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# Urdu Version of Kiddie Schedule for Affective Disorders and Schizophrenia for School-aged Children (KSADS-PL): Translation and Crosscultural Adaptation

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# ABSTRACT

**Aim of the Study:** The objective of this study was to translate and cross-culturally adapt the Kiddie Schedule for Affective Disorders and Schizophrenia for School-Aged Children (6 to 18 years) K-SADS PL Working Draft Screen Interview and Diagnostic Supplements into Urdu language. To ensure cross-cultural equivalency, dimensions of equivalence were addressed.

**Methodology:** The study was carried out by two researchers in Rawalpindi/Islamabad, Pakistan. Translation and adaptation guidelines provided by World Health Organization were followed and steps from the Brislin model for translation of tools were incorporated to make the methodology rigorous. The steps included forward translation, committee approach, back-translation, pretesting, cognitive interviewing and systematic debriefing. Expert panel consisted of bilingual individuals, who had experience in working with children. After reviewing the initial forward translations, several probes were reworded and rephrased to make them culturally relevant. The Urdu version obtained from this process was then pretested on a sample of children and parents. Participants were then systematically debriefed and cognitive interviewing was carried out. Input from these interviews was incorporated.

**Findings:** The process followed for the translation and adaptation purpose lead to the Urdu version of K-SADS-PL Screen Interview and Diagnostic Supplements, which allowed for acceptable cross-cultural equivalence.

**Conclusion:** The aim of this study was to translate and adapt the KSADS-PL into Urdu, which was achieved by following the above mentioned steps. The tool thus obtained can be used by clinicians and researchers alike for diagnostic purposes. Future studies should focus on validating the tool for indigenous Pakistani population, as well as establishing quantifiable psychometric estimates.

**Keywords:** K-SADS, Translation, Cross-cultural, Screening, Diagnostic, Semistructured interview.

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#### Introduction

With the rise in cross-cultural research, several research strategies have evolved, concerned with creation of methodology and instruments which are 'equivalent' across different culture for accurate information about psychological issues of multicultural communities (Bibi, Lin, et al., 2020). In general, mental health instruments are developed for one country or language exclusively in terms of content, validity and reliability. Measures of psychopathological symptoms have been especially criticized for their universal application as it does not pay attention to the limitation of culture (Cheung, 2012; Bibi, Masroor et al., 2013). It is therefore essential to achieve 'equivalence' between the original and the adaption versions of the instruments, to have any degree of cross-culture comparability (Lauth et al., 2008; Byrne, 2008). In cross-cultural research, an essential criterion is that of cultural relevance and validity (Bibi, Lin, et al., 2020), along with solid psychometric properties.

Equivalence in cross-cultural measurement is related to how abstract or concrete the concept being measured is, as well as its universality or the cultural specificity (Epstein et al., 2015; Yu et al., 2021; Li et al., 2022). Cross-cultural equivalency can be established by addressing important dimensions of semantic, technical, content, criterion and conceptual equivalency (Fetvaddijev & van de Vijver, 2020; He et al., 2020). Semantic equivalence involves choosing terms and sentence structures which ensure that the meaning of the source language is preserved in the translation. It can be achieved by combining translation and back-translation techniques. Content equivalence relates to content of each item to see if it is meaningful to the population being studied; and if necessary, to remove items which appear problematic, and maybe replace them with something more culturally relevant. Technical equivalence addresses characteristics like under- or over-reporting of certain problems in certain cultural groups compared to others (e.g., substance abuse, sexual behavior and thoughts, certain feelings, reporting primarily somatic complaints etc.). Conceptual equivalence means that there should be the same theoretical construct which is evaluated by the two versions of the instrument in the different cultures involved. Typically, it is not directly assessed except in scales where there is a well-known factorial structure that can be empirically confirmed. Criterion equivalence involves the identification of the pertinent norms in each culture and assessing when each trait or disorder being evaluated exists according to these norms. (Lee & Li, 2021; Lauth et al., 2008).

The World Health Organization (WHO) provides a set of definite guidelines for translation of instruments to help researchers to achieve conceptually equivalent versions of an instrument in a different language which can be used in target countries or cultures (WHO, 2016; Tietschert et al., 2019). It consists of forward and back translation with expert panel review, pretesting and cognitive interviewing. The guidelines have been established over the course of numerous studies conducted world over and provide rigorous methodology for the purpose of cross-cultural adaptation. Brislin's model of translation (1970) is considered one of the best methods for cross-cultural adaptation of tools. Flaherty et al., 2022) and serves as the base for the practices in cross-cultural adaptation of tools. Flaherty et al. (1998 as cited in Regmi et al., 2010) have suggested a scale which can be used to ensure equivalence. It allows comparison between translated material and original to be more objective and concrete.

## Kiddie Schedule for Affective Disorders and Schizophrenia, Present and Lifetime

The Kiddie Schedule for Affective Disorders and Schizophrenia Present and Lifetime ([KSADS-PL] Kaufman et al., 2013) is an investigator-based, semi-structured diagnostic interview, which is widely used in both research and clinical settings for school-aged children between 6 to 17 years. It has been updated to combine dimensional and categorical approaches and diagnose current and past episodes of psychopathology in children and adolescents, according to the DSM-5 criteria (Andersson, 2019). The schedule is comprised of three major parts: 1) the introductory interview; 2) the screen interview; and 3) the eight diagnostic supplements. It allows room for the clinician to exercise clinical judgement. Probes and objective criteria are provided to help rate the individual symptoms; the probes help illustrate

different ways to elicit information and verbatim recitation is not suggested. This provides a flexible method to enquiry which can be adjusted to the developmental level of the child (Leffler et al. 2015).

Research indicates that unstructured interviews are less reliable means to give standardized diagnoses, highlighting the need for structured interviews in psychiatric research and practice (Lauth et al., 2008). The cross-cultural adaptation of diagnostic interviews is very important for comparative studies (Nishiyama et al., 2020). There is a deficit of such assessment tools in Urdu, especially for children. Thus, widespread diagnostic systems like K-SADS, if validated in another culture, provide an objective and replicable diagnostic system (Lee et al., 2023; Nishiyama et al., 2020).

K-SADS has been adapted in translated and adapted in numerous languages globally (de la Pena et al., 2018, Nishiyama et al., 2020, Lee et al., 2023). The present study focused on following translation and adaptation guidelines that were in agreement with the international recommendations (Hernandez et al., 2020). In this way, an updated, structured, culturally valid diagnostic and screening tool was be made available for indigenous use.

#### Significance of Study

The K-SADS-PL is an important tool for both clinicians and researchers as it provides a structured and systematic method of assessment that increases diagnostic reliability. However, such tools are lacking in Urdu, particularly for children, and the translation of the K-SADS-PL into Urdu provided a reliable, culturally equivalent diagnostic system for use in Pakistan. The study aimed to ensure cross-cultural equivalence by addressing important dimensions of semantic, technical, content, and conceptual equivalency following the international guidelines for instrument adaptation.

Figure 1: Illustration of Important Steps in Phase I



## Study Objective

This study aimed to culturally adapt the K-SADS-PL diagnostic interview for use in Urdu-speaking children and adolescents in Pakistan, with a focus on ensuring semantic, technical, content, criterion, and conceptual equivalence.

# Method

# **Research Design**

The study followed a qualitative study design that focused on yielding meaningful information. The study was carried out in two phases. In the first phase, KSADS-PL was translated into Urdu. In the second phase, Urdu version of KSADS-PL was pretested to ensure cross-cultural equivalence.

## **Phase 1: Translation**

After obtaining permission to work on the interview from the authors, the instrument was divided into two parts (Screen Interview and Diagnostic Supplements) based on the clinical categories; both researchers worked on their respective sections conjointly, following the internationally recommended translation and adaptation guideline. Thus, the KSADS Screen Interview and Diagnostic Supplements were translated into Urdu language.

## **Background of Translators and Expert Panel**

**Forward Translators.** Fourteen native, bilingual individuals with minimum graduate-level education, fluent in both English and Urdu, participated in the forward translation. Among them, six translators were health professionals, familiar with the terminologies of the areas covered within the instrument.

**Expert Panel.** Eleven bilingual individuals assisted in reviewing and evaluating the content and semantic equivalence of the translations. The panel consisted of six psychology professionals with postgraduate level education, who had experience in working with children. Four non-healthcare laypersons and one school teacher participated to ensure that professional jargon was avoided.

**Back Translators.** For back-translation, seven bilingual individuals with graduate level education assisted the process. These translators were blind to the original instrument.

## Procedure

**Forward Translation.** KSADS Screen Interview and Diagnostic Supplements were translated from English into the target language, Urdu. Oral and written instructions were given to the translators prior to the translation which emphasized that the focus should be on the conceptual rather than the literal meaning of the word; and the language used in translation should be natural and acceptable, and be easily understandable for children. Issues of gender and age were considered and care was taken to use inoffensive terms. The Screen Interview and Diagnostic supplements were divided into smaller parts and distributed among the translators randomly.

**Committee Approach.** The expert committee assisted in reviewing the translations for appropriateness and evaluated the content and semantic equivalence. The purpose was to identify and resolve inadequate expressions or concepts of the translation and address discrepancies between forward translation and the original or comparable versions of the questions. Some items needed to be changed and adapted for consistency with the target audience's community and cultural or religious beliefs. Suggestions made by the panel consisted of amending the sentence structure, providing alternatives to literal translations and offering suggestions in case of items that were not culturally relevant or were deemed inappropriate (see Table 2).

**Back Translation.** Selected items from initial Urdu translation were translated back into English by seven independent translators for Screen Interview and Diagnostic Supplements respectively. WHO suggests that the back-translators should be native English-speakers but finding such people was extremely difficult. Therefore, individuals with a strong grasp of Urdu language and a solid background in English language were sought. Probes that were back translated addressed key concepts, and were sensitive to translation problems.

The back-translated probes were reviewed by the panel and compared to the original items on a Flaherty 3-point scale to check for equivalency. On this scale, a score of 3 meant that the item had the exact same meaning in both versions; a score of 2 meant that the item had almost the same meaning in both versions and a score of 1 meant that there were different meanings in each version (Flaherty et al., 1988 as cited in Lee et al., 2009). Based on the agreement between the reviewers' ratings on the different items, the decisions to alter the items or to keep them were made (see Tables 3 and 4).

## Phase II: Cognitive Interviewing.

In the next step of our study, the Urdu version of KSADS-PL was pretested on selected participants. The participants were then systematically debriefed and feedback was obtained about the translated probes. Their shared feedback was then reviewed and incorporated.



## Figure 2: Illustration of Major Steps in Phase II

## Sample

Parents and school-aged children were selected for the pretesting process. Tables 1i and 1ii illustrate the demographic characteristics of the pretesting sample for scree interview and diagnostic supplements respectively.

**Inclusion criteria.** Inclusion criteria for children was that 1) they should be between ages 6 to 17 years, and 2) they should be school going. Inclusion criteria for parents was that they should have at least 1 child that was school going.

Table 1i. Demographic characteristics of pretesting sample Screen Interview (N=20)

	Children	l	Parents	
Variables	M	SD	M	SD
Age	12.8	5.51	46.37	2.17
-	f	%	f	%
Gender				
Male	6	60	4	40
Female	4	40	6	60

Education					
Less than matric	4	40	1	10	
Matriculation	2	20	1	10	
Intermediate	4	40	1	10	
Graduate and above	-	-	7	70	

The sample size for pretesting screen interview was 20, with 10 children and 10 parents. Most children were males with a mean age of 12.8 years. Most of the children were in high-school. Most parents were females, with an average age of 46.37 years. Most of the parents were well-educated, with graduate or above level studies.

	Children		Parents	
Variables	M	SD	M	SD
Age	13.5	-	46.5	-
	f	%	f	%
Gender				
Male	8	66.6	4	40
Female	4	33.3	6	60
Education				
Less than matric	4	33.3	1	10
Matriculation	1	8.3	1	10
Intermediate	7	58.3	2	20
Graduate and above	-	-	6	60

Table 1ii. Demographic characteristics of pretesting sample Diagnostic Supplements (N=22)

Table 1ii summarizes the characteristics of the participants of pretesting for Diagnostic Supplements (N= 22). Most children were males the mean age was 13.5 years and were in high-school. Most parents were females, with an average age of 46.5 years. Most of the parents were well-educated.

#### Procedure

**Pretesting and Cognitive Interviewing.** Pretesting helped assess conceptual, semantic and technical equivalence of the K-SADS. The Urdu version of K-SADS followed the same administration procedure as the original interview. Interviews were carried out in a private setting. For Screen Interview seven interviews were carried out one on one with the children whereas one focus group, consisting of 3 male children, was conducted. For Diagnostic supplements each supplement was pretested on five participants, and two focus group were conducted with three participants each. Pretesting helped assess viability of the administration process as well as checking if the probes were clear and understandable. Items identified as problematic by respondents were marked and focused on during the systematic debriefing. The probes were recited verbatim to ensure that the items had been adequately translated and were conveying the intended meaning. Pretesting and debriefing took an average of three hours for a screen interview and an average of 1 hour per diagnostic supplement.

**Systematic Debriefing.** After pretesting, the individuals were systematically debriefed. In the debriefing stage, respondents answered questions to explain their understanding of each question or item. This helped in identifying errors and difficulties in the translated instruments and finding items or questions that were confusing or misunderstood by the target population. Special attention was paid to items which were problematic during the previous steps. If 20% of the participants experienced difficulty or were unclear about an item, the item was reviewed (see Table 5). Based on the feedback obtained from the interviews and later discussion with an expert panel, changes were made in the instrument (see Table 6). With modification of problematic questions and incorporation of expert panel's suggestions, the Urdu version of K-SADS Screen Interview and Diagnostic Supplements was obtained. A summary of the key

issues identified during the translation and adaptation process and suggestions to cater them is given in Table 7.

#### Results

Results gleaned from discussions with the expert panel and cognitive interviewing are summarized below.

Table 2. Sample of Expert Committee Review

Original	Translation 1	<b>Translation 2</b>	Final Version
Have you ever felt sad, blue, down, or empty?	کبھی آپ افسردہ ہوئے ، آپ کا رنگ نیلا پڑا، کمزوری محسوس کی ، دماغ خالی ہوا	آپ نے کبھی اداس، دکھی ، نیچا یا خالی پن محسوس ؟کیا	کبھی آپ نے افسردہ، اداس، ؟خالی پن محسوس کیا
Did you feel super- positive, like nothing could go wrong?	کیا آپ بہت زیادہ مثبت یا پر امید محسوس کرتے تھے ، جیسے کچھ غلط ?نہیں ہو سکتا	کیا آپ نے کبھی ایسا محسوس کیا کہ کوئی بھی ?چیز غلط نہیں ہو سکتی	کیا آپ نے ایسا محسوس کیا جیسے کچھ بھی غلط نہیں ہو سکتا
Do you often feel cranky, irritable, or angry?	کیا آپ اکثر چڑچڑا ، بیزار یا غصہ محسوس کرتے ?ہیں	کیا کبھی آپ نے کمزور ، چڑچڑا یا غصہ محسوس ؟کیا	کیا آپ اکثر چڑچڑا، بیزار یا ?غصہ محسوس کرتے ہیں
Has there ever been a time when your mind played tricks on you?	کیا کبھی ایسا ہوا ہے کہ آپ کے دماغ نے آپ کے ?ساتھ چالاکی کی ہو	کیا کبھی ایسا ہوا ہے کہ آپ کے دماغ نے آپ کو دہوکا دیا ہو یا آپ کے ?ساتھ کھیل کھیلا ہو	کیا کبھی ایسا ہوا کہ آپ کے ذہن نے آپ کے ساتھ کھیل ؟کھیلا ہو
Is it hard for you to wait your turn in games? What about in line, in the cafeteria or at the water fountain?	کیا کھیلوں میں اپنی باری کا انتظار کرنے میں آپ کو مشکل ہوتی ہے؟ کینٹین یا فوارے کی لائن میں کیا ہوتا ہے	کیا کھیلوں میں اپنی باری کا انتظار کرنے میں آپ کو مشکل ہوتی ہے؟ کینٹین یا واٹرکولر کی لائن میں کیا ?ہوتا ہے	کیا کھیلوں میں اپنی باری کا انتظار کرنے میں آپ کو مشکل ہوتی ہے؟ کینٹین یا واٹرکولر کی لائن میں کیا ہوتا ?ہے
Do people tell you that your motor is always running?	کیا لوگ آپ کو یہ کہتے ہیں کہ آپ کی موٹر ہر ?وقت چل رہی ہوتی ہے	کیا لوگ آ پ کو یہ کہتے ہیں کہ آپ بہت پر جوش ?رہتے ہیں	کیا لوگ آ پ کو یہ کہتے ہیں کہ آپ بہت پر جوش رہتے ?ہیں

Table 2 provides a sample of the comparison between two forward translations which was carried out by the expert panel. Translation 1 and Translation 2 are the original forward translations whereas in Final Version consists of the finalized probes generated after panel review. This process was followed for the entirety of the K-SADS Screen Interview and Diagnostic Supplements.

Table 3. Sample of Flaherty Scale Comparison of Forward- and Back-translated Items

K-SADS Items		Flahe	erty Ra	ating
Original	Back Translation	1	2	3
Have you ever felt sad, blue, down, or empty?	Have you ever felt sad, blue or empty?			3
Did you feel like crying? When was	Have you ever felt like crying?			3

that	When?		
Do you feel now?	Do you still feel?		3
Did you lose your temper? With your family? Your friends? Who else? At school?	Do you become uncontrollable/ lose control when you're angry? With family? Friends? Anyone else? In school?	2	
Did it come and go? Transient hallucinations or illusions	Did your mood change quickly? Have you had timely suspicion? 1	2	
At school do you sometimes call out the answers before you are called on?	Do you sometimes answer question prior to asking in school?	2	

Table 3 provides a sample of the comparison between original and back-translated items, which were scored on a 3-point Flaherty scale, by the expert panel. 318 out of 490 probes were back-translated and compared. Items which were rated as 2 or 3 were retained.

Table 4 illustrates the percentage of back-translated items which were rated either 3, 2 or 1 on the Flaherty scale. As shown, 98.8% (314) and 96.25% (539) items were scored on 3 whereas only 1.2% (4) and 2.32% (13) items were rated 2. Only a small percentage of items (1.42%) was discarded from the Diagnostic Supplements.

S. No	Probe rating	No. of Probe	es	Percentage	Percentage of Probes		
		Screen	Diagnostic	Screen	Diagnostic		
		Interview	supplements	Interview	supplements		
1	3	314	539	98.8	96.25		
2	2	4	13	1.2	2.32		
3	1	0	8	0.0	1.42		
4	Discarded items	0	8	0.0	1.42		

Table 4. Summary of Flaherty Scale Comparison

Table 5. L	Difficulty .	Index of	of Prob	lematic	Items
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Difficulty	10	9	8	7	6	5	4	3	2	1	Probes	No.
index												
20%									Р	Р	کیا کبھی ایسا وقت آیا جب آپ نے بہت زیادہ جنسی ?روابطرکھے یا بہت سے مختلیف لوگوں کے ساتھ	1
20%							C M		СМ		؛کیا کبھی دن میں بھی آپ کے ساتھ کوئی حادثہ ہوا	2
20%									СМ	СМ	؟کیا آپ کے ساتھ بہت سے حادثے ہوئے	3
20%					Р	Р					کیا کبھی ایسا ہوا کہ آپ نے غصبے میں آکر دیوار پر ؟گھونسے مارے ہوں	4
30%				С			С		С		جب آپ چڑ چڑ اپن یا غصۃ محسوس کرر ہے ہوتے ہیں، ?تو دن کے کتنے حصے میں ایسا محسوس کرتے ہیں	5
20%					Р	Р					·۔۔۔ سے آپ کو کتنا خوف آتا ہے	6

30%	P P	P P		کیا کبھی ایسے خیالات آئے کہ شائد اکچھ برا ہو جائے گا یا آپ نے کوئی بہت بھیا نک کام یا عمل کر دیا ہے ؟حالانکہ آپ کو پتا تھا کہ ایسا درست نہیں ہے	7
20%	P P			اس کے علاوہ کوئی اور خیالات جو ہر وقت آپ کے دماغ میں آتے رہتے ہوں؟ الٹے خیالات ، الفاظ، اعداد ؟وشمار جو ذہن سے نہیں نکلتے	8
20%	P	)	Р	آپ کو غصبہ کہاں پر آتاہے	9

*Note*. C = Comprehension Difficulty; M = Misinterpretation; P = Problematic

Table 5 depicts the results of pretesting and cognitive interviewing. These items posed problems for enough respondents to warrant a review. Most of the items which caused difficulty were problematic (P) in the sense that they needed additional explanation for the respondent to understand its context. Items which were misinterpreted (M) often had words that were interpreted in a different way than was intended. Items marked as C were difficult for the respondents to comprehend or understand. All of these items were reviewed and modified after the feedback and suggestions obtained from participants.

Table 6. Reformulation of Problematic Items after Review

S.no	Initial Probe	Reformulated Probe
1.	کیا کبھی ایسا وقت آیا جب آپ نے بہت زیادہ جنسی ?روابط رکھے یا بہت سے مختلیف لوگوں کے ساتھ	کیا کبھی ایسا وقت آیا جب آپ نے بہت زیادہ جنسی روابط ؟ رکھے ہوں
		؟یا بہت سے مختلیف لوگوں کے ساتھ رکھے ہوں
3.	کیا کبھی ایسے خیالات آئے کہ شائد اکچھ برا ہو جائے گا یا آپ نے کوئی بہت بھیا نک کام یا عمل کر دیا ہے حالانکہ آپ کو پتا تھا کہ ایسا درست نہیں ?ہے	کیا کبھی ایسے خیالات آئے کہ شائد کچھ برا ہو جائے گا یا آپ نے کوئی بہت بھیا نک /بہت براکام یا عمل کر دیا ہے حالانکہ ؟آپ کو پتا تھا کہ ایسا درست نہیں ہے
4.	اس کے علاوہ کوئی اور خیالات جو ہر وقت آپ کے دماغ میں آتے رہتے ہوں؟ الٹے خیالات ، الفاظ، اعداد ؟وشمار جو ذہن سے نہیں نکلتے	اس کے علاوہ کوئی اور خیالات جو ہر وقت آپ کے دماغ میں آتے رہتے ہوں؟ الٹے سیدھے خیالات، الفاظ،نمبر جو ذہن سے ?نہیں نکلتے
5.	؟کیا آپ کے ساتھ بہت سے حادثے ہوئے	؟كيا آپ كو بېت سى چوڻيں لگيں

Table 7. List of Identified Issues and Suggested Remedies

No	Issue	Suggestion
1.	Literal translation e.g., Depression 1: Depressed Mood: Have you ever felt sad, blue, down, or empty? Translated 'felt blue' as 'رنگ نیلا پڑا'	Providing conceptually equivalent alternatives e.g., کبھی آپ نے افسردہ، اداس بخالی پن محسوس کیا
2.	Addresses issues that may be taboo – sex, underage drinking or drug use e.g., Mania/Hypomania 5: Hypersexuality: Were there times when you were driven to have sex much more than usual or with many different partners?	Ask innocuous questions to determine if asking the question is essential, exercise clinical judgment
3.	Probes not culturally relevant e.g., 'events of Boston Marathon bombing'	Providing culturally relevant alternatives e.g., 'events of the Peshawar APS attack (or any other

terrorist attack)'

- 4. When translated, a certain word had specific connotation and was misunderstood e.g., Enuresis 1. Repeated Voiding: Did you ever have accidents during the day? Accident translated to 'حادث' was interpreted as an automobile accident.
  4. When translated, a certain word had specific Altering the question to convey the intended meaning instead of literal. کیا پیشاب نکلا ?
- Some words were difficult to grasp by younger Easier alternatives provided e.g., مکے children e.g., گھونسے

Table 6 shows the reformulated items which were obtained after incorporating feedback from the participants and review from the expert panel. And lastly, table 7 summarizes the key issue which were highlighted during the systematic debriefing and cognitive interviewing with the participants, as well as the suggestions posed by the expert panel to address the said issues. These suggestions were incorporated to the finalized Urdu version of KSADS PL.

#### Discussion

The current study focused on translating and establishing cross-cultural equivalence of the Kiddie Schedule for Affective Disorders and Schizophrenia Present and Lifetime (KSADS PL) into Urdu language for Pakistani audiences. It is one of the most frequently utilized diagnostic tools globally and has been translated and validated in numerous languages (de la Pena et al., 2018, Nishiyama et al., 2020, Lee et al., 2023). In Pakistan, there is a dearth of diagnostic tools specifically designed for children (Ahmer et al., 2007), so by adapting KSADS PL into Urdu, the authors aim to provide a tool that is culturally relevant for the local population.

Throughout the translation and adaptation process, a primary objective was to achieve translations that were conceptually equivalent for different items. Existing research has highlighted the inadequacy of directly transferring and applying instruments and interventions from Western cultures to other cultural contexts without cultural adjustments (Cheung, 2012). This is because the features and constructs of the scales often do not universally apply across cultures (Bibi et al., 2020). To address this, the authors provided written and oral instructions for the translators to focus on the meaning and intention of the original item while translating it. However, there were several items that were translated literally. Part of the problem could be the grammatical, syntactical and linguistic differences between the two languages. It is well established that these differences a challenge in formulating accurate, equivalent translations (Masroor et al., 2019). Some of the translated items followed the same sentence structure as the original document, which rendered the items awkward or broken-sounding in the target language, while other items were translated literally, which made sense in the source language but was devoid of meaning in the target language. These issues were addressed by adjusting the items syntactically as well as conceptually, utilizing local idiomatic equivalents. Certain words, while correctly translated, had a specific connotation e.g. the word accident in Enuresis section of Screen Interview was translated as 'حادث which is a correct translation. However, most participants understood this word as referring to an automobile accident. These were addressed by rephrasing the probes so the intended meaning was conveyed. Similarly, some words had a higher level of difficulty, especially for a younger audience these words were replaced with easier alternatives

Another issue pertinent to cultural equivalence was the sociocultural differences in norms and practices regarding specific topics. Topics such as sex, premarital relationships and dating are considered taboo in Pakistan (Jivani et al., 2019). Additionally, while activities like drinking or drug use amongst teenagers are on a rise in Pakistan (Ghazal, 2019; Ahmed et al., 2020; Jabeen et al., 2017), talking about these topics would be offensive to the target population. Parents, in particular, tend to be very protective and may object to the interview if such questions are brought up. This issue was also highlighted during the

systematic debriefing with participants. It is thus suggested interviewer should exercise clinical judgment and only ask questions if deemed relevant to the client. Guidelines to this effect were added to the interview instructions. Some of the probes were regionally specific, rendering them irrelevant to the target population. Such items were duly modified and referred to events/ organizations which were relevant in Pakistani context (see Table 7). Thus, through the rigorous process, the final Urdu version of KSADS PL Screen Interview and Diagnostic Supplements was obtained.

# Limitations and Suggestions

The length of the K-SADS posed a significant challenge during the adaptation process, with each session taking approximately 2 to 3 hours. This lengthy duration led to issues such as loss of interest, lack of concentration, and restlessness, especially among child participants (Adler et al., 2019). To address this issue, the interviews were conducted in two to three sessions with a half-hour break in between (Adler et al., 2019). Furthermore, concerns were raised by some participants regarding one-on-one interviews and the need for social support during the process. Additionally, interviewing with adolescents often requires obtaining trust (Dixon, 2015). Therefore, interviews were conducted first with the child and then with the parents, following recommended guidelines (Adler et al., 2019). Additionally, focus groups were utilized as an acceptable alternative method (Adler et al., 2019; Tietschert et al., 2019). Another limitation of the study is the restricted sample, as it focused only on the twin cities of Rawalpindi and Islamabad. This limits the generalizability of the translated instrument, overlooking cultural diversity and rural-urban differences. Additionally, the sample primarily comprised individuals from higher socioeconomic backgrounds and well-educated families, potentially biasing the language used. Adapting the language to suit various educational levels can enhance the questionnaire's applicability across a broader population. Lastly, the focus of current study was only on cross cultural translation and adaptation to obtain an initial version in Urdu language. It did not focus on pilot testing or establishing reliability estimates of the generated instrument. Therefore, it is recommended that Urdu version K-SADS Screen Interview and Diagnostic Supplements should be tested and validated with a wider sample.

#### Conclusion

An early Urdu version of the Kiddie-SADS Screen Interview and Diagnostic Supplements has been developed by following the recommended translation and adaptation guidelines. Hence, a culturally adapted semi-structured tool has been prepared for potential usage in clinical practice as a diagnostic tool and for epidemiological researches. With the adaptation of K-SADS PL that is in line with DSM 5, a thorough and comprehensive assessment tool in Urdu language has been established that can be widely used.

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## **Conflict of Interest**

Authors declared no conflict of interest.

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