ACADEMIA International Journal for Social Sciences
Volume 4, Issue 5, 2025 ISSN-L (Online): 3006-6638

Construction and Validation of Urdu Health Awareness Scale (U-Has)

Maryam Ayaz
maryamayaz126@gmail.com
M.Phil Scholar, Department of Psychology, University of Peshawar

Dr. Roomana Zeb
roomazeb@uop.edu.pk
Assistant Professor, Department of Psychology, University of Peshawar

Rabia Jahan
Graduate, Department of Psychology, University of Peshawar

Naima Afridi
Graduate, Department of Psychology, University of Peshawar

Corresponding Author: Dr. Roomana Zeb roomazeb@uop.edu.pk

Received: 18-09-2025 **Revised:** 02-10-2025 **Accepted:** 16-10-2025 **Published:** 30-10-2025

ABSTRACT

The primary objective of this research was to develop and validate a health awareness scale suitable for Urdu-speaking communities in terms of both culture and language. To achieve this, we initiated by generating an initial list of 53 items, drawing from a comprehensive review of existing literature on the topic. This initial pool was then carefully assessed by a panel of subject matter expert, who evaluated each item for its clarity, relevance and culture suitability. Following this qualitative review, the numbers of items were refined to 35. In the next phase, the scale was administered to a sample of 250 participants, with an age range of 15-46 years (M=20.1, SD=6.8). The sample was taken from different educational backgrounds varying from matric to postgraduate level. The item total correlation was computed, items which were below .30 were removed leaving a final set of 21 items. Before proceeding with the main analysis, we confirmed that the data was appropriate for structure detection. The Kaiser-Meyer-Olkin measure of sample adequacy was excellent at .853, and Bartlett's test of sphericity was highly significant ($\chi^2 = 1260.807$, $df = 210$), $p < .001$). A component matrix structure was then conducted, which revealed a clear unidimensional structure. All 21 items loaded strongly on a single factor, which explained 26.40 % of the total variance. The scale also demonstrated strong internal consistency, with a Cronbach's alpha coefficient of .85, indicating that the items work well together to measure the same underlying concepts. Finally, after establishing the factor structure the convergent and discriminant validity was established on the remaining items. Its convergent validity was supported by a positive and significant correlation with an established Health Consciousness Scale (Hong, 2009; $r = .25$, $p < .001$). In contrast, its discriminant validity was confirmed through a weak and non-significant correlation with the Pure Procrastination Scale (Steel, 2010: $r = -.071$, $p > .01$). These findings suggest that the recently developed Urdu Health Awareness scale is a robust reliable instrument. Thus, this scale offers researchers, educators, and medical professionals with a useful instrument for understanding health awareness among Urdu-speaking populations, both in Pakistan and in comparable settings.

Keywords: *Health awareness, health consciousness, procrastination, convergent validity, discriminant validity*

INTRODUCTION

Health Awareness refers to how much aware individuals are about the relevant information and circumstances that affect their well-being. It involves not only identifying possible health risks but also comprehending what steps can be taken to address them. Theoretically, health awareness can be defined as a person's attentiveness to their own health status and their knowledge of health services available for both prevention and treatment (Rosenstock, 1974). At a deeper level, health awareness requires individuals to keenly think about health information, remain focused to signs that may affect their well-being, and associate new knowledge to what they already understand. This process of consideration and incorporation allows people to see how health concerns relate to them personally and, in turn, shapes the choices they make (Bandura, 1986).

A careful differentiation must be made concerning health awareness and other constructs within health psychology that are theoretically different. Health literacy specifically refers to the ability to receive, process, and comprehend vital health information and services required for making educated health decisions (Nielsen-Bohlman et al., 2004; Sorensen et al., 2012). Health literacy, as defined by the World Health Organization (2024) refers to the cognitive and social abilities that determine whether an individual is both motivated and able to find, comprehend, and apply knowledge that aids in improving health. Hong (2009) describes health consciousness as the mental structure through which people approach health, involving three correlated aspects; awareness of one's own health, active involvement with health problems, and self-monitoring of health status. Though interrelated with health awareness, the two are not identical. Consciousness mirrors a more enduring trait, whereas awareness tends to be more situational and shaped by precise content. Gould (1990) described health consciousness as a psychological state characterized by both increased awareness of genuine involvement in one's health, pointing to a motivational element that mere cognitive recognition lacks. This connects to a bigger point: having health knowledge doesn't assure health awareness. It is entirely possible to know a great deal about health without that information feeling personally relevant or without it influencing how one makes daily decisions. Health awareness can therefore be understood as a bridge between just knowing about health and truly forming intentions to act. It replicates the point at which health appropriate information is not just stored in the mind but becomes cognitively engaged and set to guide behavior (Ajzen, 1991).

The objective that health awareness serves as a cognitive foundation for precautionary health behavior is well supported by theories in the field. The Health Belief Model (HBM), first originated by Hochbaum, Rosenstock, and Kegels in the 1950's, suggests that whether people take action to safeguard their health depends on a combination of factor: how exposed they believe they are to a condition, how serious they perceive the condition to be, the advantages they see in taking action, the hurdles that might hold them back, exposure to clues that prompt action, and their self-reliance in being able to make the required changes (Rosenstock, 1966, 1974; Champion & Skinner, 2008). Underlying each of these perceptual aspects is health awareness, which act as a basic cognitive building block. Without awareness of a potential risk, people have no basis for judging their own vulnerability or recognizing the severity of what could happen. In this context awareness act as a cognitive starting point, it allows individuals to process health information and grows the kinds of perceptions that motivate them to act protectively (Janz & Becker, 1984). The Theory of Planned Behavior (TPB), presented by Ajzen (1985, 1991) offers another valuable lens through which to understand how health awareness functions. According to this concept, a person's intention leads towards a behavior, which itself is shaped by three factors: the person's own feeling about the behavior in question, his belief about view of others related to that behavior, and the amount of control the person think he has on acting upon it. Health awareness can be seen backed up in this model; it supports perceived behavioral control by providing individuals with the cognitive tools they need to confidently make healthy decisions (Ajzen, 1991; Conner & Norman, 2005). Social Cognitive theory (Bandura, 1986) presents an interactive view; focusing on how personal characteristics, actions, and environmental settings constantly influence one another. In this mutual arrangement, health awareness functions as a cognitive component on the personal side of the

equation, both affecting and being affected by the behaviors people involve in and the environments they appear to be in. One of the key concepts in SCT is self-efficacy, the belief in one's own capability to follow through on a course of action. Health Awareness contributes to this belief by placing the groundwork of knowledge from which confidence can emerge (Bandura, 1997, 2004). Outcome expectancy is another important component of the theory which is tied to awareness. After all, individuals cannot develop accurate outlooks about the results of their behavior unless they are first mindful of what those consequences might be.

Studies over the years have constantly shown that people who are more aware of health matters tend to involve more often in behaviors that protect their well-being. When it comes to preventing cardiovascular disease, for example, research suggests that knowing about risk elements such as hypertension, diabetes, and high cholesterol calculates whether individuals will take steps to protect themselves. Those who recognize these risks are more motivated to modify their diets increase their physical activity, remain consistent with any prescribed medication (Patel, Sina, & Keyes, 2025). This relationship extends to diabetes as well. Research suggests that diabetic patients who are aware of the risks and problems associated with their condition are more likely to engage in consistent glucose monitoring and to attend scheduled healthcare visits (Dina, Arshed, & Karamat, 2025).

Among the tools existing for measuring Health Consciousness, Hong's (2009) scale is one of the most comprehensive in its multidimensional approach. It contains items that tap into self-health awareness, personal contribution in health, and self-monitoring. Given that, health awareness intersects considerably with Health Consciousness, especially in areas like cognitive engagement, self-monitoring, and alertness to risks. The Health Consciousness scale serves as a suitable measure for developing convergent validity. A positive correlation among the two is exactly what theory will lead us to expect. Gould's (1988, 1990) Health Consciousness Scale was among the initial efforts made to measure consciousness about health. The European Health Literacy Survey Questionnaire (HLS-EU-Q), developed by Sorensen et al. (2013) is one of the most recent instruments in this regard. This tool measures health literacy which involves gain access to, understanding, evaluating, and using health information. This instrument displayed acceptable psychometric properties after being validated across many European countries (Pelikan et al., 2019). However, the HLS-EU-Q is designed to measure health literacy abilities rather than health awareness.

Researchers have also established instruments aimed at measuring awareness in the context of particular illness. To measure health awareness among individuals with type 2 diabetes, The Diabetes awareness and Insight (DAS) was created (Kim et al., 2020). For other specific health conditions similar tools exist e.g. hypertension (BASIS; Gerretsen et al., 2018a) and obesity (OASIS; Gerretsen et al., 2018b). While these scales show that it is possible to measure health awareness within specific disease frameworks, they are not aimed to capture awareness at a broader population level. Furthermore, because all the above tools are in accordance with western medical perspectives, they may not fully reflect how health awareness is experienced and perceived in non-western cultural settings.

To test discriminant validity, it is important to take into account the constructs that are conceptually different from health awareness. Procrastination offers one such example. It is defined as choosing to put off a planned action even when one knows there will be negative consequences (Steel, 2007), it reflects the complications with self-regulation rather than any cognitive form of engagement with health. This makes the Pure procrastination Scale (Steel, 2010) an appropriate choice for discriminant validation, as theory would predict only a weak connection with health awareness.

When current health awareness measures were examined critically, a number of important limitations come into attention. To begin with, most of these instruments have been developed within western settings, which raise reasonable concerns about cultural bias. Constructs that are defined according to western understanding of health, illness and healthcare may not fully capture how health awareness is actually experienced in

collectivistic, non-western societies. There is also a concern of factor structure. A scale organized as a construct may shift depending on cultural settings. Items that load on a single factor in Western samples sometimes perform differently elsewhere, showing cross loadings or weak loadings (He & Van de Vijver, 2012). Lastly, there was a significant gap for those working with Urdu speaking communities because of the lack of a validated Urdu Health Awareness Scale. Without tools that are both culturally grounded and linguistically suitable, accurate assessment and development of effective interventions become hard to achieve. The unavailability of linguistically and culturally sound instruments makes it difficult to do accurate assessments and create successful interventions.

Rationale

The decision to develop the Urdu Health Awareness Scale (U-HAS) raised out of predictable need. With a population beyond 240 million, Pakistan struggles with severe public health issues, from cardiovascular disease and diabetes to cancer and infectious diseases (Samad & Hanif, 2023). For over 100 million of people the primary means of communication is Urdu language. Although, no culturally correct, linguistically sound health awareness measure exists in Urdu, creating difficulties for researchers, practioners and policy makers pursuing to understand and improve health outcomes in this context. Accurate translation doesn't fully reflect cultural relevance. The conceptual understanding of people about health, interpreting illness, and deciding when and how to seek care is deeply rooted in cultural backgrounds (Helman, 2007). In Pakistani contexts, health related decisions are made collectively which is influenced by traditional health beliefs which co-exist with bio-medical perspective. A culturally valid scale must be sensitive to these realties. The development of the U-HAS has involved qualitative engagement with Urdu speaking communities to ensure that the scale measures health awareness in ways that resonates with local experiences.

Objectives of the study

This study's main objective was to create an accurate and reliable instrument for evaluating health awareness in Urdu, a language widely spoken and understood by a large segment of population.

1. To construct an Urdu Health awareness scale that encompass culturally relevant content.

2. To establish the Urdu- Health Awareness Scale (U-HAS) psychometric properties, such as reliability, and validity via exploratory factor analysis as well as the convergent and discriminant validity.

METHODOLOGY

Phase I: Item Generation

Based on important aspects and behaviors of health awareness, an initial pool of 53 test items was created. These items generally covered self-monitoring of health, being aware of health risks, and engaging in behaviors that promotes health. Both the cognitive and behavioral components of health awareness were reflected in the design of the items.

Phase II: Qualitative Review

The items were then examined by a panel of four experts in psychometrics and health psychology to ensure that they appropriately measured the concept of health awareness and were suitable for Urdu-speaking communities. Items that were not clear, unnecessary or indicative were discarded or changed. 25 positively written and 10 negatively written items made up the final 35 items scale. A four-point Likert scale, with 1

indicating "strongly disagree" and 4 denoting "strongly agree" was used to score each item. Negatively written items were reverse scored with 4 denoting "strongly disagree' and 1 denoting strongly agree"

Phase III: Exploratory Factor Analysis

The 35-items scale was made to undergo exploratory factor analysis (EFA) in order to investigate the essential factor structure of health awareness. In this phase, latent dimensions symbolized by the items were empirically acknowledged.

Phase IV: Establishment of convergent and discriminant validity

In the final step of the study the remaining items were correlated with already established scale measuring health awareness as well as a scale measuring procrastination to use it as discriminant evidence.

Sample

There were 250 participants in the sample, from matric to postgraduate level of education. The sample consisted of both male and female students (male=85, females=165) currently studying at different institutions in Peshawar. The male and female students were currently enrolled in University of Peshawar and the affiliated colleges. The age range of the sample was 15-46 years (M=20.16, Std =6.87).

Instruments

Urdu-Health Awareness Scale

After qualitative item analysis, the Urdu-Health Awareness scale retained 35 self-constructed items measuring health awareness. On a four-point Likert scale (1-4), the scale had 25 positively worded items and 10 negatively written items. Greater health awareness indicated higher scores. To maintain consistency the negatively worded items are reversed coded. The scale was designed to be suitable for factor analysis and culturally relevant for Urdu speaking populations. Following the quantitative item analysis, the final scale comprised of 21 items. With a coefficient alpha of .85, the scale showed a high level of internal reliability. A higher score on the scale indicates a higher level of Health Awareness (U-HAS).

The Health Consciousness Scale (Hong, 2009)

The health consciousness scale is a self-report, 11- item instrument, with a seven point Likert scale that goes from strongly disagree to strongly agree. Greater health consciousness is reflected by high scores on the scale. Convergent validity was established using this scale, which has a previous record of a strong reliability in multiple studies (Cronbach's α =.85).

The Pure Procrastination Scale (Steel, 2010)

The pure procrastination Scale is a 12 items, self-reported, five point Likert scale, ranging from "very seldom true of me" to 'very often true of me". The discriminant validity of U-HAS was established using the Pure Procrastination Scale because of its strong internal consistency (Cronbach's α =.92).

Procedure

Participants were personally contacted on the University of Peshawar campus and related colleges. After a formal introduction they were asked if they wanted to participate in the study. The scales were given in

printed form to those who consented. First participants signed an informed permission form and filled out basic personal data, such as name, age, gender, educational level and language. To ensure uniform administration and truthful answers, the U-HAS was given as a self-report tool in supervised group settings. To assess the convergent and discriminant validity, along with U-HAS, Health Consciousness Scale and Pure Procrastination Scale were also applied to later compute correlation between the three scales.

RESULTS

Table 1: Item total correlation of Urdu Health Awareness Scale (Items=28, N=250)

Item no	*r*	*Item no*	*r*	*Item no*	*r*
1	.55	14	.38	27	.38
2	.38	15	.33	28	.34
3	.47	16	.23	29	.38
4	.32	17	.27	30	.60
5	.17	18	.36	31	.32
6	.28	19	.22	32	.21
7	.56	20	-.17	33	.29
8	.47	21	.38	34	.44
9	.16	22	.23	35	.44
10	.24	23	-.01		
11	.53	24	.088		
12	.28	25	.48		
13	.50	26	.36		

Note. r=item total correlation

Table 1 shows the correlation of each item with the total score. Items 5, 6, 9, 10, 12, 16, 17, 19, 20, 21, 22, 23, 24, 32, and 33 are excluded as they have a correlation below.30

Table 2: Item total correlation of retained items of Urdu Health Awareness Scale (items=21, N=250)

Items	*r*	*Items*	*r*
1	.57	21	.39
2	.39	25	.48
3	.42	26	.36
4	.34	27	.39
7	.56	28	.33
8	.49	29	.41
11	.51	30	.62
13	.52	31	.30
14	.40	34	.46
15	.32	35	.45
18	.38		

Note. *r*= item total correlation

Table 2 shows the item correlation of retained items with the total score. Items 1, 2, 3, 4, 7, 8, 11, 13, 15, 18, 21, 25, 26, 27, 28, 29, 30, 31, 34, 35 are retained as they have correlation above .30

Table 3: KMO and Bartlett's Test of Sphericity of Sampling adequacy for Urdu Health Awareness Scale

Kaiser-Meyer-Olkin Measure of Hope	*Bartlett's Test of Sphericity*	*df*	*p*
.853	1260.80	210	.000

Findings in table 3 reveals that the Bartlett test of Sphericity is significant and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy is 0.858 which is near to 1 thus showing that the data is appropriate to run the factor analysis.

Figure 1: Scree Plot of Urdu Health Awareness Scale

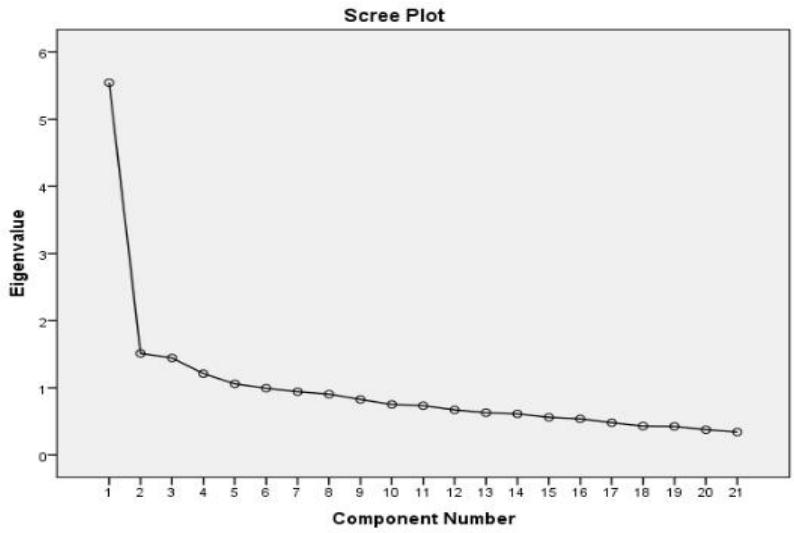

Table 4: Eigen value and %age of variance explained by U-HAS

Factor	Eigen value	% of variance	Cumulative %
1	5.54	26.40	26.40

Table 4 is showing the Eigen Values, percentage of variance and cumulative percentage of the factor 1 which is explaining 26.40 % of the total variance.

Table 5: Factor Loadings of 21-item Urdu Health Awareness Scale (N = 250)

Item	Item content	Loading
1	میں اپنی صحت کا بہت خیال رکھتا/رکھتی ہوں۔	.64
2	کھانا کھانے سے قبل میں ہاتھ ضرور دھوتا/دھوتی ہوں۔	.46
3	مجھے گھر کے کھانے سے زیادہ بازار کے کھانے پسند ہے۔	.49
4	ماحولیاتی آلودگی کے پیش نظر، میں ماسک کا استعمال کرتا/کرتی ہوں۔	.41
7	صحت پر توجہ دینے کے لیے میں اپنی مصروفیات میں سے وقت ضرور نکالتا/نکالتی ہوں۔	.65
8	میں اپنی صحت سے مطمئن ہوں۔	.57

11	جب تک بیمار نہ ہو جاؤں، میں اپنا خیال نہیں رکھتا/رکھتی۔	.59
13	میں اپنا خیال خود رکھنا بخوبی جانتا/جانتی ہوں۔	.62
14	میں موسمی پھلوں کو خوراک میں ضرور شامل کرتا/کرتی ہوں۔	.46
15	میں پیکٹ میں بند اشیاء خورد و نوش کے استعمال سے قبل، ان کے اجزائے ترکیبی پڑھتا/پڑھتی ہوں	.40
14	میں اپنی صحت میں رونما ہونے والی تبدیلیوں سے واقف ہوں۔	.35
17	تندرست رہنے کیلئے میں رات کو وقت پر سوتا/سوتی ہوں۔	.45
18	تندرست رہنے کیلئے میں غذا میں زیادہ سبزیاں شامل کرتا/کرتی ہوں۔	.54
25	میں صحت سے متعلق معلومات انٹرنیٹ پر تلاش کرتا/کرتی ہوں۔	.42
26	جب مجھے صحت سے متعلق کوئی فائدہ مند ٹوٹکا بتایا جاتا ہے تو میں اس کو استعمال کرتا کرتی ہوں۔	.45
27	صبح اچھا ناشتہ کرنا مجھے پسند ہے۔	.40
28	مجھے میری صحت بہت پسند ہے۔	.50
29	میں صحت کے بارے میں بہت محتاط ہوں۔	.69
30	صحت سے متعلق گفتگو مجھے بور کر دیتی ہے۔	.37
33	میں روزانہ اخبار میں صحت کے متعلق پڑھتا/پڑھتی ہوں ۔	.51
34	میں کھلی اور تازہ ہوا لینے کے لیے صبح جلدی اٹھتا/اٹھتی ہوں۔	.51

Note. Extraction method: Principal Component Analysis wit single factor solution due to which the solution could not be rotated.

Table 5 shows that the remaining 21 items of health awareness scale successfully loaded on a single dimension proposing the scale having a unidimensional structure.

Table 6: Alpha Reliability of Urdu Health Awareness Scale

Scale	***No of items***	***Mean***	***SD***	***Range***	***Alpha coefficient***
U-HAS	21	54.38	11.27	26-81	.85

Note. U-HAS= Urdu Health Awareness Scale

As evident from the table 6, coefficient alpha for 21 items for the Health Awareness scale is .85 which indicates a high reliability of the scale.

Table 7: Convergent and Discriminant Evidence of U-HAS by Bivariate Correlation with HCS and PPS (N=250)

Variable	1	2	3
U-HAS	--		
HCS	.25**	--	
PPS	-.071	-.137*	--

Note. U-HAS=Urdu Health Awareness scale, HCS= Health Consciousness Scale, PPS= Pure Procrastination Scale; **=p>.01; *=p>.05

Table 7 shows that U-HAS is positively correlated with convergent scale HCS (r=.25, p<.001) which is significant at .001 level. U-HAS is negatively correlated with divergent scale PPS (r=-.071, p>.05) which is non-significant. HCS and PPS is positively correlated (r=.137, p<.01) which is significant at .01 level.

DISCUSSION

Developing a culturally relevant instrument to measure health awareness was the main aim of this study. The already existing scales in this area originates from Western context, which may not be suitable for people with diverse cultural, religious or linguistic backgrounds. The Urdu Health Awareness Scale was developed utilizing a logical content approach to address this gap. The first step in this process was a comprehensive conceptualization of health awareness, based on an analysis of the existing literature to determine its essential components. The first generation of a complete item pool was led by these observations, and the cultural background of the Pakistani population was carefully considered. An initial pool of 53 items was carefully reviewed by subject matter experts. Each item's language clarity, cultural appropriateness, and construct relevance were assessed by these experts. Based on the experts review 35 items were kept for the final edition of the scale and 14 were eliminated based on their feedback

The retained items were quantitatively analyzed after the qualitative analysis. For each of the retained items, item total correlations were computed. Due to redundancy and poor content representation, items whose item total correlation was below .30 were discarded, specifically, item number 5, 6, 9, 10, 12, 16, 17, 19, 20, 22, 23, 24, 32, and 33(shown in table 1) were discarded. Among the removed items, seven of the items had negative wordings and did not conceptually match the construct being measured. The inability of those eliminated items to successfully express the intended meaning, led to the poor item total correlations, which was affecting the scale's internal consistency.

A total of 21 items (shown in table 2) were retained for further analysis as their item total correlation was above .30. among these item number 3,7, and 19 are negatively worded items.

Factor analysis was then used to assess the 21-item scale's factorial validity. The Kaiser Meyer Olkin measure was used to first confirm that the data was suitable for this process. It produced a value of .85, indicating outstanding sample adequacy. The suitability of factor analysis was further supported by the substantial results of Bartlett's test of sphericity (df =210, χ^2=1266.315, p=.000), further supporting the appropriateness of factor analysis for the dataset. These findings (shown in table 3), demonstrated that the data was suitable for determining underlying factor structures.

Principal Component Analysis was used to examine the scale's factor structure. Two factors with Eigen values greater than 1 were found in first analysis. However, according to an analysis of the scree plot and factor loadings (shown in table 4) showed that all items loaded significantly onto the first factor, with no meaningful separation of items across the two extracted components. This pattern suggests that the scale was essentially one-dimensional. In light of these results; a single factor solution was retained. With an Eigen value of 5.54 and an explanation of 26.40% of variance, this factor contributed significantly to the overall variance (shown in table 5). The interpretation of the scale as assessing a single factor, cohesive dimension was supported by an analysis of the item content, which revealed that all 21 items aligned around the underlying construct of health awareness.

The scale's internal consistency of the final 21 items was evaluated using Cronbach's Alpha coefficient. The items collectively measure the underlying construct of health awareness in a reliable way, as confirmed by the analysis's reliability coefficient of .85, which shows good internal consistency (shown in Table 6). This value, which is above the acceptable value of .70, shows that the scale has sufficient psychometric properties to be further used in research.

In order to assess the construct validity, bivariate correlations were used to analyze the scale's convergent and discriminant validity (shown in table 7). As anticipated, there was a positive correlation ($r = .25$, $p < .01$) between the scores on the Urdu-Health Awareness Scale and Health Consciousness Scale, indicating that the two scales reflect similar constructs. However, the correlation was not too high ($r = .25$) which shows that the Urdu health awareness scale is not a mere copy of the English version, rather it has questions distinct from the English scale due to which the correlation is significant but not too high. This result provides the proof for the incremental validity of the scale. Additionally, there was no statistically significant correlation between the U-HAS and Pure Procrastination scale ($r = -.071$, $p > .05$). This result was also anticipated as there shouldn't be a significant correlation between procrastination and Health Awareness as the two scales measure very distinct constructs. The non-significant correlation is evidence of discriminant validity of the scale. When taken as a whole, these findings suggest that the scale measures the particular concept of health awareness, rather than something else. Moreover, the convergent and discriminant correlation patterns provide strong proof that the Urdu Health Awareness Scale is a reliable instrument of the intended construct, distinct from both unrelated personality construct of procrastination and related with health constructs.

These results suggest that individuals who are more aware of their health are more likely to continuously be involved in many elements of health-related cognition, such as identifying possible risks and maintaining awareness of general well-being. The idea that the health awareness functions as a fundamental cognitive state, that cuts across multiple health domains rather than breaking down into distinct parts is further supported by the one-dimensional structure. Because of the clarity of the construct structure, this scale can be used in future study and practice with Urdu speaking populations.

LIMITATIONS AND SUGGESTIONS

Although the current study offers encouraging proof of the validity and reliability of recently created scale, a number of limitations need to be noted. First, the diversity of participants is limited because the sample was taken only from Peshawar's educational institutions. The findings may not accurately reflect the larger Urdu speaking population, especially those who are not enrolled in formal education or which reside in rural areas, even though the participant's ages ranged from 15-46 years and included people from matric to postgraduate levels. Future studies should try to incorporate community-based samples with more diversity in terms of age, occupation, and educational background. Second, the research was limited to Peshawar, a small geographical area. The scale applicability would be strengthened by a wider geographic representation. Third, there is another drawback of convenience sampling. It raises the risk of selection bias and reduces confidence in the findings generalizability because it is a non-probability sampling technique. Probability-based sampling techniques would be more beneficial for future research in order to collect more representative data. Fourth, clinical populations were not included in the sample. Because of this the scale usefulness for screening or diagnosis has not been evaluated. The instrument's ability to distinguish between those with and without clinically severe health issues is unknown. The scales effectiveness in healthcare environments and with populations dealing with particular medical issues should be investigated in future studies.

CONCLUSION

The current study successfully developed the Urdu Health Awareness scale, a culturally appropriate instrument for evaluating health awareness in Urdu speaking populations. With a reliability coefficient of .85, which specifies high internal consistency, the scale showed good psychometric properties. These results validated the practicality of the scale as a significant instrument for promoting health awareness researches, enabling researchers, psychologists, and public health experts to gather contextually appropriate data that represents Pakistani communities' experiences. This study also adds to the larger body of research from an exceptional Pakistani perspective by providing a culturally relevant instrument. Moreover, the scale has

potential for use in community and healthcare settings, where it can be a suitable instrument for evaluating health awareness and guiding initiatives intended to improve health outcomes.

REFERENCES

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action control: From cognition to behavior* (pp. 11-39). Springer. https://doi.org/10.1007/978-3-642-69746-3_2

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes, 50*(2), 179-211. https://doi.org/10.1016/0749-5978(91)90020-T

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W.H. Freeman.

Bandura, A. (2004). Health promotion by social cognitive means. *Health Education & Behavior, 31*(2), 143-164. https://doi.org/10.1177/1090198104263660

Centers for Disease Control and Prevention. (2024). Are you up to date on your preventive care? https://www.cdc.gov/chronic-disease/prevention/preventive-care.html

Champion, V. L., & Skinner, C. S. (2008). The health belief model. In K. Glanz, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (4th ed., pp. 45-65). Jossey-Bass.

Conner, M., & Norman, P. (2005). *Predicting health behaviour: Research and practice with social cognition models* (2nd ed.). Open University Press.

Dina, M. A., Arshed, A., & Karamat, A. (2025). Diabetes mellitus in Pakistan: Prevalence and preventive management strategies – a comprehensive literature review. *Cardiovascular Diabetology – Endocrinology Reports, 11*(24). https://doi.org/10.1186/s40842-025-00235-7

Gerretsen, P., Kim, J., Shah, P., Quilty, L., Balakumar, T., Caravaggio, F., Plitman, E., Chung, J. K., Iwata, Y., Pollock, B. G., Dash, S., Sockalingam, S., & Graff-Guerrero, A. (2018a). OASIS: The obesity awareness and insight scale. *Obesity Medicine, 9*, 38–44. https://doi.org/10.1016/j.obmed.2018.02.001

Gerretsen, P., Kim, J., Shah, P., Quilty, L., Balakumar, T., Caravaggio, F., Plitman, E., Chung, J. K., Iwata, Y., Pollock, B. G., Dash, S., Sockalingam, S., & Graff-Guerrero, A. (2018b). BASIS: The blood pressure awareness and insight scale. *The Journal of Clinical Hypertension, 20*(4), 748–756. https://doi.org/10.1111/jch.13248

Gould, S. J. (1988). Consumer attitudes toward health and health care: A differential perspective. *Journal of Consumer Affairs, 22*(1), 96-118. https://doi.org/10.1111/j.1745-6606.1988.tb00215.x

Gould, S. J. (1990). Health consciousness and health behavior: The application of a new health consciousness scale. *American Journal of Preventive Medicine, 6*(4), 228-237. https://doi.org/10.1016/S0749-3797(18)31009-2

He, J., & van de Vijver, F. (2012). Bias and equivalence in cross-cultural research. *Online Readings in Psychology and Culture, 2*(2). https://doi.org/10.9707/2307-0919.1111

Helman, C. G. (2007). *Culture, health and illness: An introduction for health professionals* (5th ed.). Hodder Arnold.

Hong, H. (2009). Scale development for measuring health consciousness: Re-conceptualization [Conference presentation]. *International Communication Association 2009 Conference*. https://instituteforpr.org/health-consciousness/

Janz, N. K., & Becker, M. H. (1984). The health belief model: A decade later. *Health Education Quarterly, 11*(1), 1-47. https://doi.org/10.1177/109019848401100101

Kim, J., Shah, P., Quilty, L. C., Caravaggio, F., Plitman, E., Iwata, Y., Pollock, B. G., Dash, S., Sockalingam, S., Graff-Guerrero, A., & Gerretsen, P. (2020). DAS: The diabetes awareness and insight scale. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 14*(3), 189–194. https://doi.org/10.1016/j.dsx.2020.02.006

Nielsen-Bohlman, L., Panzer, A. M., & Kindig, D. A. (Eds.). (2004). *Health literacy: A prescription to end confusion*. National Academies Press. https://doi.org/10.17226/10883

Patel, R., Sina, R. E., & Keyes, D. (2025). Lifestyle modification for diabetes and heart disease prevention. In *StatPearls*. StatPearls Publishing. https://www.ncbi.nlm.nih.gov/books/NBK585052/

Pelikan, J. M., Röthlin, F., & Ganahl, K. (2019). Measuring health literacy in Europe: Introducing the European Health Literacy Survey Questionnaire (HLS-EU-Q). In K. Jordan, L. Gugglberger, & S. Dagward (Eds.), *Health literacy: Research and practice* (pp. 117-134). Bristol University Press. https://bristoluniversitypressdigital.com/downloadpdf/display/book/9781447344520/ch008.pdf

Rosenstock, I. M. (1966). Why people use health services. *Milbank Memorial Fund Quarterly, 44*(3), 94-127. https://doi.org/10.2307/3348967

Rosenstock, I. M. (1974). The health belief model and preventive health behavior. *Health Education Monographs, 2*(4), 354-386. https://doi.org/10.1177/109019817400200405

Samad, Z., & Hanif, B. (2023). Cardiovascular diseases in Pakistan: Imagining a postpandemic, postconflict future. *Circulation, 147*(17), 1261–1263. https://doi.org/10.1161/CIRCULATIONAHA.122.059122

Sorensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Slonska, Z., & Brand, H. (2012). Health literacy and public health: A systematic review and integration of definitions and models. *BMC Public Health, 12*, Article 80. https://doi.org/10.1186/1471-2458-12-80

Sorensen, K., Van den Broucke, S., Fullam, J., Doyle, G., Pelikan, J., Slonska, Z., & Brand, H. (2013). Measuring health literacy in populations: Illuminating the design and development process of the European Health Literacy Survey Questionnaire (HLS-EU-Q). *BMC Public Health, 13*, Article 948. https://doi.org/10.1186/1471-2458-13-948

Steel, P. (2007). The nature of procrastination: A meta-analytic and theoretical review of quintessential self-regulatory failure. *Psychological Bulletin, 133*(1), 65-94. https://doi.org/10.1037/0033-2909.133.1.65

Steel, P. (2010). Arousal, avoidant and decisional procrastinators: Do they exist? *Personality and Individual Differences, 48*(8), 926-934. https://doi.org/10.1016/j.paid.2010.02.025

World Health Organization. (2024). Health literacy. https://www.who.int/news-room/fact-sheets/detail/health-literacy

APPENDIX

_درجہ ذیل سوالات صحت سے متعلق آپ کے رجحانات معلوم کرنے کے لیے بنائے گئے ہیں۔ براہ مہربانی اپنی عادات کو مدِ نظر رکھتے ہوئے سوالات کے جوابات دیں۔

نمبر شمار	سوالنامہ	بالکل صحیح	صحیح	کبھی کبھار	بالکل غلط
1	میں اپنی صحت کا بہت خیال رکھتا/رکھتی ہوں۔				
2	کھانا کھانے سے قبل میں ہاتھ ضرور دھوتا/دھوتی ہوں۔				
*3	مجھے گھر کے کھانے سے زیادہ بازار کے کھانے پسند ہے۔				
4	ماحولیاتی آلودگی کے پیش نظر، میں ماسک کا استعمال کرتا/کرتی ہوں۔				
5	صحت پر توجہ دینے کے لیے میں اپنی مصروفیات میں سے وقت ضرور نکالتا/نکالتی ہوں۔				
6	میں اپنی صحت سے مطمئن ہوں۔				
*7	جب تک بیمار نہ ہو جاؤں، میں اپنا خیال نہیں رکھتا/رکھتی۔				
8	میں اپنا خیال خود رکھنا بخوبی جانتا/جانتی ہوں۔				
9	میں موسمی پھلوں کو خوراک میں ضرور شامل کرتا/کرتی ہوں۔				
10	میں پیکٹ میں بند اشیاء خورد و نوش کے استعمال سے قبل، ان کے اجزائے ترکیبی پڑھتا/پڑھتی ہوں				
11	میں اپنی صحت میں رونما ہونے والی تبدیلیوں سے واقف ہوں۔				
12	تندرست رہنے کیلئے میں رات کو وقت پر سوتا/سوتی ہوں۔				
13	تندرست رہنے کیلئے میں غذا میں زیادہ سبزیاں شامل کرتا/کرتی ہوں۔				
14	میں صحت سے متعلق معلومات انٹرنیٹ پر تلاش کرتا/کرتی ہوں۔				
15	جب مجھے صحت سے متعلق کوئی فائدہ مند ٹوٹکا بتایا جاتا ہے تو میں اس کو استعمال کرتا کرتی ہوں۔				
16	صبح اچھا ناشتہ کرنا مجھے پسند ہے۔				
17	مجھے میری صحت بہت پسند ہے۔				
18	میں صحت کے بارے میں بہت محتاط ہوں۔				
*19	صحت سے متعلق گفتگو مجھے بور کر دیتی ہے۔				
20	میں روزانہ اخبار میں صحت کے متعلق پڑھتا/پڑھتی ہوں۔				
21	میں کھلی اور تازہ ہوا لینے کے لیے صبح جلدی اٹھتا/اٹھتی ہوں۔				

Note. * Show reverse coded items
Items 3, 7 and 19 are reversely coded items
The scale is an open access; no permission is needed for the use of scale in future research.