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Urdu Translation and Cultural Adaptation of the Drug Use Disorder Identification Test (DUDIT)

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Abstract

The Research aimed to investigate that Substance abuse is one of the most serious psychosocial problems worldwide since it has effects not only on the abuser's physical and psychological health but also on their relational functioning (Esteban et al., 2023). The current research aims to validate and demonstrate the psychometric properties of the Urdu version of DUDIT using a clinical sample of addiction patients. The research is based on two objectives: the cross-cultural adaptation of the Drug Use Disorder Identification Test (DUDIT) in the native language and the establishment of its psychometric properties. The adaptation method used is based on Brislin's 1970 method, which follows the following steps. Forward translation is conceptualized by the committee, then subject-matter experts assess its equivalence, and finally, backward translation is conducted with different committee members to check the scale's exactness, after which the translated scale is finalized to assess its psychometric properties. The research consists of three parts: the first part, translation along with adaptation; the second step was Pilot Testing and Cross-Language Validation of the scale, and the third step was to determine the psychometric properties. The test Re-test reliability, split-half reliability, and inter-item reliability are established. Furthermore, the Discriminant and the concurrent validity are also established. The sample was selected through a purposive sampling method, divided into N=30 (for cross-language validation) and N=130 (for Psychometric properties). Additionally, there was a strong correlation with test-retest reliability of 0.95. Participants consisted of substance users in the rehabilitation process in different addiction treatment centers of Karachi, Pakistan. The age ranges from 18 to 45 years. The results indicate that the cross-language validation of the DUDIT Urdu version scale is highly significant (p<.01). The Severity of Dependence Scale (Martin et al., 2006) is used to check the concurrent validity. The Warwick-Edinburgh Mental Well-Being Scale (WEMWBS) (Tennant et al., 2007) is used to assess well-being. Whereas Information gathered through survey forms. The result has been dissected through Pearson product-moment correlation. This concentrates on the inference that Drug use really does affect an individual's mental well-being. The Urdu translated version of the DUDIT scale is a valid and reliable assessment tool and conceptually equivalent to the original DUDIT scale.

Keywords: *Cultural Translation and Adaptation, Substance abuse, DUDIT, psychometric properties.*

Introduction

Drug abuse is a serious and pervasive global health problem (Malik et al., 2023). Drugs impair one's ability to reason and cloud one's judgment. A drug is a term that refers to a group of different medications and is classified according to its domains (Ahmed et al., 2022). Substance use is linked to adverse physiological, Psychological, and social outcomes such as addiction, substance use disorders, neurological problems, cognitive dysfunction, unemployment, incarceration, and suicidal behavior (Kim et al., 2022). Choosing an appropriate scale or measure to assess psychological characteristics of interest is a fundamental challenge in psychological research. (Ashfaq & Arouj, 2023). According to Shahzad et al. (2022), the limitations of cultural translation

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and adaptation of mostly used scales involve sampling technique, gender issues, non-clinical samples, and generalizability and social desirability bias. Among the drugs that are commonly abused are sleeping pills, alcohol, heroin, marijuana (ganja), tobacco, bhang, hashish (chars), different cough syrups, brown sugar, and cocaine. Drug abuse has a serious, detrimental impact on society as a whole as well as the individual. A person's health is severely harmed by drug abuse (ANF, 2023; Ahmad et al., 2022). Nowadays, it is evident that the majority of Individuals are propelled casually by the craving for energy and excitement, and help from peer pressure and a negative state of mind. Addiction can lead to various kinds and levels of damage, and these can be personal, social, professional, and monetary. The clearest hurt is monetary, and this is obviously connected with a significant number of different damages.

A behavioral perspective looks at how conditional strengthening factors (Edwards, 2016) can prevent or start drug use by punishing or rewarding users. This view includes learning theories, such as social learning, observational learning, and conditioning theories. As far as mental damage, the persistence of alcohol and drug use, as well as their recurrence following abstinence, is significantly influenced by craving (Ghouchani et al., 2016), which also made an argument in favor of self-realization of addiction and free will. The third factor on the priority ladder for desire to stop a behavior is self-efficacy. It contends that feelings for ending the threat of drug addiction can also be sparked by internal factors, such as one's own view of drugs as a bad thing that continuously brings shame and humiliation to the user and stigmatizes them in society as mischievous. People are also motivated to give up drugs to fit in with society (Waheed & Sabir, 2020).

The DUDIT is a valid and trustworthy tool for clinical usage, with good internal consistency, sensitivity, and specificity, according to a review of 18 studies (Hildebrand, 2015). The DUDIT collects data on the following topics: (a) frequency of drug usage, (b) drug-related problems, and (c) signs of drug tolerance. It evaluates an individual's illegal drug use and associated effects over the previous year. The DUDIT is superior to these other instruments in three key ways. First off, the DUDIT offers scaled responses on behavioral frequency for each item, in contrast to other scales of a similar nature. Second, for the convenience of clients and counsellors, the DUDIT provides a drug list containing a list of frequently abused prescription drugs. Thirdly, the DUDIT is appropriate for use in drug use surveys for public health (Berman et al., 2007). With the use of a clinical sample of addiction patients, the current research seeks to validate and establish the psychometric features of the Urdu version of DUDIT. This will enable researchers to gain a better understanding of screening drug-related concerns and the use of substances in the Pakistani population. The present research aims to translate and adapt the reliable tool of the Drug Use Disorder Identification Test (DUDIT). Substance abuse has become more widespread worldwide, affecting nations' socioeconomic systems and the foundation of families (Amaro et al., 2021).

Addiction is a societal phenomenon that has been around for a long time and is still going strong today. There is a definite need for precise information on the difficulties and repercussions of problem addiction in Adults, as well as an awareness of the issues. Substance abuse is regarded as one of the world's most chronic problems, harming people of all ages, socioeconomic backgrounds, geographical regions, educational levels, and nationalities. Substance abuse is described as the continued use of substances, illicit drugs, or the misuse of medical or over-the-counter medications with negative repercussions. (Panthee et al., 2017).

The usage of opioids, whether prescribed or illicit, poses a serious risk to public health because of their high potential for addiction and other negative effects. (Kumar et al., 2024). A deeper comprehension of cognitive and emotional control may then be useful in the development and

execution of therapies aimed at enhancing individuals' coping mechanisms for substance use disorders. Improved treatments for emotional and cognitive regulation may, in turn, contribute to better treatment compliance, drug-free living, and overall healing. Psychoeducation regarding substance use to patients with Suds, their families, and significant others may also aid in lowering the stigma and discrimination that prevents them from pursuing recovery. Therefore, avoidance and disengagement tactics may be used by patients with Suds as an ineffective coping mechanism for the stressful circumstance, which may have a poor impact on treatment adherence and result.

Literature Review

Addiction to drugs, legal or illegal, is a severe social health problem that affects millions of people around the world (Bhanujirao et al., 2022). Brislin's translation model includes simultaneous translations, back-translations, and group consultation by bilingual specialists to ensure that cross-cultural research instruments are functionally equivalent.

Cultural equivalence refers to conceptions having similar meanings and relevance across cultures. (Phillips, de Hernandez, & de Ardon, 1994) proposed a five-phase process for establishing cultural equivalence, which includes determining the relevance and function of the phenomenon in the population being studied, translating the instruments, back-translation, testing the translated instruments, and re-evaluating the process and outcome.

Functional equivalence refers to how a concept performs and generates similar responses across cultures. The term of "family" is functionally equivalent across cultures, since it refers to kinship-based social units that provide nurturing and socialization for children. The term of "adolescence" may not be universally applicable due to cultural differences in associated behaviors and meanings. (Jones et al., 2001).

Semantic equivalence between two distinct languages is the aim of translation, notwithstanding irregularities in the translation and processing stages. For instance, Brislin's (1970) translation model is frequently cited as the best resource for cross-cultural research. (Jones et al., 2001) For the purpose of translating qualitative research texts from the source language (non-English) to the target language (English), such as field notes or interview transcripts, this approach suggests using a minimum of two bilingual people. According to (McDermott and Palchanes 1994), this procedure is known as forward translation. (Brislin 1970, 1980) states that a second multilingual person involved in the translation process will back-translate the documents from the source language into the target language before comparing the two versions to ensure accuracy and equivalence. Any inconsistencies that arise throughout the procedure are subsequently resolved by the two linguistically diverse interpreters or translators (Brislin 1970).

According to the *psychoanalytic perspective*, people may use drugs as a result of their poor personality adaptation to life's challenges. In other words, drug use is a coping strategy used by people with weak personalities to get rid of their inferiority complexes (Shafiee et al., 2019). Many addiction models have the craving at their core.

According to the *cognitive viewpoint*, which includes theories about self-control, any disruption in a person's ability to plan ahead or in their ability to change their behavior directly monitors their ability to adapt to changing circumstances. (Shafiee et al., 2019) On the other hand, being predisposed to drug use worsens the severity of this disorder and addiction (Hester et al., 2010). Addiction in these circumstances may be accompanied by or result from diseases like impulsivity brought on by abnormal brain activity (Bickel et al., 2012). Planning effective treatment and prevention programs requires a quick evaluation of the scope of the drug problem (Berman et al., 2007). The 11-item Drug Use Disorders Identification Test (DUDIT) is one of numerous drug addiction screening tools that have been created to gauge the extent of drug usage by substance

abusers. According to (Berman et al., 2005), the DUDIT was created expressly as a screening tool with the highest level of simplicity to assist health care providers in quickly assessing problematic illegal drug use (excluding alcohol and tobacco use) in adults. Based on information from Swedish people in the criminal justice system, centers for addiction treatment, and community samples, the DUDIT was created in 2005 (Berman et al., 2005).

Addiction is a chronic brain illness characterized by recurrent relapses and obsessive drug seeking and use, despite the severe consequences for the addict and others around them. The majority of people choose to use drugs voluntarily at first, but as time passes, changes in the brain can make it harder for an individual to maintain self-control and to resist strong urges to use drugs (National Institute of Drug Abuse, 2011). According to Amaro et al., (2021) the reduced stress response in the brain, possibly brought on by a protracted disturbance of neurotransmitters like gamma-aminobutyric acid, is referred to as stress vulnerability. Cravings for alcohol and other substances are associated with the activation of the stress response (Cavicchioli et al., 2020). According to Pakistani research findings, there are three distinct reasons why university students began misusing drugs: personal, social, and institutional. While sedatives, ecstasy pills, shisha, cannabis (Charas), injectable drugs, and alcohol (Murree Brewery, whisky, vodka) are routinely used substances by university students, hard drugs like heroin and cocaine are used very infrequently on campus (Sajid, 2020). Women with depressive disorders are significantly more likely to have co-occurring substance use disorders. 20.9% of female participants with severe depression met the criteria for a drug use disorder. Among the most commonly used substances were tobacco (cigarettes, chewing tobacco, snuff, cigars, and/or pipe tobacco), illicit narcotics (cocaine, heroin, hallucinogens, inhalants, and marijuana), and non-medical prescription pharmaceuticals (stimulants, sedatives, pain relievers, and tranquillizers) (Zhou et al., 2019).

The research of Batool, (2023) cohort indicated that peer pressure and stress from family conflicts were the main causes of drug addiction (78%), followed by curiosity or joy seeking (24%). The array of ways in which behavior can be influenced by social environment is astounding. In addition to imitating and observing the behavior of others, social approval, interaction, or acceptance can be obtained as direct reinforcement for one's own behavior from others (Ghazal, 2019). The functional relationships between an individual and stimuli in their surroundings can be altered by well-characterized social learning processes, such as stimulus amplification, emulation, and socially induced reinforcement enhancement (Smith, 2021).

"Drug use" might be seen as the critical behavior of interest, drawing on Bandura's approach. The likelihood of consuming drugs is directly impacted by both personal characteristics within the individual and environmental ones outside the individual. Furthermore, all three of these variables interact with one another, creating dynamic functional relationships that both directly and indirectly affect drug usage (Smith, 2021). Research by Harrison, Fulkerson, and Beebe found that young individuals who had experienced physical and sexual abuse were more likely to use multiple drugs, started using drugs earlier than their peers, and cited more justifications for their usage, including numbing the agony of their emotions. It has also been demonstrated that PTSD (post-traumatic stress disorder), which can come from traumatic events like abuse, increases the chance of developing substance use issues (Harrison et al., 1997).

Sometimes drug users say that their addiction causes them to lack self-control, which causes them to commit crimes like robbery, theft, or fraud (Shahin et al., 2021). Another research revealed a strong inverse relationship between individuals' spiritual well-being and their drug desires. Recovering addicts who participated in retrospective studies often reported that spirituality and

religiosity were crucial elements of their efforts at recovery and that they helped sustain the gains they had achieved throughout treatment (Shahin et al., 2021). Finding long-term risk factors for abstinence and heavy substance use in a clinical setting is essential to adjusting the course of therapy to the needs of the patient (Hagen et al., 2017).

Material and Methods

The current study used a mixed-method design to translate, adapt, and evaluate the psychometric properties of the Drug Use Disorder Identification Test (DUDIT) in Urdu among addiction patients in Pakistan. A sample of 130 individuals aged 18–45 years was recruited through purposive convenience sampling from rehabilitation centers in Karachi. The study was conducted in two phases: Phase I involved translation and cultural adaptation of the DUDIT using Brislin's forward and backward translation method, expert review, and pilot testing, while Phase II examined the reliability and validity of the Urdu version through established psychometric procedures. Ethical standards were maintained throughout the study.

Research Design

The nature of current research is a mixed-method design.

Sample Selection

The current study sampled 130 addiction patients, 117 of whom were male and 13 of whom were female, aged 18 to 45, from various addiction rehabilitation centres in Karachi. The purposive convenience sampling strategy was used to approach the sample. The population studied was engaged in some drug use. Furthermore, their education level is at least primary (varying from 8 to 16 levels), allowing them to easily perform on the instruments offered to them. Participants must be bilingual, ensuring they can communicate in both Urdu and English.

Phase I

Translation and Adaptation of the Drug Use Disorder Identification Test in Urdu

In this research, a number of measures were taken by the researcher for scale adaptation for the Drug Use Disorder Identification Test. Numerous studies were examined in the first step of adaptation to choose an adaptation measure that would be beneficial for the Pakistani population and cultural context.

Selection of The Scale for Translation and Adaptation

The first phase in the research was to identify variables and constructs that would be useful to the Pakistani population. Pakistan is a religious country in which religious beliefs and moral values are essential and practiced in the lives of its people. Given the prevalence of substance addiction and the negative effects of illicit drugs on people, the decision to translate the Drug Use Disorder Identification Test was made. Another rationale for selecting the Scale was its high level of reliability and validity across cultures, as the scale has been translated and modified in a variety of languages. Unfortunately, it was discovered that this scale was not available in our local language of Pakistan (Urdu), which is preventing the Pakistani populace from exploring this variable for social science research purposes. However, the scale has been set for translation and adaptation in Urdu. For this aim, the researcher sought the author of the selected scale, obtained permission to translate and alter the scale, and followed the required channels of communication. After meeting all of the necessary ethical and other criteria for obtaining permission from the scale, the researcher emailed the authors and informed them of the normal method for translating and adapting the selected instrument. The translation method focuses on conceptual equivalence rather than language equivalence. This method consists of three crucial steps.

Brislin's approach (1970, 1986) for translating and back-translating instruments is a well-known

technique for developing accurate and reliable cross-cultural research instruments. This model states that an instrument is translated by bilingual experts from the source language (SL) into the target language (TL), and then the instrument is blindly translated back to the original language (without access to the original language version). When a back translation is compared to the original and a meaning error is identified, the terms in question are blindly translated again and again by a different bilingual professional. Until no further errors in meaning are discovered, this iterative process is repeated.

Forward Translation

According to Brislin, (1970), three translators were approached to translate the scale from the source language to the target language. PhD Scholars fluent in both languages (English and Urdu) were sought. Two psychologists and one linguistic expert. All translators were asked to translate the scale draft. They were asked to concentrate on preserving the concept of items in the English version. The final draft, following translator assessment of the items and difficulty level, was also recorded. The translated scale was then examined by two more specialists, and a draft of items was created based on their joint decision.

Formation of Review Panel

A panel of experts, comprised of three psychologists from Bahria University and other members of the research group, assessed the DUDIT translation in Urdu in order to clarify any ambiguities. The result was a pre-final version of the DUDIT scale in Urdu to be pre-tested with the target population. The review panel looked for ambiguities, repetitions, irrelevant and synonymous words, and culturally relevant words. To clarify these things before going to the next step.

Backward Translation

The backward translation method is a standardized procedure for linguistic and conceptual equivalency of the scale (Brislin, 1970). Three highly qualified translators with experience in translation and adaptation were asked to assist in the backward translation process. One is a PhD scholar, another a psychologist, and one a linguistic expert. They were not present throughout the forward translation phase. They considered conceptual equivalence while translating the scale back to the source language. After the draft is completed, it is compared to the original version, and inconsistencies are removed. Following that, a final draft was discussed with the entire panel to ensure equivalency in the concept of construct. The last review evaluates the language, construct, and psychometric qualities.

Final Expert Review of Scale

The translated test was once more shown to a panel of psychologists from Bahria University for review. Further alterations to the translation were made following the discussions that followed. The psychometric validation employed the final translation.

Pilot Study

A sample of 30 addiction patients of both genders was chosen for the pilot study to clarify any errors or ambiguities in the forward translation. The adjustments can be made if participants in the pilot study have any problems comprehending or interpreting the question. The opinions of the participants were essential. The 15 participants were given the Original DUDIT scale, and after 7 days of a gap, the Translated Urdu scale was given to one group. However, another group of 15 participants was given the Original DUDIT scale, and after 7 days, the English version after forward translation was put forward. The participants' education was Middle to Graduation. It was also verified that all participants could understand and comprehend both languages (English and Urdu). The samples were collected from various addiction rehabilitation centers in Karachi, Pakistan. This study method allows us to learn about and determine the sufficiency of the

translated version, as well as revisions made to elements that appear difficult for participants to understand or are unclear.

Phase II

Establishing Psychometric Properties of Drug Use Disorder Identification Test (DUDIT) in the Urdu Version

This section discusses the test-retest reliability, split-half reliability, concurrent and discriminant validity, and internal consistency of the newly translated version of the DUDIT scale. This method is used to determine the reliability and validity of the scale.

Test-Retest Reliability

Test-retest reliability, as defined by Anastasi (1997), is the process of administering the same scale to the same individual twice at separate times. The original scale, as well as its Urdu and English translations, were administered throughout this procedure.

Sample: It was administered to a sample of 50 addicts (both genders) ranging in age from 18 to 45 years. The Drug Use Disorder Identification Test was given to them.

Procedure: As previously discussed, the test was conducted again after 7 days to a similar sample group. Following the results of two administrations, the Pearson Product-Moment Coefficient was used.

The Split-Half Technique

Split-half reliability is another way of measuring reliability. In this procedure, the scale was divided into two halves: an odd number of items versus an even number of items. After separating the two parts, administer to the sample. The correlation between these two portions provides split-half reliability. Similarly, in our research, the scale was translated into Urdu and divided into two halves. Finally, correlation was determined for both portions. The process is known as the split-half technique.

Sample: It was administered on the addiction population of (N=130) patients to check the correlation of the newly translated Urdu version of the DUDIT Scale. It was checked through form A and form B.

Procedure: The split-half reliability was evaluated by dividing the scale into two halves, such as odd and even numbers of items. Following the division, both parts were distributed to the sample.

Inter-Item Reliability

Inter-item reliability is a strategy for measuring reliability. In this manner, the scale's internal consistency was established, demonstrating how each item of the DUDIT Urdu measure correlated with the others. It revealed a highly significant positive association between each item and an item-total correlation, indicating that the DUDIT Urdu version is a reliable instrument and an internally consistent measure of drug abuse.

Sample: It was administered on the addiction population of (N=130) patients to check the correlation of the newly translated Urdu version of the DUDIT Scale.

Procedure: Inter-item reliability was examined by ensuring that each item on the newly adapted DUDIT Urdu scale correlated with the others.

Discriminant Validity

Discriminating validity assessed whether the DUDIT scale was unduly related to different constructs. By administering the Warwick-Edinburgh Mental Wellbeing Scale to participants, the validity was evaluated to determine whether the DUDIT scale differs from or correlates with completely different scale constructs of psychological well-being. To check how our scale discriminates against a totally different construct. It may be visible that the more drug usage the less mental well-being of the participant, and vice versa. The Pearson correlation test will be

applied to it.

Sample: It was administered on (N=50) addiction patients of both genders, ranging in age from 18 to 45 years. And was given the Warwick-Edinburgh Mental Health Scale, along with the other forms.

Procedure: Discriminating validity was tested using a different construct than drug usage. The Pearson correlation test was performed.

Concurrent Validity

Concurrent validity evaluated the degree to which a certain test correlated with an earlier verified measure. The Severity of Dependence Scale (SDS), which gauges a drug user's level of dependence, will be used to evaluate this validity. If a participant receives high DUDIT scores, then equivalent results on the validated SDS test are anticipated to obtain concurrent validity.

Sample: It was administered on (N=50) addiction patients of both genders with an age range between 18-45 years. And was given the form of the severity of the Dependence scale, along with the other forms.

Procedure: Concurrent validity was measured by giving two theoretically similar constructs, that is, the Drug Use Disorder Identification Test and the Severity of Dependence Scale.

Measures

In the current research, three self-report measures, the Drug Use Disorder Identification Test (Urdu version), Warwick-Edinburgh Mental Wellbeing Scale (Urdu version), and Severity of dependence Scale (English version) have been used for this research by taking proper informed consent from participants and the demographic form.

Results

This interprets the research data by using statistical analysis performed by the Statistical Package for Social Sciences (Version 21). The participants in the research involved 130 Addiction patients, both male and female, who were included in the present research. Statistical Analysis was performed to check the reliability and validity of the adapted Urdu version of DUDIT (Drug Use Disorder Identification Test).

Table 7.1: Frequency and Percentages of Demographic Variables Analyzed by Descriptive Statistics (N=130)

Variable's	*f*	%
Age		
18-24 Years	33	25.4
25-31 Years	42	32.3
32-38 Years	33	25.4
39-45 Years	22	16.9
Gender		
Male	117	90.0
Female	13	10.0
Education		
Middle	54	41.5
Matric	42	32.3
Intermediate	23	17.7
Graduate	11	8.5
Relationship Status		
Single	64	49.2

Married	59	45.4
Engaged	3	2.3
Divorced	4	3.1
Client Employment		
Employed	57	43.8
Unemployment	58	44.6
Partially employed	13	10.0
Others	2	1.5
Socio-economic Status		
Lower class	51	39.2
Middle class	68	52.3
Upper class	10	7.7
Others	1	0.8
Family Status		
Nuclear	63	48.5
Joint	66	50.8
Others	1	0.8
Birth Order		
1st born	39	30.0
Middle born	86	66.1
Only child	5	3.84
Financial Support		
Family	103	79.2
Relatives	4	3.1
Friends	8	6.2
Others	15	11.5
Factors Leading to drug Usage		
Physical	8	6.2
Psychological	53	40.8
Social	58	44.6
Spiritual	2	1.5
Others	9	6.9
Recent drug before treatment		
Alprazolam	1	0.8
Beer	1	0.8
Chars	10	7.7
Crystal	27	20.7
Crystal & Ice	15	11.5
Dormicum pills	1	0.8
Weed	2	1.5
Powder	18	3.8
Ice	41	31.5
Ice & Cocaine	2	1.5
Ice & Powder	7	5.3
Kinz injection	1	0.8
Petrol	1	0.8

Powder & Crystal	2		1.5
Valium 10	1		0.8
Duration of Drug Usage			
7-12 months	1	0.8	
1 Year	10		7.7
1 Year & Above	119		91.5
Mode of Drug Use			
Sniff	17		13.1
Foil	6	4.6	
Smoking	85		65.4
Oral	2	1.5	
Injection	18		13.8
Others	2	1.5	
Client Psychological Disorder			
Yes	1	0.8	
No	129		99.2
Client Psychotherapy			
Yes	3	2.3	
No	127		97.7
Family History of Drug Usage			
Yes	19		14.6
No	111		85.4
Family History of Psychological			
Disorder			
Yes	10		7.7
No	120		92.3

Note: f=frequency, %=percentage

Table 1 illustrates descriptive statistics of the sample, which shows the number of participants, demographic information, and percentages.

Table 7.2

Descriptive Statistics and Alpha Reliability Coefficient, Univariate Normality of Research Variables (N=130)

	N	**α**	**M**	**SD**	**SK**	**K**
Urdu scale 1st administration	130	.756	2.6699	.81250	-.669	-.034
Urdu scale 2nd administration	50	.752	2.4291	.84086	-.208	-.510
WEMWBS total	55	-	3.9922	.61178	-.446	-.384
SDS_total	55	-	1.9709	.66602	-.521	-.028

Note: N= Sample size, M=Mean, SD= Standard Deviation, α= Alpha Value, WEMWBS=

Warwick-Edinburgh Mental Wellbeing Scale, SDS= Severity of Dependence Scale.
This Table shows that, as per the values of Mean, Standard Deviation, Skewness, and Kurtosis, the data is normally distributed, and the Alpha reliability of all items of the scale is in the acceptable range.

Table 7.3
Estimate of Cross-Language Validation, Correlation between Original DUDIT Scale and Translated DUDIT Urdu Version. (N=30)

Cross-language Validation		
Pilot study N	r	No of items
30	0.93**	11

This table shows a strong positive correlation between the 11 items of the DUDIT original and newly translated versions. The Pearson Product-Moment Correlation is significant at the 0.005 level, where r = 0.93**

Table 7.4
The Inter-item Correlation of the Newly Translated Urdu Version of DUDIT Scale (N=130)

Item No	r	Item No	r
1	.908**	7	.827**
2	.960**	8	.906**
3	.964**	9	.864**
4	.963**	10	.943**
5	.837**	11	.915**
6	.780**		

*Note: N=130, 7-day inter-test interval, **p<0.01.*
The table demonstrates a significant positive correlation between each item on the DUDIT Urdu scale. An item-total correlation, showing that the DUDIT Urdu version is a reliable and internally consistent measure of drug addiction. The items' significance values are near p<.01, indicating a strong association between them.

Table 7.5
Test-Retest Reliability of Urdu Version of DUDIT Scale (N=50)

	N	M	SD	r
Urdu Scale 1st Administration	50	2.66	.812	.955**
Urdu Scale 2nd Administration	50	2.42	.840	.955**

*Note: One-week interval **. Correlation is significant at the 0.05 level (2-tailed)*
This table reveals that the Test-Retest Reliability of the Urdu version of the DUDIT Scale on a sample size of 50 has a favorable correlation on both the first and second administrations to the same patients. The value of the correlation coefficient is 0.95, which shows that the Correlation is strongly positive and is significant at the 0.05 level. Hence, Test-Retest reliability shows that

the constructs are reliable and valid.

Table 7.6

Split-Half Reliability of Urdu Version of DUDIT Scale First Administration (N= 130)

Scale	α reliability		r b/w forms	Spearman-brown Coefficient		Guttman Split half Coefficient	
	Part 1	Part 2					
DUDIT Scale Urdu	0.58	0.59	0.65	0.79		0.79	

The table shows that the Split-Half Reliability of the Urdu version of the DUDIT scale indicates that Form A and Form B have a significant positive correlation between them on the First Administration of the sample. The correlation between the two halves of the scale was examined using the Spearman-Brown Coefficient, and the Guttman coefficient was determined to be approximately 0.79. This points to a high correlation between the two halves of the scale.

Table 7.7

Split-Half Reliability of Urdu Version of DUDIT Scale Second Administration (N= 130)

Scale	α reliability		r b/w forms	Spearman-brown Coefficient		Guttman Split half Coefficient	
	Part 1	Part 2					
DUDIT Scale Urdu	0.69	0.48	0.58	0.73		0.73	

Table 7.7 shows that the Split-Half Reliability of the Urdu version of the DUDIT scale indicates that Form A and Form B have a significant positive correlation between them on the second Administration of the sample as well. The correlation between the two portions of the scale was examined using the Spearman-Brown Coefficient, and the Guttman coefficient was determined to be approximately 0.73. This points to a strong correlation between the two halves of the scale.

Table 7.8

Validity Analysis Indicating Relationship Between Translated Urdu Scale & Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS) Through Discriminant Validity (N=50)

Measures			WEMWBS		

Dudit Urdu scale	0.85**

Table 7.8 shows that the Translated Urdu scale and the Warwick-Edinburgh mental well-being Scale do not correlate, showing weak discriminant validity. The results show that there is a weak relationship ($p < 0.05$). The Translated Urdu Scale and the Warwick-Edinburgh Mental Wellbeing Scale do not correlate, indicating weak discriminant validity.

Table 7.9

Validity Analysis Indicating Relationship Between Translated Urdu Scale & Severity of Dependence Scale (SDS) Through Concurrent Validity (N=50)

Measures			SDS		
Dudit Urdu scale			.95**		

Table 7.9 shows that there is strong positive correlation, the Translated Urdu scale and severity of dependence scale correlate showing strong concurrent validity. Correlation is significant at 0.01 level. After administration of both scale strong concurrent validity was visible 0.95. The data reveal that both tests coincide with each other as shown, and that there is a substantial positive connection between the Translated Urdu scale and the severity of dependence scale, indicating strong concurrent validity.

Discussion

The primary purpose of this research was to make a Drug Use Disorder Identification Test available to Pakistan's broader population by translating the DUDIT scale into Urdu, the country's most widely spoken language. There were two phases in the research. In the first phase, the scale was translated and adapted according to the Brislin method, and a pilot study was conducted on 30 participants who were given the Original as well as the translated DUDIT. In the second phase of research, the psychometric properties were established, i.e., Test-retest, split-half, and Inter-item Reliability as well as Discriminant and Concurrent validity. Substance abuse is an alarming problem around the world, particularly in Pakistan, due to the indifference of important authorities in terms of eradication, production, and trafficking. A diagnosis of substance abuse disorder may be made for a person who continues to use drugs despite the risks involved (Ahmad et al., 2020).

The research also establishes Dudit's validity and reliability, allowing researchers to employ a valid instrument among Pakistanis who struggle to interpret English. This Scale of Drug Addiction has been available since this construct is widely utilized in research; however, there are only a few measures available in Urdu. It has been adapted into 32 other languages. In the current research, 130 addiction patients were recruited, of whom 117 were male and 13 females were included, with an age range of 18-45 from different addiction rehabilitation centers in Karachi.

Demographic information in Table 7.1 provides the frequency and proportion of various demographic factors. It reveals that there were more male participants in the research (f=117), and the most commonly used substance is Ice (f=41), as opposed to other types of drugs. The middle-born child is more prone to use drugs. Their education level is largely middle (f=54), and they are middle-class (f=68). Drug abusers are usually financially supported by family members (f=103), and the elements that contribute to drug use are psychological (f=53) and social (f=58).

Furthermore, they utilize drugs by smoking (f=85), which is the quickest way for them to enter the body and be absorbed.

Table 7.2 demonstrates the Descriptive Statistics and Alpha Reliability Coefficient. The Urdu version of DUDIT on 1st administration shows a strong Alpha reliability Coefficient (r =+0.75), and a similar value was visible in the second administration. And the value of Standard deviation, Skewness, and Kurtosis indicate that the data is normally distributed and in an acceptable range.

The cross-language validity approach was utilized to determine the scale's validity. The original scale, as well as its Urdu and English translations, were administered throughout this procedure. The findings demonstrate a substantial association between the two versions. Table 7.3 illustrates the validity between Original DUDIT and Translated DUDIT (N=30) with a correlation coefficient of r = 0.93. The Pearson coefficient here indicates strong cross-language validation.

When internal consistency was computed, it revealed a highly significant positive association between each item of the DUDIT Urdu measure (Table 7.4). An item-total correlation, having strong positive correlation values (range between +0.8-+0.9), indicates that the DUDIT Urdu version is a reliable instrument and an internally consistent measure of drug abuse. All the items' significance value is close to p< .01, which shows a strong correlation between items. (Table 7.4)

Reliability assessment is an important step in establishing the psychometrics of a scale. According to Rose and Johnson (2020), reliability refers to the soundness of the research, specifically in terms of the appropriate methodology employed and how those methods were applied and implemented in qualitative research. Reliability calls into question the consistency of the scientific process, which should be relatively steady across time and across researchers and/or methods used (Miles et al., 2014). Research dependability is increased when the methods utilized are justified and the analytical procedures are clear. Reliability also addresses the consistency and clarity connected with the actual conduct of the research, improving the possibility that future researchers will be able to recognize and implement many of the research methodologies stated (Creswell, 2013).

In our research, 50 participants were selected and evaluated for seven days. The data show very significant and strong test-retest reliability. The correlation between pre- and post-testing was found to be +0.95, showing high test-retest reliability (Table 7.5). (Berman et al., 2007) developed the DUDIT original scale. Anne Berman employed the test-retest reliability approach, and the results were nearly identical to the Urdu version. Both structures appear to be reliable.

As previously discussed, the split-half reliability was assessed, in which the scale was divided into two halves, such as odd and even numbers of items. After dividing, both parts were given to the sample. The correlation between the two components results in split-half reliability. The Spearman-Brown Coefficient was used to measure the correlation between the two parts of the scale, and it was found to be about 0.73 in both the pre- and post-test (Tables 7.6 and 7.7). This suggests a strong correlation between the two halves of the scale.

Discriminating validity assessed whether the DUDIT scale was unduly related to different constructs. By administering the Warwick-Edinburgh Mental Wellbeing Scale (WEMWBS; Tennant et al., 2007) on participants, the validity was evaluated in order to determine whether the DUDIT Urdu scale differs from or correlates with completely different scale constructs of psychological well-being.

The Pearson correlation test was used, and the results (Table 7.9) reveal that there is an insignificant association between the newly translated DUDIT scale and the Warwick Mental Health scale, which assesses mental well-being. These contradictory results can be due to different factors. One being that after 15 days, psychosocial interventions and healing programs

enhance the patients' mental well-being, thus they are unaware of any mental health issues. The inpatient detoxification program normally lasts 10-14 days, depending on the referral, inpatient specialists' advice, and the patient's wants. Longer stays may thus occur depending on the global clinical initiative, the patient's need to consolidate detoxification, or even the potential need to treat somatic complications, and be monitored. Patients who choose aftercare may request an extended stay in another residential facility for 3 weeks to 6 months (Poireau et al., 2024)

In our research, we examined the concurrent validity of a newly translated DUDIT scale in which two separate scales measuring the same construct were applied to the same sample. As a result, two theoretically similar constructs have been used (Drug Use Disorder Identification Test and Severity of Dependence Scale) (Martin et al., 2006). These two theoretically identical construct scales were administered on a sample of 50 Addiction patients. After administration of both scales, strong concurrent validity was obtained, $r = +0.95$, $p<0.01$. The findings show that both tests strongly correspond with each other, as shown in (Table 7.8)

Conclusion

As a result, it is possible to conclude that the translated version has adequate reliability and validity, indicating that it is a valid and consistent instrument that can be used to measure drug use among addiction patients in Urdu, thereby avoiding potential language and cultural barriers during assessment. This measure can be applied to the Pakistani community.

Implication

The research has provided an adapted and validated construction of the Drug Use Disorder Identification Test (DUDIT), an Urdu translated version of the scale that would promote future research in these areas of Substance abuse screening and facilitate data collection from all segments of the population. These scales can be used in health care settings/rehabilitation to collect data from the patient population as well as from the general population.

Limitations & Recommendations

The current research data is limited and collected from only one region of Pakistan, so it cannot be applied to the entire population. It is recommended that, in the future, samples be collected from all around Pakistan. It will help to remove sampling bias and provide a representative sample of the total population. Furthermore, the sample has fewer female patients, and obtaining an equal sample of both genders is difficult for a variety of reasons. The research used one scale to test concurrent validity in English rather than in Urdu, which is considered a drawback. There are fewer appropriate scales available in Urdu for addiction patients for measuring a variety of illicit drug use.

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Author Contribution

Hafsa Riaz: Research execution, writing, editing, and conceptualization. Dr. Barerah Siddique: Data Analysis and technical work. The Authors have read and approved the manuscript.

Conflict of Interest Statement

The authors declare no conflict of interest.

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