Development and Validation of the Sexual Health Literacy Scale for Young Adults and Adults

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ABSTRACT

Background: Cultural norms, taboos, and insufficient education are among the significant barriers to individuals' access to sexual health information. In some societies, sexual health education may be inadequate, which can lead to unhealthy sexual behaviors due to low levels of sexual health literacy. Moreover, individuals often experience difficulties in accessing, understanding, and utilizing reliable information. These factors underline the critical need for context-specific, reliable, and valid tools to measure sexual health literacy. Therefore, there is a need for the development of a culturally appropriate sexual health literacy scale tailored to the specific characteristics of the target population. **Objectives:** This quantitative study aimed to develop a valid and reliable measurement tool to assess sexual health literacy levels among Turkish-speaking adults, addressing the gap in assessing individuals' ability to obtain, comprehend, and utilize sexual health information effectively. **Methods:** A pool of items was generated to measure sexual health literacy, followed by exploratory factor analysis (EFA), confirmatory factor analysis (CFA), and reliability testing. A total of 1,013 adult individuals participated in the study. It has been determined that the Sexual Health Literacy Scale for Adults consists of 17 items and three factors (knowledge, cognitive, and behavioral). The EFA was conducted with a sample of primarily young university students (age 18 to 25 years), while CFA involved a broader adult population. The scale demonstrated strong internal consistency reliability (Cronbach's alpha = .97). **Key Results:** Structural analyses revealed that the scale consisted of 17 items and three factors. Reliability tests demonstrated strong internal consistency, with a Cronbach's alpha coefficient of .97. **Conclusions:** This study presents a valid and reliable measurement tool for assessing sexual health literacy in adults. The developed scale can be used in Türkiye to investigate sexual health literacy. Given the significance of the subject, it is recommended to determine sexual health literacy levels among various groups and expand sexual and reproductive health education. One limitation of the study is that the EFA sample consisted predominantly of university students, which may limit generalizability to the broader adult population.

Plain Language Summary: Sexual health is an important part of overall health and well-being. To make informed decisions about sexual health, individuals need to be able to find, understand, evaluate, and use reliable information. However, cultural taboos, misinformation, and limited access to education can make this difficult. This study developed and tested a new Sexual Health Literacy Scale for adults in Türkiye. The scale includes 17 questions that assess knowledge, cognitive skills, and behaviors related to sexual health. More than 1,000 adults participated in the study. The results showed that the scale is reliable and accurately measures sexual health literacy. This tool can help researchers, health professionals, and educators identify knowledge gaps and design programs to improve sexual health literacy and promote healthier decisions and behaviors.

Sexual health is a crucial component of overall health, directly influencing individuals' physical, emotional, mental, and social well-being (Flynn et al., 2016). The World Health Organization (WHO) defines sexual health not merely as the absence of disease and dysfunction but as a state that enables individuals to have a safe and satisfying sexual life while adopting a positive and respectful approach (WHO, 2006). Conceptual frameworks suggest that individuals' capacity to access and utilize sexual health information may be influenced by their level of sexual health literacy (McDaid et al., 2021).

Sexual health literacy (SHL) refers to individuals' ability to acquire, understand, evaluate, and apply information related to sexual health (Paschen-Wolff et al., 2020). Nutbeam (2000) defined health literacy as the capacity to access, understand, and use health-related information, while Sørensen et al. (2012) provided a systematic framework categorizing these into cognitive and applied skills. SHL requires not only having knowledge but also the capacity to transform this knowledge into behavior and to critically evaluate it. These skills enhance individuals' access to sexual health services, promote safer sexual behaviors, and help prevent sexually transmitted infections (STIs) (Dehghankar et al., 2022). However, low levels of sexual health literacy can lead to misconceptions, engagement in risky sexual behaviors, and difficulties in accessing health care services (Shahrahmani et al., 2023).

SHL enables individuals to access accurate and reliable information, develop healthy sexual behaviors, and make informed use of sexual health services (Shahrahmani et al., 2023). This type of literacy directly influences decision-making processes related to sexual health and plays a critical role in preventing STIs, unintended pregnancies, and reproductive health-related issues (Dehghankar et al., 2022). Therefore, enhancing sexual health literacy is essential to ensure individuals make informed sexual health decisions and maintain a healthy sexual life. In a digital age, where individuals are increasingly exposed to misinformation, ensuring access to credible sources of information has become even more critical (El-Guebaly & Butterwick, 2016).

Cultural norms, taboos, and inadequate education remain significant barriers to individuals' access to sexual health information (El-Guebaly & Butterwick, 2016). In some societies where conservatism still prevails, sexual health education may not be provided sufficiently, leading individuals to make unhealthy sexual choices due to misinformation or a lack of information. Research indicates that the level of sexual health knowledge directly influences individuals' utilization of sexual health services (Obach et al., 2024). For example, individuals with low levels of sexual health knowledge may hold misconceptions about contraceptive methods or fail to take adequate precautions against STIs (Dombola et al., 2021).

Improving sexual health literacy empowers individuals to become more aware of their health and make healthier choices. Enhancing sexual health literacy in adults is particularly critical in preventing unintended pregnancies, reducing the prevalence of sexually transmitted diseases, and promoting healthy relationships (Debella et al., 2024). However, most existing research focuses on adolescents and young people, with limited studies addressing sexual health literacy in adults (Kaya & Kılınç, 2025; McDaid et al., 2021). Since sexual health is a lifelong process, it is essential to assess sexual health literacy in adults to ensure they make informed decisions. Therefore, the development of sexual health literacy scales tailored for adults is crucial for supporting individuals in acquiring knowledge about their health (Sentell & Halpin, 2006). Moreover, implementing an appropriate sexual health literacy scale for adults is of great importance for public health policies.

CONCEPTUAL FRAMEWORK

This study aims to measure sexual health literacy based on three fundamental dimensions: knowledge, cognitive, and behavioral. These dimensions were structured around Bloom's taxonomy of cognitive domains. Bloom's taxonomy classifies knowledge acquisition and processing into six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation. Adapted to SHL, this taxonomy provides a theoretical and practical basis for each dimension:

- Knowledge Dimension: Encompasses the ability to possess basic and accurate information related to sexual health ("knowledge" level).

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- Cognitive Dimension: Involves understanding, analyzing, and critically evaluating sexual health information ("comprehension," "analysis," "evaluation" levels).
- Behavioral Dimension: Refers to the application of acquired knowledge in real-life contexts and decision-making processes ("application" and "synthesis" levels) (Bloom, 1956).

Existing sexual health literacy scales, such as the Sexual Health Information, Motivation, and Attitudes (SHIMA) Scale and the Sexual Health Literacy for Adults (SHELA) Scale, tend to focus on specific groups such as women or adolescents. However, this study targets a broader population of adults age 18 to 65 years and aims to fill the gap with a Bloom-based, three-dimensional SHL scale.

Furthermore, in culturally conservative societies like Türkiye, topics related to sexuality are often treated as taboos and underrepresented in formal education. This limited access to reliable sexual health information leads to lower levels of SHL among individuals. Therefore, developing a culturally adapted scale is a critical need for public health practices and educational policies.

EXISTING MEASURES OF SEXUAL HEALTH LITERACY

Several scales have been developed to measure sexual health literacy. However, most of these tools focus on specific age or gender groups and do not provide a comprehensive assessment for the general adult population (Karimi et al., 2021). Recent systematic reviews also point out the diversity and limitations in existing SHL instruments. For instance, Chenneville et al. (2025) reviewed sexual health literacy measurement tools and highlighted the conceptual inconsistency and lack of cultural adaptation in many instruments, underlining the need for comprehensive and psychometrically robust tools. Existing studies reveal a lack of valid and reliable scales specifically designed for adults (Shahrahmani et al., 2023). However, a recent study by Yalazi et al. (2025) developed and validated a sexual health literacy scale among Turkish adults. While this scale provides a significant contribution, it emphasizes access, understanding, application, and evaluation dimensions without directly integrating a theoretical framework such as Bloom's taxonomy, as applied in the current study. For example, while some studies have examined the impact of health literacy on general health care utilization, they have not provided sufficient data on its effects in the specific context of sexual health (Dehghankar et al., 2022). Although these scales are valuable for assessing sexual health literacy in society, it is necessary to develop more comprehensive measurement tools that consider cultural differences and individuals' socioeconomic backgrounds (McDaid et al., 2021).

Sexual health literacy includes the ability of individuals to obtain accurate information about sexual health, to understand, evaluate and apply this information. This literacy can be addressed in three basic dimensions: cognitive dimension, behavioral dimension and knowledge dimension. Each dimension plays an important role in shaping individuals' sexual health decisions and behaviors. The cognitive dimension encompasses individuals' ability to acquire, understand and evaluate information on sexual health issues. In a study conducted in 2022, the Sexual Health Literacy Scale was developed and it was determined that the scale consists of two factors: sexual knowledge and sexual attitude. This scale is used to assess individuals' knowledge and attitudes towards sexual health (Üstgörül, 2022). In addition, Sørensen et al. (2012) emphasized that the cognitive components of health literacy are determinant in individuals' access to health services, STI risk assessment and contraceptive use decisions. The behavioral dimension includes how individuals apply their sexual health knowledge in their daily lives and how they reflect it on their sexual behaviors. A study conducted in 2024 examined the impact of young women's sexual health literacy levels on premarital risky sexual behaviors. The results showed that individuals with high sexual health literacy were less likely to engage in risky sexual behaviors (Kaplan Doğan, 2024). Friedman et al. (2016) found that individuals with high levels of sexual health literacy had more behavioral tendencies such as going to regular health checks, adopting safe sexual intercourse practices, and having STI tests. The knowledge dimension refers to individuals' possession of basic and accurate information about sexual health. Nutbeam (2000) defines the knowledge dimension of health literacy as individuals' access to accurate and valid information about health. In a study conducted in 2024 on pregnant women, the relationship between sexual health literacy and attitudes toward sexuality during pregnancy was examined. The study revealed that as the sexual health literacy level of pregnant women increased, they exhibited more positive attitudes toward sexuality (Öztürk Altınayak & Özkan, 2024). Sexual health literacy includes the ability of individuals to access accurate and reliable information, evaluate this information and avoid false beliefs. Paasche-Orlow and Wolf (2007) examined the effects of health literacy on health outcomes and stated that low health literacy negatively affects individuals' ability to understand and apply health information. This may increase the risk of individuals having false beliefs and turning to unreliable sources. Therefore, increasing sexual health literacy is critical for individuals to access accurate in-

formation and use this information effectively. Kickbusch et al. (2013) stated that knowledge about sexual health directly affects individuals' decisions to use contraception and to apply for sexual health services. In its report, UNESCO (2018) emphasizes that inadequate sexual health knowledge, especially among young people, increases the risk of unwanted pregnancies and STIs. These studies show that different dimensions of sexual health literacy have significant effects on individuals' knowledge levels, attitudes and behaviors. Sexual health literacy has a critical importance for individuals to be aware of sexual health and adopt healthy behaviors. Therefore, the development and implementation of scales measuring sexual health literacy is an important tool for individuals to access accurate information and adopt healthy sexual behaviors.

Similarly, the SHIMA scale developed by Moghasemi et al. (2022) aims to assess the sexual health perceptions of middle-aged women. However, the sexual health literacy scale developed in this study aims to measure sexual health literacy in a wide age range between ages 18 and 65 years. This scale aims to test its validity on a wider demographic group in order to comprehensively assess knowledge, attitudes and behaviors related to sexual health. In this context, the potential of the scale to reveal the levels of awareness about sexual health in different age groups provides an important innovation and contribution compared to previous studies in the literature.

This limitation has been identified in systematic reviews such as Chenneville et al. (2025), who noted that most SHL instruments fail to address specific domains such as consent, pleasure, and rights. Yet, sexual health encompasses a broad range of topics beyond reproductive health, including the prevention of STIs, safe sexual practices, body image, consent, privacy, and sexual rights. Therefore, there is a pressing need for a specialized, valid, and reliable scale that can specifically assess sexual health literacy. This need is further supported by Chenneville et al.'s (2025) systematic review, which calls for instruments that align with updated conceptual frameworks and address measurement gaps in SHL.

As shown in studies by Dehghankar et al. (2022) and Shahrahmani et al. (2023), higher SHL levels are associated with improved sexual decision-making and reduced risk behaviors. Assessing the level of sexual health literacy will help identify knowledge gaps and contribute to the development of more effective educational strategies.

The growing attention to SHL in health research and practice emphasizes the importance of developing valid and reliable instruments for its assessment (Chenneville et al., 2025; McDaid et al., 2021). It serves not only to increase individuals' awareness and knowledge regarding sexual health but also to inform the creation of public health policies that promote a healthy sexual life across society.

PURPOSE OF THE STUDY

The objective of this study is to develop a valid and reliable Sexual Health Literacy Scale (SHLS) based on Bloom's taxonomy and existing SHL frameworks, encompassing cognitive, knowledge, and behavioral dimensions.

These factors underline the critical need for context-specific, reliable, and valid tools to measure sexual health literacy. Moreover, recent systematic reviews have highlighted that the insufficient reporting of the development phase remains a common limitation in sexual health literacy measurement tools (Muehlmann et al., 2025). Therefore, there is a need for the development of a culturally appropriate sexual health literacy scale tailored to the specific characteristics of the target population. In light of these considerations, the primary objective of this study is to develop and validate a SHLS for adults and to evaluate its validity and reliability. This scale will serve as a scientific tool for assessing individuals' levels of sexual health knowledge, their access to information, and how they integrate this knowledge into their daily lives.

METHODS

Study Design

This study is research designed to develop and assess the validity and reliability of the SHLS.

Study Participants

The research was conducted Mardin province in Türkiye. The study consists of 1,013 people from two different sample groups. In the first stage, exploratory factor analysis (EFA) and in the second stage, confirmatory factor analysis (CFA) were conducted. Both analyses were conducted with different sample groups. The main reason for separating these two groups is that using the same data while testing the construct validity of the scale may lead to methodological errors. Therefore, EFA and CFA procedures were conducted with independent samples for the validity of the analyses. In CFA, the scale form formed by deleting the items eliminated in EFA was used. The EFA was conducted with a sample of college students due to practical access during the initial phase of data collection. This homogeneous group facilitated initial factor exploration. University students were selected for the EFA phase due to their accessibility, homogeneity, and familiarity with self-report instruments, which facilitates the preliminary identification of factor structures in scale development studies. The CFA was subsequently

TABLE 1

Sociodemographic Characteristics of the Exploratory Factor Analysis Sample

Characteristics	*n* (%)
Sex	
Female	471 (84.4)
Male	87 (15.6)
Age (y)	
18-25	510 (91.3)
26-35	31 (5.6)
36-45	15 (2.7)
>45	2 (0.4)
Marital status	
Married	32 (5.7)
Single	524 (93.9)
Divorced/widowed	2 (0.4)
Department	
Nursing	142 (25.4)
Midwifery	131 (23.5)
Nutrition and Dietetics	118 (21.1)
Theology	103 (18.5)
Turkish Language and Literature	7 (1.3)
Psychology	57 (10.2)
Year of study	
1st	15 (2.7)
2nd	120 (21.5)
3rd	216 (38.7)
4th	207 (37.1)
Total	558 (100)

performed using a broader adult sample (age 18 to 65 years) to assess the generalizability of the factor structure across a more diverse population.

The data obtained from the first sample group (n = 558) were used for EFA. EFA was initially conducted on 34 items derived from the post-expert and pilot testing item pool. Items with factor loadings below 0.40, cross-loadings above 0.30 on multiple factors, or low communalities (below 0.30) were removed. Based on these criteria, 17 items were retained across three factors (knowledge, cognitive, and behavioral). This process ensured that only the most statistically and conceptually robust items were included in the final scale structure. The initial number of items in the scale was taken into consideration when determining the sample size. According to the literature, for scale development studies, it is recommended that the sample size be at least ten times the number of items to ensure the reliability of the scale and to perform factor analysis effectively (Tabachnick & Fidell, 2013). Based on this guideline, EFA was conducted with 558 adult university students. As shown in **Table 1**, 471 participants (84.4%) were female, and 87 (15.6%) were male. This distribution aligns with the overall gender distribution of the student population at the university where the study was conducted. The inclusion criteria were determined as being a university student and voluntary participation in the study.

Total variances by dimension are as follows:

- 1st dimension: 52.133%
- 2nd dimension: 6.698%
- 3rd dimension: 4.696%

The developed scale was then administered to a second sample group (n = 455) for CFA. The scale was applied to 455 individuals age 18 to 65 years, among whom 358 (78.7%) were female and 97 (21.3%) were male. Among the participants, 249 individuals (54.7%) were age 18 to 25 years and 259 (56.9%) were single (**Table 2**). Participants included in the study were individuals aged 18 and above, literate, willing to participate in the research, and possessing adequate communication skills. Adequate communication skills referred to the participants' ability to read and comprehend Turkish and to independently complete the self-administered survey. This was informally assessed through a self-check item at the beginning of the questionnaire. Ensuring basic comprehension was essential for the validity and reliability of the responses in the CFA.

Process

The scale development process followed the stages outlined in the literature (DeVellis & Thorpe, 2021):

Item pool development. In the scale development process, necessary methodological steps were considered and implemented. Bloom's taxonomy was used in forming the item pool. Bloom's cognitive taxonomy classifies knowledge acquisition and processing into six levels: knowledge, comprehension, application, analysis, synthesis, and evaluation (Bloom, 1956). Based on Bloom's cognitive taxonomy, item suggestions were developed for cognitive, knowledge, and behavioral dimensions of sexual health literacy. A literature review was conducted to generate the item pool (Dehghankar et al., 2022; Karimi et al., 2021; Maasoumi et al., 2019; Üstgörül, 2022). During the design phase, efforts were made to ensure clarity and simplicity in the items, avoiding multiple judgments or overlapping expressions within a single question. Necessary revisions were made, and a preliminary pool of 55 items was created. In addition to using Bloom's taxonomy, a comprehensive review of existing health and sexual health literacy scales was conducted to guide item generation. Tools such as the SHELA and SHIMA scales, as well as related literature, were examined to identify relevant constructs and gaps. Informal consultations were also held with experts in public

health and sexual health education to evaluate the practical relevance of potential item topics, although formal qualitative interviews were not conducted at this stage.

During item development, cultural norms and sensitivities related to sexuality in Turkish society were explicitly considered. In particular, items were formulated to avoid explicit sexual terminology, emphasize health-oriented and rights-based perspectives, and reflect indirect communication styles commonly observed in discussions of sexual health in Turkey. This approach aimed to enhance cultural acceptability while maintaining conceptual clarity.

In developing the item pool, Bloom's cognitive taxonomy was used as a guiding framework to ensure coverage of various levels of cognitive processing, including remembering, understanding, applying, analyzing, evaluating, and creating. Items were deliberately designed to reflect these cognitive levels in the context of sexual health literacy. For example:

- Remembering (Knowledge): "I am knowledgeable about the methods of preventing sexually transmitted infections."
- Understanding (Cognitive): "I accurately convey the sexual health information I have learned to others."
- Applying (Behavioral): "I apply the sexual health knowledge I have gained to real-life situations in my daily life."
- Analyzing (Cognitive): "I evaluate the advantages and disadvantages of different treatment options for sexual health issues."
- Evaluating (Cognitive): "I critically evaluate the accuracy of sexual health advice provided by my social environment (e.g., family, friends)."
- Creating (Behavioral): "I synthesize information about sexual health and develop plans to protect my own well-being."

These examples demonstrate how the cognitive taxonomy was operationalized across the dimensions of the scale. The classification also ensured a balanced representation of knowledge acquisition and processing skills relevant to sexual health literacy.

A theoretical mapping was conducted during item development based on Bloom's taxonomy, targeting domains such as factual knowledge, comprehension, and application. These cognitive levels guided item construction prior to statistical validation (**Table 3**).

Expert evaluation. During the item development phase, an initial pool of 82 items was generated. These items were reviewed by a panel of seven experts, including two nurses, one midwife, two public health specialists, one psychological counselor, and one clinical psychologist. All experts were based in Türkiye and consulted due to their academic backgrounds in public health, midwifery, social work, and psychology. The experts were recruited using purposive sampling based on their academic experience in relevant disciplines. All seven experts were based in Türkiye and affiliated with universities or academic health institutions. Invitations were sent via email, and expert evaluations were collected through an online survey form. The form included standardized criteria to rate each item's necessity, clarity, specificity, and relevance to the construct, using a 4-point Likert scale. Experts completed the evaluations independently and returned their feedback electronically.

Expert ratings were analyzed using both qualitative consensus and quantitative content validity indices. Items were considered "similar" when experts independently indicated that two or more items addressed the same underlying concept with overlapping meaning or intent. Such redundancy was identified through expert comments and consistency in low specificity ratings.

The Content Validity Ratio (CVR) was calculated for each item based on expert ratings of item necessity, following Lawshe's method. Items with CVR values below the

TABLE 2

Sociodemographic Characteristics of the Confirmatory Factor Analysis Sample

Characteristics	*n* (%)
Sex	
Female	358 (78.7)
Male	97 (21.3)
Age (y)	
18-25	249 (54.7)
26-35	124 (27.2)
36-45	46 (10.1)
46-55	28 (6.2)
>56	8 (1.8)
Marital status	
Married	259 (56.9)
Single	183 (40.2)
Divorced/widowed	13 (2.9)
Education level	
Literate	33 (7.3)
Primary school	35 (7.7)
Secondary school	42 (9.2)
High school	74 (16.3)
University	256 (56.3)
Postgraduate	15 (3.3)
Total	455 (100)

TABLE 3

Mapping of SHLS Items to Bloom's Taxonomy Levels and Final Factor Structure

Item No	Bloom Level	Final Factor	Description
1	Knowledge	Knowledge	Defines basic sexual health terms
5	Application	Cognitive	Applies information to assess risk
10	Comprehension	Behavioral	Interprets and follows health guidelines

minimum acceptable threshold were excluded. In addition, the Content Validity Index (CVI) was computed to assess overall agreement on item relevance and clarity. Items receiving consistently low scores (1 or 2) across multiple criteria were removed. This combined qualitative–quantitative approach guided item elimination decisions.

Content validity was primarily assessed using qualitative expert consensus supported by item relevance ratings. Although formal I-CVI and S-CVI values were not reported in the initial version, expert agreement exceeded 80% for all retained items, which is consistent with commonly accepted content validity standards.

Experts evaluated each item in terms of necessity, comprehensibility, specificity, and appropriateness to the construct being measured using a 4-point Likert scale (1 = *not appropriate*, 4 = *very appropriate*). CVR and CVI values were calculated to quantify agreement. Items that were rated as similar, irrelevant, incomprehensible, or not representative of the construct—and those with CVR values below the threshold—were either revised or removed.

As a result of this expert evaluation process, 21 items were eliminated, and a preliminary version with 61 items was prepared. Further refinements reduced the scale to 55 items, which were then subjected to pilot testing.

Pilot study. A pilot study was conducted with 30 university students to test the initial draft of the SHLS. Participants provided structured feedback on the comprehensibility and conceptual appropriateness of the scale items. Cognitive interview techniques and written notes were used to identify issues with item clarity. Based on the findings, several items were revised in terms of grammar and wording to enhance clarity and cultural suitability. No items were excluded at this stage. These revisions contributed to improving the face and content validity of the scale. During the cognitive interviews, participants were also asked to reflect on specific terminology used in the items (e.g., "risk factors for sexual health"). The majority indicated that the term was understandable within context. Based on their feedback, minor wording adjustments were made to ensure clarity and accessibility.

Scale implementation. The scale development process started with 55 items and was reduced to 34 items as a result of expert opinions. Following the pilot study, the final version of the scale was administered. The scale form was applied to the target study group, and the item pool was analyzed using EFA to determine which items and factors would be retained in the scale. In the subsequent phase, the structure derived from repeated EFA was analyzed through CFA. The initial CFA model included 22 items. A single-step refinement process was performed, in which 5 items were excluded due to low standardized factor loadings (<.50), high modification indices, and conceptual redundancy. This refinement resulted in a final 17-item, 3-factor model. EFA and CFA were conducted on independent samples to ensure cross-validation and minimize overfitting. After the validity and reliability of the scale was ensured, the final scale consisted of 17 items.

Data collection tools and procedure. To collect research data, a demographic questionnaire and the SHLS were designed by the researchers based on the literature (Dehghankar et al., 2022; Karimi et al., 2021; Maasoumi et al., 2019; Üstgörül, 2022). The scale is a Likert-type instrument with responses ranging from 5 = *strongly agree* to 1 = *strongly disagree*. The final form of the scale consisted of 34 items, along with a 5-item sociodemographic questionnaire for students.

The scale was administered between October 10, 2024 and November 10, 2024. Data were collected online via Google Forms. The survey link was shared via social media (such as WhatsApp, Telegram and email groups). In this process, the "each user can only answer once" option of Google Forms was activated to prevent the same person from filling out the form more than once.

The EFA data were collected from university students through classroom announcements in Mardin province. Paper-based surveys were administered in class under the supervision of research assistants. In contrast, the CFA data were collected from adults age 18 to 65 years using convenience sampling in various public community settings. Participants were invited to take part through informal outreach

in locations. The survey was administered via Google Forms, and participants completed it independently using their smartphones or other personal devices. Before participation, all respondents were provided with an online informed consent form explaining the purpose of the study and their rights as participants.

Data analysis. To examine the construct validity of the scale, both EFA and CFA were conducted. Reliability was assessed using Cronbach's alpha coefficient, McDonald's reliability coefficient, and the distinction between upper and lower groups was analyzed. The collected data were processed using SPSS 22 and AMOS 24 statistical software packages.

Scoring and interpretation. The SHLS consists of 17 items rated on a five-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Total scores range from 17 to 85, with higher scores indicating higher levels of sexual health literacy. Subscale scores are calculated by summing item responses within each dimension: knowledge (5 items; range 5 to 25), cognitive (8 items; range 8 to 40), and behavioral (4 items; range 4 to 20). No items are reverse-coded.

Ethics Approval and Consent to Participate

Ethical approval was obtained for the study by the Mardin Artuklu University Non-Interventional Ethics Committee (Date: 10/09/2024, Decision No: 2024/9-31). Necessary legal permissions were obtained from the relevant institution. Informed consent was obtained from all participants who voluntarily agreed to participate in the study. This study was prepared in accordance with the guidelines of the Declaration of Helsinki.

RESULTS

This section presents the psychometric results obtained from the development and validation process of the SHLS.

Exploratory Factor Analysis

To examine the factor structure of the SHLS, an EFA was conducted. The Kaiser-Meyer-Olkin (KMO) test and Bartlett's Test of Sphericity were initially examined as they are crucial in determining the suitability of the data for factor analysis. After confirming the appropriateness of these values, subsequent steps in the scale development process were carried out. The KMO value was found to be .964, and Bartlett's test yielded a chi-square value of 11617.929 ($p <$ .001). Once it was established that the data were suitable for factor analysis, another analysis was conducted to determine the dimensions of the scale. Exploratory factor analysis was conducted using the Maximum Likelihood extraction method with Direct Oblimin rotation, as the dimensions of sexual health literacy were theoretically expected to be correlated.

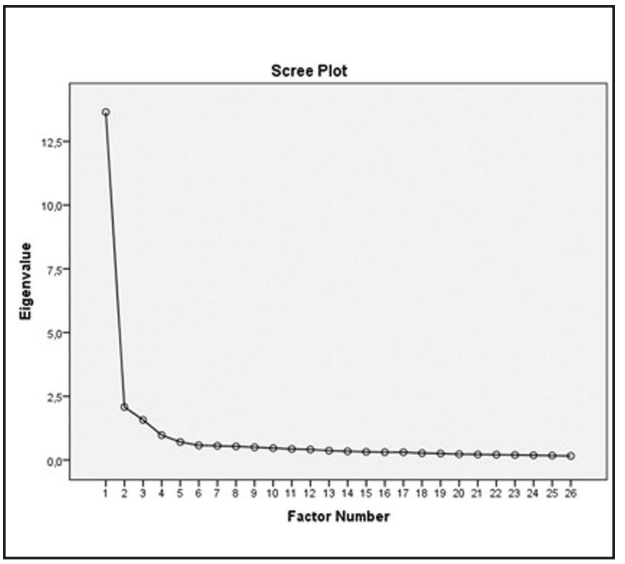

Figure 1. Eigenvalue graph regarding the sexual health literacy scale.

The number of factors was determined using a multicriteria factor retention approach, including the Kaiser criterion (eigenvalues greater than 1), visual inspection of the scree plot, and theoretical interpretability based on Bloom's cognitive taxonomy. The scree plot revealed a clear elbow after the third factor, indicating that additional factors contributed minimally to explained variance. Consistent with this pattern and theoretical expectations, a three-factor solution was retained.

Inspection of the scree plot revealed a clear elbow after the third factor, indicating that a three-factor solution was appropriate. After the third factor, the eigenvalues showed a marked leveling off, suggesting that additional factors would contribute minimal explanatory power. Therefore, based on the scree plot, a three-factor structure was retained for further analyses.

During the factor analysis process, 12 items were removed from the scale due to low factor loadings or cross-loadings, resulting in a final 22-item version. Items with factor loadings below .30 and items with cross-loadings ≥.30 on more than one factor but without a clear dominant loading were eliminated on the grounds that they did not provide sufficient contribution to the factor structure. The factor loadings of the scale items are presented in **Table A**, with values ranging between .348 and .906.

The distribution of dimensions is illustrated in **Figure 1**. According to the graph, the scale is likely to have three fac-

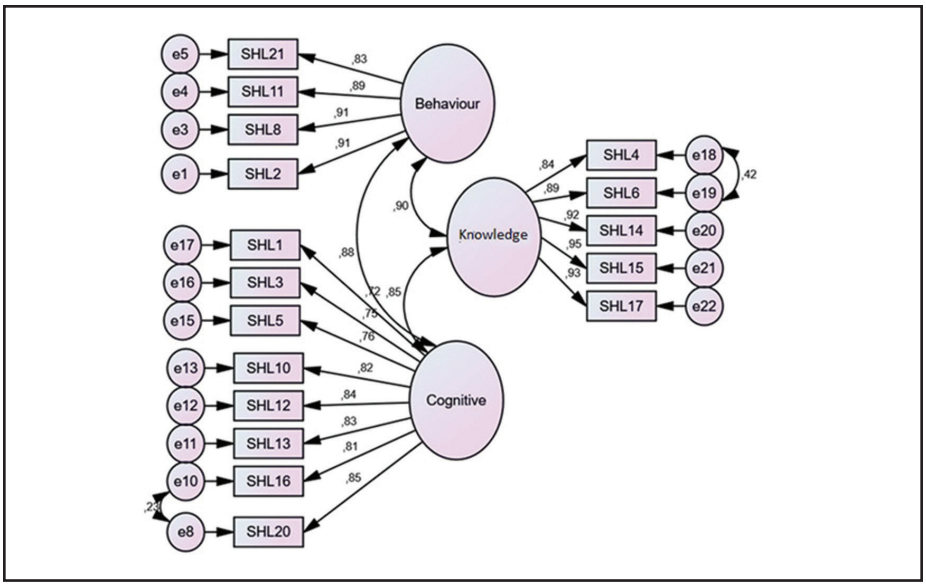

Figure 2. Modified three-factor model of the sexual health literacy (SHL) scale.

tors. The eigenvalues for the three retained factors were 21.25, 2.96, and 2.25, respectively. Eigenvalues for subsequent factors were below 1. Based on this finding, it was determined that the scale has a three-dimensional structure including behavioral, knowledge and cognitive dimensions. The total variance explained by the factors for the scale was calculated as 62.44%.

Confirmatory Factor Analysis

CFA is used to determine whether the developed measurement tool meets the acceptable fit indices established in the literature. To assess the construct validity of the SHLS, a CFA was conducted. In the CFA model, standardized factor loadings ranged from .52 to .88, all of which were statistically significant ($p < .001$). The factor loadings of the scale items are presented in **Table B**. The results of the confirmatory factor analysis are presented in **Table A** and **Figure 2**.

The items in the SHLS were found to be distributed across three dimensions and exhibited significant relationships. Accordingly, the chi-square value divided by the degrees of freedom (χ^2/df), goodness-of-fit index, normed fit index, comparative fit index, and root mean square error of approximation were calculated. **Table C** presents the fit indices for the SHLS. These results confirm the validity of the confirmatory factor analysis and demonstrate that all scale items can be considered components of a single construct.

The results of the confirmatory factor analysis for the 17-item version are illustrated in **Figure 1**. Based on the CFA results, five items were removed from the scale due to lack of fit.

During the CFA process, model fit indices and modification indices were carefully examined. Items were removed sequentially rather than simultaneously, based on a combination of statistical and theoretical considerations. Specifically, items exhibiting low standardized factor loadings (<.40), high residuals, or substantial cross-loadings indicated by modification indices were considered for removal. Each modification step was evaluated to ensure that the theoretical coherence of the scale was preserved. As a result, five items (Items 7, 9, 18, 19, and 22) were excluded from the final model due to their negative impact on overall model fit and conceptual redundancy with other items. Following these modifications, the scale was finalized with 17 items.

Reliability

Internal consistency of the SHLS was evaluated using both Cronbach's alpha and McDonald's omega coefficients. The Cronbach's alpha values were $\alpha = .93$ for the cognitive dimension, $\alpha = .94$ for the behavioral dimension, $\alpha = .96$ for the knowledge dimension, and $\alpha = .97$ for the total scale, indicating excellent internal consistency. McDonald's omega coefficients similarly demonstrated high reliability ($\omega = .92$ for the cognitive dimension, $\omega = .93$ for the behavioral dimension, $\omega = .95$ for the knowledge dimension, and $\omega = .95$ for the total scale), suggesting that the scale scores are not solely dependent on tau-equivalence assumptions.

Item discrimination was further examined using item-total correlation coefficients, which ranged between .42 and .81, indicating adequate to strong item discrimination. Additionally, a 27% upper-lower group comparison revealed statistically significant differences across all subscales and the total score ($p < .001$), supporting the scale's ability to distinguish individuals with low and high levels of sexual health literacy.

Inter-factor correlation analyses showed moderate to high positive associations among the three dimensions ($r = .54$ to $.72$), supporting the theoretical relatedness of

the constructs while indicating that they represent distinct components of sexual health literacy.

Additionally, to assess reliability, a 27% upper and lower group comparison was conducted to evaluate item discrimination. According to **Table D**, the total scale and sub-dimension scores significantly differed between the lower and upper groups ($p < .001$). These results indicate that the scale has high discriminative power, effectively distinguishing individuals with low and high scores. Item-total statistics and corrected item-total correlation coefficients are presented in **Table E**. The differentiation of scale scores based on the lower and upper 27% groups is shown in **Table F**. A comparison of the SHLS with existing sexual health literacy scales is provided in **Table G**. The final version of the Sexual Health Literacy Scale for Adults is presented in **Table H**.

Descriptive statistics for the SHLS indicated that the total scale scores covered a broad range, suggesting adequate variability in sexual health literacy levels across participants. Means, standard deviations, and observed score ranges for the total scale and subscales are presented.

DISCUSSION

The SHLS developed in this study offers a culturally contextualized tool for assessing sexual health literacy among adults in Türkiye. Its multidimensional structure, grounded in Bloom's taxonomy, enables use across various settings such as health education, clinical counseling, and community-based public health initiatives. Given the sensitive and stigmatized nature of sexual health topics in many conservative regions, this scale may facilitate targeted interventions by identifying gaps in knowledge, attitudes, and behaviors.

Compared to existing measures, such as the scale developed by Yalazi et al. (2025), the SHLS broadens the conceptual focus by including behavioral, cognitive, and access-related domains. Moreover, Chenneville et al. (2025) have emphasized the importance of cultural adaptation and expert-informed content validation in SHL measures, both of which were central to the present study's development process. These findings collectively suggest that the SHLS can contribute to a more nuanced understanding and enhancement of sexual health literacy in diverse adult populations.

In this study, SHLS, as developed for adults, and its validity and reliability were assessed. The results of EFA and CFA indicated that the scale demonstrated an acceptable fit (Schermelleh-Engel et al., 2003; Tavşancıl, 2010). The reliability of the scale was analyzed using Cronbach's alpha, McDonald's reliability coefficient, and item analysis. The Cronbach's alpha internal consistency coefficient was found to be 0.97, which falls within an acceptable range (Tabachnick & Fidell, 2013). Additionally, the factor analysis outcomes proved that the scale was constructed with appropriate items and dimensions, proving its validity. As a result, the SHLS exhibited a three-factor structure, and the internal consistency of the scale was found to be high. These findings indicate that the scale possesses strong psychometric properties.

Studies on sexual health literacy worldwide have evaluated individuals' access to and use of health information in different countries. In developed countries, the inclusion of sexual health education in school curricula increases individuals' awareness of sexual health issues (Vamos et al., 2020). Research suggests that individuals with low health literacy are more likely to be misinformed about sexual health and engage in risky sexual behaviors (Sahebalzamani et al., 2018). Health literacy plays a crucial role, particularly in the prevention of STIs and unintended pregnancies (Needham et al., 2010). One study found that individuals with low health literacy tend to misunderstand and misapply sexual health information, which is associated with higher rates of unprotected sexual activity (Shahrahmani et al., 2023).

Existing sexual health literacy scales in the literature typically focus on specific groups. Additionally, most developed scales primarily measure awareness of women's health, adolescent sexual health, or disease-related knowledge. For instance, the SHIMA scale developed by Moghasemi et al. (2022) aims to assess the sexual health perceptions of middle-aged women. However, the scale developed in the present study measures sexual health literacy across a broad age range (18 to 65 years). From this perspective, one of the most significant contributions of this study to the literature is the development of a reliable and valid scale that addresses a wide age range and the general population. Furthermore, the developed scale aims to measure not only knowledge levels but also individuals' behavioral and cognitive processes.

The cultural appropriateness of the SHLS should be understood within the context of scale development rather than cross-cultural translation. Sexual health is a culturally sensitive domain in Turkey, where discussions are often shaped by social norms, modesty, and indirect communication. Accordingly, the scale prioritizes cognitive, behavioral, and informational aspects of sexual health literacy rather than explicit sexual practices. This design choice may enhance acceptability in conservative cultural contexts while also allowing potential adaptation to other societies with similar norms.

Preliminary Interpretation Guidelines

Although empirically validated cut-points were not established in this study, preliminary interpretation guidelines may be suggested for descriptive and exploratory purposes. Lower total scores may reflect limited sexual health knowledge, reduced ability to evaluate information critically, or lower engagement in protective behaviors, whereas higher scores indicate more advanced sexual health literacy skills. These preliminary interpretations should be applied cautiously and refined in future studies using criterion-based validation approaches.

Clinical and Practical Significance

From a practical perspective, SHLS scores may be used to inform educational, clinical, and public health interventions. For example, individuals or groups scoring low on the knowledge subscale may benefit from structured informational programs, whereas low scores on the cognitive subscale may indicate a need for interventions focused on critical evaluation of sexual health information. Low behavioral subscale scores may signal the need for skills-based or counseling-oriented interventions aimed at translating knowledge into protective actions. At the population level, SHLS scores may help identify priority groups for sexual health promotion initiatives and evaluate the effectiveness of intervention programs over time.

STRENGTHS AND LIMITATIONS

This study is expected to serve as a pioneering effort in measuring sexual health literacy among adults among Turkish speaking adults. Additionally, the developed scale can be used to evaluate the effectiveness of sexual health education programs. While the findings of the present study suggest a practical framework for the scale, future research should focus on assessing sexual health literacy levels across different demographic groups and expanding sexual and reproductive health education programs, given the importance of the subject.

The scale was developed based on data collected from individuals in Türkiye, and validity and reliability tests were conducted accordingly. Investigating the structure of the scale in individuals from different countries and cultural backgrounds would be beneficial. This study lacks test-retest reliability, which should be included in future research. Due to the cross-sectional nature of this study, it was not possible to assess how sexual health literacy changes over time. Longitudinal studies may be conducted to observe variations in sexual health literacy over time.

While several sexual health literacy scales have been developed (e.g., SHELA, SHIMA), they are often tailored to specific populations or cultural contexts, and none were validated for use in Türkiye. The SHLS fills this gap by integrating behavioral indicators and culturally appropriate content. Unlike previous tools, the SHLS includes items that reflect the cultural realities and sensitivities of Turkish adults. Nevertheless, a limitation of the SHLS is its focus on the Turkish population, which may reduce its immediate cross-cultural applicability.

While Bloom's taxonomy served as a guiding theoretical framework during item development, the final three-factor structure—comprising knowledge, cognitive processing, and behavior—emerged through empirical factor analysis. The "knowledge" factor reflects factual awareness, while the "cognitive" factor encompasses higher-order skills such as critical analysis and information synthesis. Although both relate to cognitive domains, they differ in complexity and depth, which justified their separation in the scale. The alignment between the conceptual model and the factor structure supports the multidimensional nature of sexual health literacy.

Several limitations of this study should be acknowledged. First, qualitative data were not collected from the target population during the item development phase. Although item generation was guided by expert consultation and a comprehensive literature review, direct input from community members could have enhanced cultural sensitivity and contextual relevance. Future studies are strongly encouraged to incorporate qualitative methods such as focus groups, cognitive interviews, or in-depth interviews to enrich item content and strengthen content validity.

Second, explicit convergent, discriminant, and known-groups validity analyses were not conducted. While the construct validity of the Sexual Health Literacy Scale was supported through exploratory and confirmatory factor analyses and strong internal consistency coefficients, the absence of theoretically related and unrelated external measures prevented direct examination of these aspects of construct validity. Future research should examine associations between the SHLS and related constructs (e.g., general health literacy, sexual health knowledge, sexual attitudes), as well as unrelated constructs and behavioral outcomes such as STI testing and contraceptive use, to further strengthen the cumulative validity evidence of the scale.

One important limitation of the present study is the absence of explicit convergent and divergent validity analyses. Although the construct validity of the SHLS was supported through exploratory and confirmatory factor analyses, as well as strong internal consistency coefficients, the lack of theoretically related and unrelated external measures prevented the direct examination of convergent and discrimi-

nant validity. Future studies should address this limitation by examining the relationships between the SHLS and conceptually related constructs (e.g., general health literacy, sexual health knowledge) as well as unrelated constructs to further strengthen the validity evidence of the scale.

Third, the exploratory factor analysis was conducted with a relatively homogeneous sample of university students, most of whom were age 18 to 25 years and single. Although this approach is common in initial scale development due to accessibility and response consistency, it may limit the generalizability of the factor structure to the broader adult population. Replication of the EFA in more diverse adult samples is therefore recommended.

In addition, subgroup analyses (e.g., by age, education level, or gender) were not performed due to sample homogeneity and limited subgroup sizes. Notably, both the EFA and CFA samples exhibited a gender imbalance, with a predominance of female participants. This may limit the applicability of the findings to male or gender-diverse populations, particularly given that sexual health literacy may be influenced by gender-specific sociocultural factors. Future studies should aim for more balanced samples and examine measurement invariance across subgroups. Although the construct validity of the SHLS was supported by exploratory and confirmatory factor analyses, additional evidence such as convergent, discriminant, and known-groups validity was not examined in this study. Future research should assess correlations between the SHLS and related constructs, including general health literacy, sexual knowledge, and sexual attitudes, as well as behavioral outcomes such as STI testing and contraceptive use. Moreover, known-groups validity should be evaluated by comparing populations expected to differ in sexual health literacy, such as health care-related and non-health care-related groups.

CONCLUSIONS

In conclusion, the SHLS consists of 17 items. A five-point Likert-type scale was used, ranging from 1 = *strongly disagree* to 5 = *strongly agree*. The scale comprises three dimensions related to sexual knowledge, cognitive aspects, and behavioral aspects. The total score that can be obtained from the scale is between minimum 17 and maximum 85. Higher scores on the SHLS indicate higher levels of sexual health literacy.

This study presents a valid and reliable measurement tool for assessing sexual health literacy in adults. Studies on health literacy indicate that improving individuals' access to accurate information is critical for preventing sexual health problems and increasing the utilization of health care services. The use of this scale by health care professionals, educators, and policymakers will be an important step toward addressing knowledge gaps in the field of sexual health.

The SHLS includes 17 items, each rated on a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). Total scores range from 17 to 85, with higher scores indicating greater levels of sexual health literacy. The scale comprises three subscales: knowledge (5 items), cognitive (8 items), and behavioral (4 items). Subscale scores can be computed by summing the responses for the relevant items in each dimension.

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Table A. Factor Correlation Matrix

Factor Correlation Matrix				
Factor		1	2	3
dimension0	1	1,000	-,776	-,809
	2	-,776	1,000	,834
	3	-,809	,834	1,000

Extraction Method: Maximum Likelihood.

Rotation Method: Oblimin with Kaiser Normalization

Table B. Factor Loadings of Scale Items

Items	Behavioral	Cognitive	Knowledge
I exhibit healthy sexual behaviors by utilizing sexual health information (e.g., undergoing regular health check-ups, using condoms).	**.885**		
I apply strategies to protect my sexual health by avoiding risky sexual behaviors.	**.825**		
I actively take action to advocate for my sexual health rights.	**.620**		
I apply strategies to minimize risk factors related to sexual health.	**.503**		
I comprehend sexual health information by applying the knowledge I acquire to situations I encounter in daily life.	**.484**		
I synthesize various pieces of sexual health information to create plans for protecting my health.	**.476**		
I have knowledge about the treatment of sexually transmitted diseases.		**.906**	

I conduct research on the treatments of sexually transmitted diseases.	**.864**	
I evaluate the advantages and disadvantages of different treatment options related to sexual health.	**.797**	
I have sufficient knowledge about methods of protection against sexually transmitted diseases.	**.723**	
I read scientific studies and books on sexual health.	**.682**	
I obtain information about sexually transmitted diseases from various sources (internet, newspapers, television, radio, scientific publications, journals, etc.).	**.584**	
I follow media reports (internet, newspapers, television, radio, scientific publications, journals, etc.) related to sexual health.	**.565**	
I assess the accuracy of sexual health information provided by television or radio.	**.500**	
I evaluate the accuracy of sexual health-related recommendations offered by my social environment (family, friends, etc.).	**.437**	
I accurately convey the sexual health information I learn to others.	**.348**	
If I experience a sexual health problem, I follow the recommendations provided by healthcare professionals (physicians, nurses, midwives, etc.).		**.869**
If I have a problem related to my sexual health, I seek assistance from specialized healthcare professionals.		**.862**
If I have any questions regarding my sexual health, I know that I can consult a healthcare professional (physician, nurse, midwife, etc.).		**.818**
As soon as I recognize a sexual health problem or disorder, I know where and to whom I should go.		**.813**
If I experience a sexual health issue or disease, I know how to seek medical assistance.		**.765**
I pay attention to my sexual health.		**.659**

Table C. Items Removed During Confirmatory Factor Analysis (CFA) and Rationale for Removal

Item No	Item	CFA Issue	Justification for Removal
7	I apply strategies to protect my sexual health by avoiding risky sexual behaviors.	Low factor loading	Behavioral content overlapped with other items measuring protective behaviors
9	I evaluate the accuracy of sexual health information provided by television or radio.	Cross-loading	Media-specific wording reduced generalizability of information evaluation construct
18	I pay attention to my sexual health.	Low factor loading	Too broad and general compared to other items
19	I have knowledge about the treatment of sexually transmitted diseases	Low loading	Knowledge-based item showed weak alignment with literacy dimensions
22	I actively take action to advocate for my sexual health rights	Low factor loading	Abstract and rights-based framing was less consistent with other items

Table D. Fit Indices for SHL

Observed Fit Indices	Acceptable Fit Indices (Schermelleh-Engel et al., 2003)	Fit Indices Obtained for SHL	Fit Indices Obtained for the Modified Version of SHL
χ^2/df	$2df \leq \chi^2 \leq 5df$	5.853	3.172
GFI	0.90≤GFI	0.767	0.915
NFI	0.90≤CFI	0.891	0.956
IFI	0.90≤CFI	0.907	0.970
CFI	0.90≤CFI	0.907	0.970

RMSEA	0.05≤RMSA≤0.08	0.103	0.069

Table E: Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
SHL1	54,2747	261,609	,684	,971
SHL2	53,9648	255,091	,855	,968
SHL3	54,1341	262,134	,694	,970
SHL4	53,8593	255,918	,829	,969
SHL5	53,9055	260,469	,730	,970
SHL6	53,8242	254,282	,857	,968
SHL8	53,9802	256,253	,852	,968
SHL10	53,9824	259,273	,774	,969
SHL11	53,9253	256,611	,816	,969
SHL12	53,9890	260,359	,776	,969
SHL13	54,0462	258,278	,798	,969
SHL14	53,8088	254,437	,856	,968
SHL15	53,7187	253,683	,869	,968
SHL16	54,1407	260,324	,760	,970
SHL17	53,7121	254,884	,852	,968
SHL20	54,0242	258,266	,818	,969
SHL21	53,8088	255,587	,791	,969

Table F. Differentiation of Scale Scores Based on the Lower and Upper 27% Groups

Groups	Lower %27		Upper %27		t	df	p
	Mean	SD	Mean	SD			
Total Score	34.252	7.645	69.497	6.322	-43.657	300	0.000
Behaviour Score	8.828	2.830	16.980	1.687	-30.404	300	0.000
Cognitive Score	16.046	3.724	32.265	3.191	-40.636	300	0.000
Knowledge Score	9.378	2.751	20.252	2.570	-35.494	300	0.000

Independent Samples t-Test

Table G. Comparison of the SHLS with Existing Sexual Health Literacy Scales

Scale Name	Developer	Dimensions	No. of Items	Target Population	Country/Language	Key Limitations
SHLS (This study)	Bayram Değer et al.	Knowledge, Cognitive, Behavioral	17	Adults (Turkey)	Turkish	New, culturally specific
SHELA	Massey et al.	Access, Understanding, Appraisal, Application	33	Adolescents	English	Limited to youth, not validated in Turkey
SHIMA	McDaid et al.	Functional, Interactive, Critical	21	Adults (UK)	English	Less focus on behavior, not culturally adapted

Table H. Sexual Health Literacy Scale for Adults

	Question Number	Please carefully read each statement and indicate the extent to which you agree or disagree by selecting the corresponding number.	1-Strongly Disagree	2-Disagree	3-Somewhat Agree	4-Agree	5- Strongly Agree
KNOWLEDGE	1	I am aware of how to seek medical assistance when I experience a sexual health issue or disorder.	1	2	3	4	5
	2	If I have questions regarding my sexual health, I know that I can consult a healthcare professional (e.g., physician, nurse, midwife).	1	2	3	4	5
	3	I know where and to whom I should turn for consultation when I recognize a sexual health issue or disorder.	1	2	3	4	5
	4	If I experience a sexual health issue, I adhere to the recommendations provided by healthcare professionals (e.g., physician, nurse, midwife).	1	2	3	4	5
	5	I seek assistance from specialized healthcare professionals when I experience a sexual health issue.	1	2	3	4	5
COGNITIVE	6	I read scientific studies and books related to sexual health.	1	2	3	4	5
	7	I follow media reports (e.g., internet, newspapers, television, radio) regarding sexual health.	1	2	3	4	5
	8	I accurately convey the sexual health information I have learned to others.	1	2	3	4	5
	9	I acquire information about sexually transmitted infections (STIs) from various sources (e.g., internet, newspapers, television, radio, scientific publications, journals).	1	2	3	4	5
	10	I critically evaluate the accuracy of sexual health advice provided by my social environment (e.g., family, friends).	1	2	3	4	5
	11	I am knowledgeable about the methods of preventing sexually transmitted infections (STIs).	1	2	3	4	5
	12	I conduct research on the treatment options available for sexually transmitted infections.	1	2	3	4	5
	13	I evaluate the advantages and disadvantages of different treatment options for sexual health issues.	1	2	3	4	5
BEHAVIORAL	14	I synthesize information about sexual health and develop plans to protect my own well-being.	1	2	3	4	5
	15	I implement strategies to minimize risk factors related to sexual health.	1	2	3	4	5
	16	I apply the sexual health knowledge I have gained to real-life situations in my daily life.	1	2	3	4	5
	17	I engage in healthy sexual behaviors by utilizing my knowledge of sexual health (e.g., undergoing regular health check-ups, using condoms).	1	2	3	4	5