

Translation and Validation of the Drug Abuse Screening Test DAST-20

Wizra Saeed¹, Mohammad Abbas Bhat², Rabia Shakir³**Abstract**

The Drug Abuse Screening Test-20 was translated and established validation properties to make it a sound assessment tool. A cross-sectional study with a descriptive design was planned which involved survey methods conducted at Riphah International University, Faisalabad. Four experts from the psychology field and literature were approached for the forward and backward translation process. The responses on original and translated versions were collected from adults aged between 19 to 60 years from public and private drug abuse treatment units in Faisalabad through a convenient sampling approach. The reliability and validity features of the scale were assessed using confirmatory factor analysis. SPSS 23 and AMOS 23 software were used for statistical analyses. The Urdu DAST was shown to have a highly substantial positive association between each item and the item-total correlation, making it an internally consistent measure of drug abuse. Internal consistency reliability was also found significant. Moreover, results from confirmatory factor analysis revealed good and acceptable model fit and retained one-factor structure similar to the original version. The findings held high-reliability coefficients for forward and backward translation of the scale and maintained the universality of the DAST Urdu version. Scholars, psychologists, family consultants, and mental health and sociological professionals who desire to examine the emotive, perceptual, and behavioral components of DAST in the Pakistani population will find the DAST Urdu version useful.

Keywords: DAST Urdu, Drug Abuse Screening Test, Drug Abuse Test

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Introduction

Drug addiction is a critical issue whose ramifications pose a serious threat to society. It is one of the twenty-first century's great

crises, affecting all communities worldwide. Multiple factors contribute to the development of drug abuse and addiction, and identifying them in diverse environments, cultures, and societies enables the development of prevention measures and increased public awareness (Nemati et al., 2020).

Students in colleges frequently abuse drugs. A study conducted by Ferrer et al. (2015) determined how common substance addiction is among college students. A sizable portion of college students may be misusing dangerous drugs as a result of excruciating pain or poor pain tolerance. Based on the specific fact that drug usage increases (significantly) as pain increases, it is acceptable to infer that those who are at risk for pain should be evaluated for potential toxic substance abuse.

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The term drug use can take many forms and consists of four stages: No use, trial use, joyful use, and hazardous, which are further classified into abuse and dependency. The Royal College of Psychiatrists defines substance abuse as “any taking of a drug which harms or threatens to harm the physical or mental health or social well-being of an individual or other individuals or society at large, or which is illegal.” The meanings of 'drug addict' and 'addiction,' like all of the terms addressed here, are regulated by both the socio - cultural context as well as the true intent behind their use. Our society is accustomed to addiction to a variety of unhealthy substances and behaviors. Growing use of the terminology, on the other hand, has not always equated to increased knowledge of the dependency process. All of the said information is retrieved from the Diagnostic and Statistical manual of mental disorders (American Psychiatric Association [APA], 2013).

Rapid growth in drug addiction among academic institutes' students has arisen as a critical social concern for current Pakistani society, which has one of the largest percentages of young people in the world. According to the findings of a study, students consume drugs without much limitation or risk in colleges since educational institutes have neglected the need to take significant steps to resolve the problem on their campuses. Pakistan urgently needs to adopt an inclusive management plan in academic institutions for eradication of the drug addiction (Ahmed et al., 2020).

A recent study conducted by Ghazal (2019) in Pakistan to investigate the rising trends of substance abuse demonstrates that adolescent drug usage is rising at an alarming rate. The growing trend of teenagers and members of the skilled and educated strata of society abusing highly addictive substances such as heroin is cause for alarm and requires prompt preventive action from policymakers.

The rise of drug abuse in our society with such rapid pace poses a demand for the availability of accurate and precise measurement tool for screening of addiction. Screening procedures could be considered proactive rather than reactive in nature. A screening test is used to discover a potential health problem or disease in someone who does not yet exhibit symptoms or indicators. The objective of screening is to aid in disease prevention or to detect an illness early enough to treat it successfully. Screening tests are not diagnostic in nature; rather, they are used to identify individuals who should undergo additional testing to determine the presence or absence of disease, or individuals who may benefit from early intervention initiatives (Gabbey & Le May, 2010). Much of our data on nonmedical drug use comes from surveys, particularly of high school and college students. However, these assessments have come under fire because of their dependency on non-standardized survey forms with unclear measuring qualities (Hochhauser, 1979; Stanton, 1977).

Standardized tools have been identified as a need to use for assessment in clinical and non-clinical groups. Numerous studies have demonstrated the validity and reliability of drug use scales. For example, Smart and Blair (1978) found that a drug use scale applied to high school students on two occasions separated by eight weeks had a high level of test-retest reliability ($r = .88$). Furthermore, self-reported drug use was not associated with defensive behavior on two occasions according to a nine-item lie scale.

A longitudinal survey conducted by Single et al. (1975) evaluated the consistency with which high school students self-reported use of illegal substances. Self-reports of illegal drug use were very consistent for a long time, but they have deteriorated over time (5-6 months). A more common cause of inconsistencies, however, was poor recall rather than respondents covertly hiding their

drug use, as determined by Single et al. (1975). As for attitudes concerning drug usage, Goodstadt et al. (1978) found that ten brief six-item scales had a median internal consistency reliability of .85. They showed a median value .39 correlation co-efficient (α) for reported drug use, and .48 α value for the aspiration to use one or more drugs in the upcoming year. Self-report methodologies have generally been found to be a consistent method of evaluating student drug use and related problems.

Although the majority of studies have been conducted through nonclinical settings, the question remains whether the results would be applicable to the clinical groups. For optimal clinical care, a systematic assessment of drug use and misuse is required. Having reliable and valid measures facilitates identifying problems (as early as possible) and evaluating treatment effectiveness for the practitioner. This data can also be used to match patient needs with specific interventions.

Drug Abuse Screening Test

Drug Abuse Screening Test (DAST) is a commonly used instrument for drug assessment (Skinner, 1982). This original DAST screening instrument originated in North America. It determines whether individuals have a low to high level of drug problem severity. The DAST assesses the severity of drug-related effects for the past year (Skinner, 1982). This short self-report test has been devised to provide a concise procedure for the purposes of assessment and screening, clinical research and treatment appraisal. This test has been shown to be an effective self-assessment tool used to detect the extent to which drug abuse impacts have been present. Using this tool, we can quickly assess the impact of drugs in various settings. The language barrier poses a major hurdle to the application of this scale in the local Pakistani setting.

To effectively and comprehensively use it in the Pakistani context of drug abuse, which is on the rise, it was imperative to translate and validate DAST-20 into Urdu. As a matter of fact, drug addicts are ubiquitous in Pakistani society. We need an Urdu tool for quantifying consequences associated with drug misuse in order to perform clinical assessments. Translating and validating the DAST-20 as a standard measurement tool, in the present study, seems to be a better approach than developing a new scale because DAST-20 is widely accepted and recognized in many languages having a good reliability and validity.

Method

Research conducted at the Department of Psychology, Riphah International University, Faisalabad Campus, utilized a cross-sectional survey design approach and descriptive design for the translation procedure. The process of translating, validating, and testing the DAST-20 in the Urdu language was continued after approval from the institution's board of studies. The study's objectives and aims were explained to the participants, and they were assured that their personal information would remain confidential. Research participants were also informed that they were at their own discretion in participating. There were two phases of the study, the validation of DAST-20 (Cross-language) and the reliability estimation.

The first phase of validation followed certain criteria comprising six stages. Permission to use the DAST-20 for Urdu language translation and validation was obtained from the authors of DAST in the first stage. In second stage, the scale proceeded through forward translation i.e. from English to Urdu translation. The translators were two bilingual experts, one from the field of Psychology and second an expert of English to Urdu and backward translation. In order to

assess and enhance the quality of the instrument's translation, the third stage involved a panel discussion about the DAST-20's draught translation into Urdu. From the Faisalabad Campus of Riphah International University, the panel included two teachers from the department of Clinical Psychology as well as two members each from the Urdu and English language departments. The panel has the power to challenge any words or phrases and to offer substitutes in accordance with the situation. The DAST-20's translated version into Urdu was compared to the original English-language version, and the panel's suggestions for revisions were incorporated. The DAST-20 was reverse translated into English in the fourth step from the Urdu translation. Two bilingual translators—one with expertise in psychology and the other in translation—performed the reverse translation. The DAST-20's English translation from its final Urdu version was considered in a panel during the fifth stage. Two faculty members from the Clinical Psychology department at Riphah International University and two teachers each from the English and Urdu language departments made up the panel who were selected on the basis of their teaching and research experience in their relevant fields. In addition to asking questions about any words or phrases, the panel was allowed to suggest alternative words or phrases. Experts in language have ruled out cultural and linguistic influences on translation. The original English language version and the backward translated form of the scale were compared, and proposed improvements were made in the translated version.

The translated and finalized draft of DAST-20 was in bilingual form. Each question was provided in both an English forward translation and an Urdu backward translation. The bilingual version of the translated tool was approved, and we then proceeded to the next phase of bilingual validation, in which

200 drug users between the ages of 19 and 60 who had been conveniently sampled from private and public drug addiction treatment facilities in Faisalabad were given the tool's translated version. Sample size was selected using the criteria given by Comrey and Lee (1992); according to them, selecting the right sample size should be done using the following general scale: "100=poor, 200=fair, 300=good, 500=very good, and 1000 or more=excellent. Following the responses, the data was input and processed in the Statistical Package for Social Sciences (SPSS) and Analysis of Moment Structures (AMOS-21). The construct validity of the translated bilingual DAST-20 was calculated using confirmatory factor analysis. The most reliable statistical method for determining the psychometric properties of a scale is frequently considered to be confirmatory factor analysis (CFA). The structural elements of the DAST Revised Urdu translation were evaluated using CFA statistics.

The reliability of the bilingually translated DAST-20 was calculated following the conclusion of the study's bilingual validation phase. In order to estimate reliability, 100 adults between the ages of 19-60 from various centers of public and private drug treatment in Faisalabad were given the bilingual translated version of the scale once more. The reliability estimate was performed by using Cronbach's alpha in SPSS. Internal consistency or reliability is measured by Cronbach's alpha, also known as the coefficient alpha (α).

Results

First data normality tests are measured by Skewness-Kurtosis to determine whether a data set is modeled for normal distribution. Table 1 shows the univariate normality for each predictor. All skewness and kurtosis values ranged from -1 to 1. The observed

results were deemed suitable for further analysis.

Table 1

Skewness and Kurtosis Values for Items of DAST-20 (N=200)

Items	Skewness	Kurtosis	Items	Skewness	Kurtosis
Q1	-.77	-.42	Q11	-.41	-.86
Q2	-.77	-.42	Q12	-.45	-.82
Q3	-.40	-.86	Q13	.07	-.03
Q4	.52	-.75	Q14	-.29	-.94
Q5	.05	-.03	Q15	.77	-.42
Q6	-.27	-.95	Q16	.18	-.002
Q7	-.01	-.99	Q17	-.68	-.55
Q8	-.87	.53	Q18	-.13	-.02
Q9	-.60	.59	Q19	-.75	.10
Q10	.42	.02	Q20	-.93	.78

Table 2

DAST English to Urdu Translation's Reliability Analysis (N=100)

Factor	Total Items	α
DAST-20	20	.80

A forward translation of the Drug Abuse Screening Test (DAST) yielded a reliability coefficient of .80, according to Table 2. The

research tool received an average score which was deemed a good measure of its reliability.

Table 3

DAST Urdu to English Translation's Reliability Analysis (N=100)

Factor	Total Items	α
DAST-20	20	.82

** $p < .01$

In reverse translation from Urdu to English, The Drug Abuse Screening Test (DAST) has a reliability coefficient of 0.82, which is

regarded as an indication of the tool's effectiveness. This information is presented in Table 3.

Table 4

Chi-Square, Degree of Freedom and Stepwise Model Fit Indices of CFA for DAST (N=200)

Scale	χ^2/df	GFI	CFI	RMSEA
20	4.5	.93	.94	.05

Note. GFI = Goodness-of-Fit Index; CFI = Comparative Fit Index; RMSEA = Root Mean Square Error of approximation

The created measurement model's relevance has been evaluated using a variety of global fit indices: (a) the GFI (Goodness of Fit Index) and CFI (Comparative Fit Index) values are greater than .90, which is the needed cut-off condition; (b) The implied covariance matrix and the estimated population covariance matrix are fitted using the Root Mean Square Error of Approximation (RMSEA) as a basis (Byrne, 2001). The lower this index, the better the fit. (c) When evaluating the model's validity, metrics of overall fit should be added to the

Discussion

The observed data were deemed suitable for further investigation because all skewness and kurtosis values fell between the range of -1 and 1. The forward translation Chronbach's alpha for the DAST was .80, indicating reliability to be strong. Additionally, .82 α value for reverse translation from Urdu to English of the tool was also regarded as a sign of high reliability comparable with the original DAST tool having .92 internal reliability score.

Means were compared for all items in the Urdu language version and original English version of the test, which revealed the responses to the questions on both the items' forward and backward translations were roughly equivalent to the statement's mean and standard deviation.

When internal consistency was computed, it revealed a highly significant positive association between each item and an item-total correlation, indicating that the Urdu DAST is a reliable instrument and an internally consistent measure of drug abuse.

The structured elements of the Urdu version of the DAST Questionnaire-Revised were put to the test using confirmatory factor analysis (CFA). With the help of several Global Fit Indices, the designed measurement model's relevance has been evaluated. The 20 items were subjected to a confirmatory factor

chi-square. The CMIN/DF ratio, or minimal discrepancy divided by degree of freedom, is another name for it, and it should be less than 5.

Confirmatory Factor Analysis (CFA) was carried out on the 20 items, and the CFA outcomes preserved the initial uni-dimensional factor structure of Urdu DAST Scale. The findings strongly imply that the Urdu DAST Scale is a close-fit model and the model fit indices are within the recommended range shown in Table 4.

analysis, and the findings confirmed the Urdu DAST Scale's original, one-dimensional factor structure. The model fit indices were within the suggested range of $>.90$, which demonstrated a good fit model, and the results strongly supported that a close fit model of the Urdu DAST Scale has obtained. Thus, the translated scale will simplify future screening procedures for issues related to drug usage in the Pakistani setting. Hence, the practitioners would be able to monitor such concerns with enhanced applicability to the subjects under assessment who use the Urdu language so that any anomalies in the screening data obtained by the scale's English version in the Pakistani setting could be identified. The current study will also assist future researchers in gathering and analyzing data on drug usage and in exploring the topic more effectively and without any linguistic barriers. Research and practitioners will benefit from this study in the future, as the method for interpreting psychometric instruments for screening psychological problems is tested and proven.

Limitations and Suggestions

The study had some limitations. Only Faisalabad's urban areas were included in the study and it was made sure that the participants were urban residents. Only a few drug addicts were taken from rehabilitation centers. Current research is conducted on the

limited sample due to the situation of COVID-19 in Pakistan. We are satisfied with the results the target sample produced and the validity of the translated measure as a tool, but we have doubts about its generalizability to rural areas' sample. For further validation, data from an adequate sample size representative of the population should be considered.

Conclusion

The goal of the present study was to transform the DAST-20 from English into Urdu and to assess the theoretical equivalence as well as the psychometric features of its Urdu translated version. The reliability coefficient for the DAST in forward and backward translations from Urdu to English, separately, was determined to be .80 and .82, respectively, which is regarded as a sign of good consistency for the translated research tool. In order to validate the research instrument, the expert committee took into account a number of modifications to both the forward and backward translations. The results show that the scores on the research versions of forward and backward translation are fairly similar. It supported the universality asserted by DAST.

Contribution of Authors

Wizra Saeed: Conceptualization, Formal Analysis, Writing - Reviewing & Editing

Mohammad Abbas Bhat: Methodology, Formal Analysis

Rabia Shakir: Conceptualization, Methodology, Investigation, Data Curation, Writing – Original Draft

Conflict of Interest

There is no conflict of interest declared by authors.

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