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The relationship between sexual health literacy and sexual health attitudes in young adults

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MAIN POINTS

- This study found a positive correlation between sexual health attitudes and sexual health literacy among young adults.
- Sexual health attitudes accounted for 19% of the variance in sexual health literacy scores among young adults.
- Gender, sources of sexual health information, and receiving sexual health education were significantly associated with higher sexual health literacy and more positive sexual health attitudes.
- In this context, nurses must consider the key determinants of sexual health literacy when designing educational and counseling strategies for young adults.

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ABSTRACT

Aim: This paper investigated the relationship between sexual health literacy (SHL) of young adults and attitudes toward sexual health.

Materials and Methods: This study was descriptive and correlational in design. The sample size included 281 young adults. Data were collected using a personal information form, the Sexual Health Literacy Scale (SHLS), and the Sexual Health Attitude Scale (SHAS). The data were analyzed using the independent-samples t-test, one-way analysis of variance (ANOVA), Welch ANOVA test, Pearson's correlation coefficients, and simple linear regression analysis.

Results: Participants' mean SHLS and SHAS scores were 59.60±10.86 and 149.68±12.43, respectively. Both SHLS and SHAS scores were significantly higher among women compared to men, and among those who had received sexual health education compared to those who had not ($p<0.01$). Participants with master's or higher degrees had higher mean SHLS score than other groups ($p<0.01$). When examining sources of sexual health information, participants who learned from healthcare professionals, books, and personal experiences scored higher on SHLS than those who did not ($p<0.01$). For SHAS, participants who gained knowledge from friends/acquaintances, siblings, and personal experiences had higher mean score than others ($p<0.01$). A positive correlation was found between total SHLS scores and both total SHAS score and all SHAS subscale scores ($p<0.05$). Additionally, SHLS "sexual attitude" subscale score was positively correlated with total SHAS score and all SHAS subscale scores ($p<0.05$). Similarly, SHLS "sexual knowledge" subscale score showed a positive correlation with total SHAS score and all SHAS subscale scores, except for the "gender roles" subscale ($p<0.05$). Finally, SHAS score explained 19% of the variance in SHLS score ($\beta=0.433$, $p<0.001$).

Conclusion: Sexual health attitude, higher education, being a woman, and having received sexual health education are important determinants of SHL. Young adults with reliable sources of information on sexual health have high levels of SHL.

Keywords: Sexual health, Health literacy, Attitude, Knowledge, Young adult

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INTRODUCTION

Health literacy plays a crucial role in maintaining health and well-being in contemporary societies. It is also an important area of public health that is overlooked [1]. The definition of health literacy remains unclear and lacks a universally accepted consensus. However, it is defined as the degree to which one acquires, processes, and understands the basic health information and services one needs to make the right health decisions [2]. The World Health Organization (WHO) defines health literacy as "both a means and an outcome of actions aimed at promoting the empowerment and participation of people in their communities and of people in their health care" [1]. The World Health Organization (WHO) recognized health literacy as a key action plan for reducing health inequalities in the Shanghai Declaration [3]. Sexual and reproductive health (SRH) literacy, which encom-

passes the ability to access, understand, evaluate, and apply SRH-related information to address related issues [4], is therefore crucial for overall sexual health [5,6].

Sexual health literacy (SHL) is the ability to access, understand, evaluate, and apply sexual health information, encompassing one's knowledge, beliefs, attitudes, motivations, and skills [7]. Individuals with more SHL are better at understanding and assessing sexual health risks. They postpone their first sexual experience until they find a reliable spouse/partner. Therefore, they have a safe sex life free from unplanned pregnancies. They also suffer fewer sexually transmitted diseases and share tasks and responsibilities in sexual life. Therefore, sexual health literacy helps improve family and community health [8].

Sexual health literacy is a critical part of improving SRH for young people in low-income countries [4]. During adolescence and young adulthood, people develop SRH literacy skills, adopt healthy living behaviors, and take responsibility for their own health [9,10]. However, individual, sociocultural, and economic factors affect how young adults develop SHL. Some young adults know little about SRH because they are bombarded with different sources of information and have limited access to reliable ones [4]. People who receive sexual health education tend to have more SHL. Research also suggests that individuals with more SHL have more positive attitudes toward sexual health [11]. Furthermore, the extent to which people have SHL is determined by gender, sexual health education [11,12], first sexual experience, place of residence, and beliefs [13,14].

People with more SHL are more empowered in terms of SRH. They are also more satisfied with their marriage/partners and enjoy a better quality of life, resulting in strengthened family and community health [5,6,8]. In this regard, healthcare professionals are responsible for assessing and strengthening individuals' sexual health and referring them to counseling, clinical services, and specialists when necessary [15,16]. There is a large body of research into SHL in young adults [11,12] and other age groups [5,17,18]. However, only a few researchers have investigated what kind of attitudes young adults with SHL have toward sexual health. Therefore, this study investigated the relationship between SHL and attitudes of young adults toward sexual health. Specifically, the level of SHL among young adults, their attitudes toward sexual health, and the factors influencing both were examined. In addition, the relationship between SHL and sexual health attitudes in this population was investigated.

MATERIALS AND METHODS

Research type

This study adopted a descriptive and correlational research design.

Population and sample

The study population comprised young adults with social media accounts in Turkey. According to the American Psychological Association, people between the ages of 20-35 are young adults [19]. The sample size was calculated based on young adults' sexual health knowledge (23%) reported by Özcan et al. [20]. Convenience sampling method, one of the non-probability sampling methods, was used. The sample size was calculated using "Sampsize Program" with an unknown population [21]. In the calculation, the target sample was 273 participant (precision: 5%; prevalence: 23%; level: 95%). The final sample consisted of 281 young adults. In post hoc analysis, the study's achieved power was computed as 99% [alpha= 0.05, constant proportion= 0.23, effect size (g)= 0.26] based on the status of "receiving sexual health education (49.5%)" (G*Power (3.1.9.7. v.). The inclusion criteria were (1) volunteering, (2) being 20-35 years of age, (3) speaking Turkish, (4) being literate, and (5) having at least one social media account. Foreign national participants were excluded from the study.

Ethical considerations

The study was approved by the Health Sciences Ethics Committee of Ankara Yıldırım Beyazıt University (Date: 01.07.2024, No: 06/801). An online survey served as the data collection instrument. Before beginning, all young adults were thoroughly briefed on the research purpose, procedures, and confidentiality. They were also explicitly informed of their right to withdraw at any point without penalty. Consent to participate was indicated by clicking an "Agree" button, after which participants proceeded to complete the data collection tools. This research strictly adhered to the principles outlined in the Declaration of Helsinki. Furthermore, necessary authorization was secured from the developers of the scales used. Participation was voluntary.

Data collection tools

The date were collected using a personal information form, the Sexual Health Literacy Scale (SHLS), and the Sexual Health Attitude Scale (SHAS).

Personal information form

To gather participant data, the researchers developed a personal information form [4,6,8,9,11,12,18,20,22,23]. This 15-item instrument covered sociodemographic details (such as age, gender, marital status, education, and level of development of the place of residence) and sexual health information (including receipt of sexual health education and sources of information). A key variable, the level of development of the place of residence where participants lived until age 12, was categorized [24]. This variable was included because attitudes and behaviors are largely shaped in childhood, with the period up to age 12 being crucial for identity development. Given that family, social structure, culture, environment, friends,

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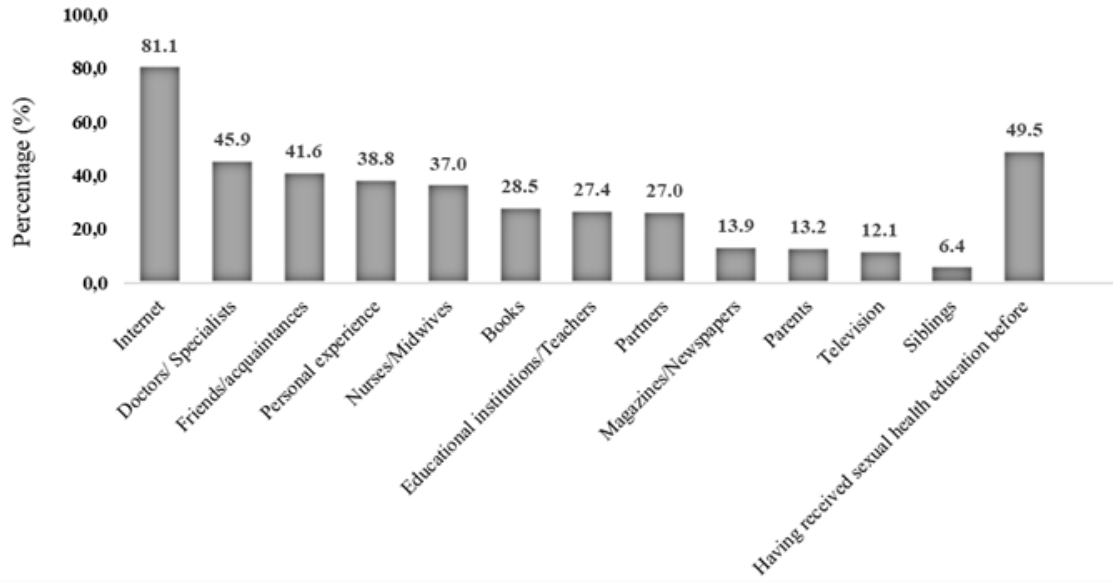

Figure 1. Distribution of sources for sexual health information and sexual health education status (n=281) (*Participants gave more than one answer).

and school can all influence personality, attitudes, and behaviors during childhood [25], it was important to investigate the sociocultural environment experienced by participants up to that age.

Sexual health literacy scale (SHLS)

The Sexual Health Literacy Scale (SHLS) was developed by Üstgörül (2022) [26]. The instrument consists of 17 items rated on a five-point Likert-type scale ("strongly disagree: 1," to "strongly agree: 5"). The total score ranges from 17 to 85. The scale has two subscales: (1) sexual knowledge and (2) sexual attitude. The first subscale comprises 12 items, with a potential total score between 12 and 60. The second subscale consists of five reverse-scored items, resulting in a total score ranging from 5 to 25. In both instances, elevated scores signify a higher level of sexual health literacy (SHL). The scale's reported Cronbach's alpha in the original study was 0.88 [26], which was consistent with the 0.89 observed in this study.

Sexual health attitude scale (SHAS)

The Sexual Health Attitude Scale (SHAS) was developed by Köprülü (2022) [23]. The instrument consists of 33 items rated on a five-point Likert-type scale ("strongly disagree: 1," to "strongly agree: 5"). The total score ranges from 33 to 165. The scale has seven subscales: (1) decision-making and responsibility (11 items), (2) communication and rights (five items), (3) safe sex (four items), (4) sexual rights (four items), (5) gender roles (four items), (6) awareness (two items), and (7) self-confidence (three items). Higher scores indicate more positive attitudes toward sexual health. The original scale has a Cronbach's alpha score of 0.94 [23], which was 0.93 in the present study.

Data collection

The researchers contacted young adults through social media platforms (WhatsApp, Instagram, Facebook etc.). They used Google Forms to create an online survey. They sent a link to the survey on the social media platforms. The survey informed the young adults about the research purpose, procedure, and confidentiality. Each participant took 10-15 minutes to complete the survey. The data were collected between October 2024 and December 2024.

Statistical analysis

The data were analyzed using the Statistical Package for Social Sciences (IBM Corp. SPSS Statistics Version 21.0, Released 2012. Armonk, NY) at a significance level of 0.05. To assess normality, the Shapiro-Wilk test was conducted, complemented by an examination of skewness and kurtosis values, with a range between -1.5 and +1.5 indicating a normal distribution. Homogeneity of variances was determined via Levene's test. Descriptive statistics are presented using frequencies, percentage distributions, mean ± standard deviations, and medians (min-max). Group comparisons were performed using an independent-samples t-test for two groups, and one-way analysis of variance (ANOVA) or Welch ANOVA for more than two groups. Post-hoc comparisons were further analyzed with the Dunn-Bonferroni test. Pearson's correlation coefficients were utilized to ascertain the relationships between scale scores. A simple linear regression analysis was subsequently performed to predict SHAS scores from SHLS scores.

RESULTS

Participants had a mean age of 25.69±4.49 years. 72.2% of the participants were women, and 31% were married. 54.4% of the participants had a neutral income (income = expense).

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Table 1. Sociodemographic characteristics (n=281).

Sociodemographic characteristics	MD(min-max)	M±SD
Age (year)	24.00(20-35)	25.69±4.49
Partner age* (year) (n=87)	31.00(21-42)	31.41±4.34
	n	%
Gender		
Woman	203	72.2
Man	78	27.8
Marital status		
Married	87	31.0
Single	194	69.0
Income		
Negative (income < expense)	74	26.3
Neutral (income = expense)	153	54.4
Positive (income > expense)	54	19.2
Place of residence until age 12		
City/big city	172	61.2
District	65	23.1
Village/Borough/Town	44	15.7
Developmental level of place of residence until age 12		
First tier	122	43.4
Second tier	48	17.1
Third tier	31	11.0
Fourth tier	26	9.3
Fifth tier	26	9.3
Sixth tier	28	10.0
Family type		
Nuclear	232	82.6
Extended	49	17.4
Education (degree)		
High school	71	25.3
Associate's	37	13.2
Bachelor's	125	44.5
Master's and ↑	48	17.1
Employment status		
Unemployed/ Housewife	30	10.7
Public employee	95	33.6
Private sector employee	64	22.8
Student	92	32.7
Partner's education (degree)*		
High school	19	21.8
Associate's	11	12.7
Bachelor's and ↑**	57	65.5
Partner's employment status*		
Unemployed/ Housewife	10	11.5
Public employee	41	47.1
Private sector employee	36	41.4

MD: Median; Min: Minimum; Max: Maximum; M: Mean; SD: Standard deviation. * Eighty-seven participants with partners were included. **The number of partners with postgraduate education is 9.

A significant proportion of participants (61.2%) reported living in cities or major urban centers until the age of 12. Furthermore, 43.4% resided in first-tier settlements based on development level. Educational attainment revealed that 44.5% of participants possessed a Bachelor's degree. In terms of employment, 33.6% were employed in the public sector, and 47.1% had partners working in the public sector. Among married individuals, 65.5% had attained a Bachelor's degree or higher (Table 1). In total, 49.5% of the participants had received sexual health education before. Participants learned about sexual health from the internet (81.1%), specialists/doctors (45.9%), friends/acquaintances (41.6%), personal experiences (38.8%), nurses/midwives (37.0%), books (28.5%), educational institutions/teachers (27.4%), partners (27.0%), magazines/newspapers (13.9%), parents (13.2%), television (12.1%), and siblings (6.4%) (Figure 1).

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Table 2. The distribution of scale scores (n=281).

Scales and Subscales	Item	Score Ranges	MD(Min-Max)	M±SD
SHLS Total Score	17 items	17-85	60.00(32-85)	59.60±10.86
Sexual knowledge	12 items	12-60	41.00(15-60)	39.77±8.71
Sexual attitude	5 items	5-25	20.00(7-25)	19.83±4.03
SHAS Total Score	33 items	33-165	153.00(98-165)	149.68±12.43
Decision-making and responsibility	11 items	11-55	52.00(29-55)	50.70±4.63
Communication and rights	5 items	5-25	23.00(14-25)	22.74±2.14
Safe sex	4 items	4-20	19.00(12-20)	18.34±1.95
Sexual rights	4 items	4-20	20.00(12-20)	18.63±1.73
Gender roles	4 items	4-20	18.00(4-20)	17.41±2.93
Awareness	2 items	2-10	8.00(3-10)	8.29±1.30
Self-confidence	3 items	3-15	14.00(9-15)	13.57±1.27

MD: Median; Min: Minimum; Max: Maximum; M: Mean; SD: Standard deviation. SHLS: Sexual Health Literacy Scale. SHAS: Sexual Health Attitude Scale.

Participants had a mean SHLS score of 59.60±10.86. They had mean SHLS "sexual knowledge" and "sexual attitude" subscale scores of 39.77±8.71 and 19.83±4.03, respectively. They had a mean SHAS score of 149.68±12.43. They had mean SHAS "decision-making and responsibility," "communication and rights," "safe sex," "sexual rights," "gender roles," "awareness," and "self-confidence" subscale scores of 50.70±4.63, 22.74±2.14, 18.34±1.95, 18.63±1.73, 17.41±2.93, 8.29±1.30, and 13.57±1.27, respectively (Table 2).

Female participants (60.73±11.07) had a higher mean SHLS score than males (56.65±9.75) ($p<0.01$). Participants with a neutral income (61.51±10.35) had a higher mean SHLS score than those with a negative income (55.88±11.21) ($p<0.01$). Participants with master's degrees (65.17±10.89) had a higher mean SHLS score than others ($p<0.01$). Participants who had received sexual health education before (63.16±10.12) had a higher mean SHLS score than those who had not (56.11±10.45) ($p<0.01$). Female participants (151.80±11.02) had a higher mean SHAS score than their male counterparts (144.17±14.16) ($p<0.01$). Single participants (151.13±12.04) had a higher mean SHAS score than their married counterparts (146.44±12.74) ($p<0.01$). Participants who had received sexual health education before (151.98±11.57) had a higher mean SHAS score than those who had not (147.43±12.86) ($p<0.01$) (Table 3).

Participants who had learned about sexual health from doctors/specialists (61.78±10.06), personal experiences (62.08±10.35), nurses/midwives (62.87±9.52), and books (63.80±10.08) had high SHLS scores ($p<0.01$). Moreover, participants who had learned about sexual health from friends/acquaintances (151.50±10.47), personal experiences (152.32±11.16), and siblings (156.33±8.41) had high SHAS scores ($p<0.05$) (Table 4).

A weak positive correlation was observed between SHLS total score and SHAS "gender roles" subscale score ($r= 0.150$, $p<0.05$). A moderate positive correlation was present between SHLS total score and SHAS total score and SHAS "decision-making and responsibility" ($r= 0.376$), "communication and rights" ($r= 0.446$), "safe sex" ($r= 0.386$), "sexual rights" ($r= 0.354$), "awareness" ($r= 0.305$), and "self-confidence" ($r= 0.378$) subscale scores ($p<0.001$). There was a moderate positive correlation between SHLS "sexual knowledge" subscale score and SHAS total score ($r= 0.350$) and SHAS "decision-making and responsibility" ($r= 0.304$), "communication and rights" ($r= 0.366$), "safe sex" ($r= 0.344$), "awareness" ($r= 0.307$), and "self-confidence" ($r= 0.319$) subscale scores ($p<0.001$). A weak positive correlation existed between SHLS "sexual knowledge" subscale score and SHAS "sexual rights" subscale score ($r= 0.270$, $p<0.001$). A moderate positive correlation was detected between SHLS "sexual attitude" subscale score and SHAS total score ($r= 0.412$) and SHAS "decision-making and responsibility" ($r= 0.356$), "communication and rights" ($r= 0.411$), "sexual rights" ($r=0.370$), and "self-confidence" ($r= 0.330$) subscale scores ($p<0.001$). A weak positive correlation was determined between SHLS "sexual attitude" subscale score and SHAS "safe sex" ($r= 0.297$), "gender roles" ($r= 0.252$), and "awareness" ($r= 0.159$) subscale scores ($p<0.01$) (Table 5). Regression analysis indicated that SHLS total score had a significant effect on SHAS total scores ($R= 0.433$, $R^2 = 0.188$, $F= 64.521$, $p<0.001$) (Table 6).

DISCUSSION

Sexual health and reproductive health (SRH) and sexual health literacy (SHL) are fundamental components of overall health and health literacy. Fostering SHL is essential for strengthening SRH and contributing to a healthier society [5,6,8,26]. Young adults are particularly susceptible to risky behaviors, making SHL competence especially critical for this demographic [4]. While there's no universal consensus on the factors influencing SHL [11], our study found that gender, education, prior sexual health education, and sexual health attitudes significantly affected participants' SHL.

Young adults with high SHL are better equipped to access reliable sexual health information. Interestingly, individuals holding more positive sexual health attitudes primarily gather

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Table 3. The distribution of scale scores in accordance with various variables (n=281).

Characteristics	SHLS			SHAS		
	M±SD	Analysis†	p value	M±SD	Analysis†	p value
Gender						
Woman	60.73±11.07	2.852	**0.005****	151.80±11.02	4.285	**<0.001*****
Man	56.65±9.75			144.17±14.16		
Marital status						
Married	60.26±10.67	0.721	0.492	146.44±12.74	2.969	**0.003****
Single	59.30±10.95			151.13±12.04		
Income						
Negative	55.88±11.21[a]			149.08±11.02		
Neutral	61.51±10.35[b]	7.023	**0.001****	151.07±11.921	2.270§	0.108
Positive	59.28±10.60[a,b]			146.56±15.01		
Place of residence until age 12						
City/big city	60.24±10.20			149.33±12.72		
District	59.54±11.83	1.419	0.244	149.91±12.94	0.236	0.790
Village/Borough/Town	57.16±11.73			150.73±10.57		
Developmental level of place of residence until age 12						
First/second tier	59.77±10.55			150.12±12.38		
Third/fourth tier	60.35±11.73	0.567	0.568	151.33±11.49	2.337	0.099
Fifth/sixth tier	58.26±10.96			146.56±13.18		
Family type						
Nuclear	59.82±10.72	0.756	0.450	149.69±12.67	0.016	0.987
Extended	58.53±11.54			149.65±11.33		
Education (degree)						
High school	57.17±10.86[a]			149.99±11.65		
Associate's	57.73±11.10[a]	6.084	**0.001****	150.51±12.67	1.206	0.308
Bachelor's	59.39±10.11[a]			148.31±12.86		
Master's and ↑	65.17±10.89[b]			152.15±12.11		
Employment status						
Unemployed/ Housewife	58.87±10.75			147.40±13.86		
Public employee	61.38±11.14	1.579	0.195	149.67±13.30	0.437	0.726
Private sector employee	59.61±10.31			149.72±12.53		
Student	57.99±10.86			150.40±10.97		
Partner's education (degree)						
High school	59.53±7.53			145.42±12.41		
Associate's	60.73±9.66	0.097§	0.908	145.00±12.41	0.193	0.825
Bachelor's and ↑	60.42±11.82			147.05±13.08		
Partner's employment status						
Unemployed/ Housewife	56.30±6.80			143.60±8.50		
Public employee	59.80±11.10	1.148	0.322	144.37±13.49	1.927	0.152
Private sector employee	61.89±10.94			149.58±12.44		
Having received sexual health education before						
Yes	63.16±10.12	5.738	**<0.001*****	151.98±11.57	3.117	0.002**
No	56.11±10.45			147.43±12.86		

M: Mean; SD: Standard deviation. SHLS: Sexual Health Literacy Scale. SHAS: Sexual Health Attitude Scale. †Independent samples t-test was used for paired groups, while One Way Anova or Welch Anova§ test was used for more than two groups. a-b: No difference between groups with the same letter for each measurement (Dunn Bonferroni Test). *p<0.05, **p<0.01, ***p<0.001.

information from informal sources such as friends, acquaintances, personal experiences, and siblings.

Our participants achieved a mean total SHLS score of 59.60±10.86. This contrasts with previous research, which typically reports young adult SHLS scores ranging from 45 to 55 [11,12,27-29]. Similarly, our participants' mean total SHAS score was 149.68±12.43. For comparison, Köprülü (2022) found a mean SHAS score of 143.63±19.37 among college students [23]. Our participants' relatively higher SHLS and SHAS scores likely stem from our sample's inclusion of individuals with bachelor's or higher degrees, not just college students.

Our findings indicate that education, gender, sexual health education, and income influenced participants' SHLS scores, while gender, sexual health education, and marital status affected their SHAS scores.

Previous research aligns with some of these findings, suggesting women often exhibit significantly higher SHLS and

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Table 4. The distribution of scale scores by sexual health information sources (n=281).

Sexuality-Related Information Sources	SHLS			SHAS		
	M±SD	Analysis†	p value	M±SD	Analysis†	p value
Internet						
Yes	59.58±10.35	0.041	0.968	149.99±12.00	0.785	0.435
No	59.66±12.91			148.34±14.17		
Doctors/Specialists						
Yes	61.78±10.06	3.144	**0.002****	150.29±12.16	0.763	0.446
No	57.75±11.20			149.16±12.67		
Friends/Acquaintances						
Yes	58.43±10.36	1.530	0.127	151.50±10.47	2.170	**0.031***
No	60.43±11.15			148.38±13.54		
Personal experience						
Yes	62.08±10.35	3.146	**0.002****	152.32±11.16	2.904	**0.004****
No	57.98±10.91			147.96±12.97		
Nurses/Midwives						
Yes	62.87±9.52	4.132	**<0.001*****	151.16±12.67	1.537	0.125
No	57.68±11.16			148.81±12.24		
Books						
Yes	63.80±10.08	4.212	**<0.001*****	150.55±11.67	0.740	0.460
No	57.93±10.72			149.33±12.73		
Schools/Teachers						
Yes	60.22±11.37	0.590	0.556	151.71±11.53	1.691	0.092
No	59.36±10.68			148.91±12.69		
Partners						
Yes	60.62±9.17	1.060	0.291	149.30±12.44	0.309	0.757
No	59.22±11.42			149.82±12.45		
Magazines/Newspapers						
Yes	61.05±11.06	0.900	0.369	148.82±11.75	0.871	0.643
No	59.36±10.83			149.82±12.55		
Parents						
Yes	59.08±9.94	0.310	0.757	151.19±12.15	0.792	0.429
No	59.68±11.01			149.45±12.48		
Television						
Yes	58.64±9.99	0.375	0.708	150.00±11.89	0.160	0.873
No	59.69±10.99			149.64±12.52		
Siblings						
Yes	60.11±9.17	0.207	0.836	156.33±8.41	3.339	**0.003****
No	59.56±10.98			149.22±12.54		

M: Mean; SD: Standard deviation SHLS: Sexual Health Literacy Scale. SHAS: Sexual Health Attitude Scale. †Independent samples t-test was used. *p<0.05, **p<0.01, ***p<0.001.

Table 5. Correlation of the scores used in the present study (n=281).

Scales and Subscales	SHLS Total Score		SHLS Subscales			
			Sexual knowledge		Sexual attitude	
	r†	p	r†	p	r†	p
SHAS Total Score	0.433	**<0.001*****	0.350	**<0.001*****	0.412	**<0.001*****
Decision-making and responsibility	0.376	**<0.001*****	0.304	**<0.001*****	0.356	**<0.001*****
Communication and rights	0.446	**<0.001*****	0.366	**<0.001*****	0.411	**<0.001*****
Safe sex	0.386	**<0.001*****	0.344	**<0.001*****	0.297	**<0.001*****
Sexual rights	0.354	**<0.001*****	0.270	**<0.001*****	0.370	**<0.001*****
Gender roles	0.150	**0.012***	0.070	0.242	0.252	**<0.001*****
Awareness	0.305	**<0.001*****	0.307	**<0.001*****	0.159	**0.008****
Self-confidence	0.378	**<0.001*****	0.319	**<0.001*****	0.330	**<0.001*****

SHLS: Sexual Health Literacy Scale. SHAS: Sexual Health Attitude Scale. r†: Pearson's correlation analysis was used. *p<0.05, **p<0.01, ***p<0.001.

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Table 6. Efficiency of SHAS Scores in terms of Predicting SHLS Scores (n=281).

Variable	B (95% CI)	Std. Error	β	t	p
Constant	2.925 (-11.011 -- 16.862)	7.080		0.413	0.680
SHAS	0.379 (0.286 -- 0.471)	0.047	0.433	8.032	**<0.001**

SHLS: Sexual Health Literacy Scale. SHAS: Sexual Health Attitude Scale. B: Unstandardized coefficient, CI: Confidence interval, Std. Error: Coefficients Standardized Error, β: Standardized coefficient. R= 0.433, R^2= 0.188, F= 64.521, p<0.001, Durbin-Watson= 1.930.

SHAS scores than men [27,30]. Furthermore, prior sexual health education is consistently identified as a key determinant for both SHL and positive sexual attitudes [27,30]. However, there are conflicting results in the literature; for instance, Özcan et al. reported that two-thirds of female college students had inadequate SRH knowledge [20], and Yeşil and Apak found no gender difference in SHLS and SHAS scores [11].

The impact of perceived income on SHL and sexual attitude remains underexplored, with some studies suggesting minimal to no effect [22], while others indicate higher SHL among individuals with higher incomes. Similarly, the literature on marital status presents mixed findings: Dişsiz et al. observed no significant difference in SHLS and SHAS scores between married and single nursing students [22], yet Yeşil and Apak reported significantly higher SHLS and SHAS scores among married midwifery and nursing students compared to their single counterparts [11].

Collectively, these findings highlight that receiving sexual health education is a crucial determinant of SHL and sexual attitudes. However, further research is needed to comprehensively investigate how gender, marital status, and income consistently affect SHL and sexual attitudes.

Our study revealed a significant positive correlation between SHLS and SHAS scores, indicating that participants with greater SHL also held more positive sexual attitudes. Further analysis demonstrated that sexual attitudes explained 19% of the total variance in SHL, establishing the SHAS total score as a significant predictor of the SHLS total score. This finding is particularly salient for understanding the interplay between SHL and sexual attitudes. Similar positive correlations have been reported elsewhere [11], with some researchers emphasizing that sexual knowledge and attitude are vital determinants of SHL [14]. Öztürk Altınkaynak and Özkan further underscored this, observing high SHL, positive sexual attitudes, and lower risky sexual behavior among young women, with greater SHL correlating with a reduced likelihood of engaging in risky sexual behaviors [29]. In light of this, healthcare professionals should develop interventions aimed at fostering SHL and cultivating positive sexual attitudes among young people.

Our participants accessed various sources for sexual health information. The majority (81.1%) utilized online platforms, followed by doctors/specialists (45.9%), friends/acquaintances (41.6%), personal experiences (38.8%), and nurses/midwives (37.0%). The reliability of informal sources like the internet, friends, and personal experiences remains a point of contention. Prior research indicates that most college students primarily consult the internet/media, newspapers/magazines, television, professors, and friends for sexual health information, with far fewer turning to health institutions/professionals or parents [20,31]. Indeed, young people often avoid discussing sex with parents, particularly fathers [31]. Adamu et al. similarly documented that most young individuals rely on friends/peers, media platforms, and teachers, while very few consult health professionals/institutions and parents [4]. Our findings are consistent with this existing literature. Therefore, sexual health counselors must assess whether young adults have access to and utilize reliable sources of sexual health information.

Young adults' propensity for risky sexual behavior [4,31] underscores the importance of SHL competence [4] and sexual attitudes [29]. Kaplan Doğan demonstrated that young women with higher SHL and more positive sexual attitudes engaged in less risky sexual behavior [12]. It is imperative to provide young people with comprehensive, age-appropriate SRH education before they become sexually active. Such education can not only encourage the postponement of first sexual experiences but also promote less risky sexual behaviors. Amanu, Birhanu, and Godesso highlighted that adolescents who receive SRH education from healthcare professionals benefit more than those who acquire information from other sources [4]. Shahrahmani et al. further emphasized that both reliable and unreliable sources of sexual health information predict SHL [14].

Our study found that participants who learned about sexual health from doctors/specialists, nurses/midwives, books, and personal experiences had higher SHLS scores. Similarly, those who accessed reliable information sources also exhibited higher SHLS scores. However, participants who learned about sexual health from friends/acquaintances, siblings, and personal experiences showed higher SHAS scores. This suggests that young people with more positive attitudes toward sexual health may be more comfortable discussing sex with friends and siblings. The role of personal experience is particularly noteworthy for both SHL and sexual health attitudes. Sexual health counselors working with young people who rely heavily on personal experiences should be mindful of potential risky behaviors and consider tailored education to address these.

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High schools and colleges should integrate curricula that promote SHL. Furthermore, governments ought to develop and implement policies to ensure young people acquire SHL [4]. Effective collaboration among policymakers, healthcare professionals, educational institutions, media platforms, religious leaders, parents, and other stakeholders is crucial to comprehensively support young adults in acquiring SHL [4,20].

Limitations

This study has some limitations. These limitations are particularly related to the study being conducted on social media platforms. The first limitation was that the sample consisted only of young adults with social media accounts. Also, probability sampling was not used for all young adults who use social media. This is the second limitation of this study. Therefore, the findings cannot be generalized to both social media users and non-users.

CONCLUSION

Education, gender, sexual health attitudes, and prior sexual health education are significant determinants of SHLS. Young adults who access reliable sources of sexual health information tend to have higher SHLS scores. Ultimately, greater SHL among young adults correlates with higher SRH levels. Therefore, developing effective, tailored interventions to meet young adults' specific needs is essential. Healthcare professionals, especially nurses, must understand the factors influencing SHL and SRH when providing sexual health counseling and planning educational programs.

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Ethics Committee Approval: The study was approved by the Health Sciences Ethics Committee of Ankara Yıldırım Beyazıt University (Date: 01.07.2024, No.: 06/801).

Informed Consent: The data were collected using an online survey, which briefed all young adults on the research purpose, procedure, and confidentiality. Those who agreed to participate clicked on the "Agree" button and then completed the data collection tools. The research adhered to the principles of the Helsinki Declaration for ethical conduct.

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