dimensions, the research highlights the revolutionary capacity of digital media within culturally responsive situations. Health influencers can act as approachable, relatable, and influential agents who can encourage reproductive health literacy and minimize barriers created by a lack of formal sexual education, family-led restrictive conversations, and social taboos.

Future studies might examine other mediation variables, including gender norms, socio-economic status, and psychological involvement with internet material. The longitudinal studies can also be used to explore the long-term effects of influencer exposure

on reproductive health behaviors. On the whole, this research paper shows that digital health information-seeking behavior, which is enabled by health influencers, is a very important tool in enhancing reproductive health awareness in a situation where there are few traditional educational and healthcare sources.

### Recommendations

The government, through the public health officials, ought to collaborate with reliable health influencers to disseminate correct and culturally relevant information on reproductive health. Digital health literacy programs can be incorporated in educational institutions in order to enable the youth women to critically evaluate online information. Awareness can be further promoted by holding popular social media campaigns concerning menstrual health, contraception, and STIs prevention. It is possible to empower young women by expanding their access to such resources in rural and semi-urban areas, coupled with formal education, so that they can make informed decisions in reproductive health. Influencer-led education can also have the best effect by addressing obstacles such as digital literacy and misinformation, which should be addressed by policymakers.

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