ORIGINAL ARTICLE

Using the consensus group method to select the best screening tools for autism and intellectual disability for use with Nigerian adolescents

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Abstract

Diagnosing autism or ID using a gold-standard tool can be time-consuming, costly, and requires training, which is generally limited in Nigeria, and the rest of Africa. Screening, on the other hand, can be quick and effective, with minimal training depending on the tool (Iragorri & Spackman, *Public Health Reviews*, 2018;39(1):17), thus making the availability of short screeners a necessity in Nigeria, and the rest of Africa. We identified four screening tools through a previously completed systematic review (Nwokolo et al., *Review Journal of Autism and Developmental Disorders*, 2022;1–23.), two (SCQ and AQ-10) for autism and two (SCIL and CAIDS-Q) for ID, which appeared appropriate for validation for use within African nations. The Nominal Group Technique was used with a purposive group of professionals, parents, and laypersons to select and adapt the existing screening tools for autism and ID for use with older children and adolescents in Nigeria. The group examined the screening tools for cultural relevance, face and content validity. Following the discussions, items were either (1) accepted in the original form or (2) more culturally appropriate examples chosen if at least 75% of participants agreed. The group selected the SCQ for autism and the SCIL for ID. The minimum agreement on all autism and ID measures items was 84%, and this indicated the measures had face and content validity for use within Nigeria. Following the recommendations and consensus of the group, the SCQ and the SCIL 14–17 were agreed on as measures to be validated with the Nigerian adolescents, with only a small number of adjustments needed to allow for different use of language, customs and environment in the Nigerian context.

KEYWORDS
adolescent, Africa, autism, ID, Nigeria, screening/diagnosis

INTRODUCTION

Screening has been widely encouraged to identify persons with autism or ID, and many screening tools are available (Thabtah & Peebles, 2019). Consensus on the ideal and practical screening tools is lacking, however, especially where the tools are used with populations that are different from those involved during the development and testing of a tool (Marlow et al., 2019). Ideally, screening for autism and ID should be part of routine visits to health professionals at an early age, but various factors hinder this in African countries like Nigeria. Some of these factors include the mindset of parents or caregivers and the lack of adequate resources (Franz et al., 2017.) In practice, adolescents are often identified when transitioning to secondary schools or when facing more challenging environments and expectations of greater independence. In Africa, individuals with developmental disabilities are thus noticed either fairly late in schools or when parents seek medical attention for a severe illness (since visiting hospitals/health professionals for routine check-ups or minor ailments is not the norm), or at times when autism or ID specific research work is carried out (Bello-Mojeed et al., 2017; Gladstone et al., 2010; Knox et al., 2018; Saloojee et al., 2007; Scherzer et al., 2012).

Well-developed screening tools for autism or ID are readily available for younger children in the West and high-income countries (McKenzie et al., 2012; Robins et al., 2001; Young, 2007). Also, adaptations of existing screening tools for younger children have been conducted for other countries in the West (Canal-Bedia et al., 2011; Cuesta-Gómez et al., 2016; García-Primo et al., 2014; Nah et al., 2014). However, similar tools are not readily available for older children and adolescents, especially in low- to middle-income countries. Very little work has been done in Africa and other low- to middle-income economies regarding adapting existing tools for screening for either autism or ID. Screening for autism and ID remains a challenge in low- to middle-income countries such as Nigeria due to the absence of adequate tools and other factors such as denial and low level of awareness. Limited financial and human resources are significant contributors to the lack of adequate tools.

With the increasing global awareness of developmental disabilities such as autism and ID (Malcolm-Smith et al., 2013), more individuals, especially younger children, now have early screening and intervention in the West. Indeed, this is beginning to also happen in LMIC countries. Literature, however, remains sparse on research involving older children and adolescents. The narrative on younger children is no different in Africa, especially in countries like Nigeria. However, there remain significant differences and challenges with older children and adolescents who have had no access to screening, either by limited services or parental choice. The lack of early identification leads to poor social integration, reduced quality of life and lack of intervention (Bargiela et al., 2016; Nwokolo et al., 2022). A robust screening measure for use with adolescents is required. Resources in terms of financing and expertise are also potential barriers to developing new screening tools for low- to middle-income economies; thus, adapting an existing tool is a prudent option. Substantial research on the adaptation of screening tools has been conducted in the West and other medium-income economies, where it is recognised that cultural disparities potentially impact adaptation (Grinker et al., 2015; Long et al., 2020). However, very little work has been done in Africa and other low to middle-income economies.

To begin addressing this challenge in countries such as Nigeria, the adaptation of existing screening tools should be considered. Adapting existing tools is the most common and fastest approach to creating usable screening tools for countries with limited resources or expertise. However, concerns have been raised about the feasibility of employing adapted tools for screening across cultures (Soto et al., 2015). One way of addressing these concerns is to follow clearly defined methodologies such as those stipulated by the International Test Commission (2017). Pertinent aspects of the methodology include examining the language, content, and cultural validity of tools with relevant experts. Cultural validity assesses whether constructs and language initially generated in a single culture are appropriate, relevant, applicable, equivalent, and meaningful in another culture (Beaton et al., 2000; Matsumoto & Yoo, 2006). Content validity ensures that the items in a screening tool represent all relevant aspects of a given construct (Mokkink et al., 2018; Prinsen et al., 2018; Terwee, Prinsen, Chiarotto, Westerman, et al., 2018). Cultural and content validity outside of the environment where the tool was initially developed is usually examined by a group of experts in the environment concerned, in this case, Nigeria (International Test Commission, 2017).

Following the completion of a recent systematic review (Nwokolo et al., 2022), 12 screening tools for autism and 6 for ID were identified. Of these, four tools were chosen (two tools each for autism and ID) for use within the current study based on the cross-cultural validity and overall quality ratings of studies developing the tools. The two tools for ID were (a) the Screener for Intelligence and Learning Disabilities (SCIL; Nijman et al., 2018), a standardised 14-item questionnaire developed and used for adolescents in the Netherlands, and (b) the Child and Adolescent Intellectual Disability Screening Questionnaire (CAIDS-Q) (McKenzie &

Paxton, 2012), a short 7-item screening questionnaire. The SCIL was originally in Dutch, and as part of this study, translated to English, while the CAIDS-Q was in English. For screening autism, the measures selected were (a) the Social Communication Questionnaire (SCQ) (Rutter et al., 2003) and (b) the Autism Spectrum Quotient (AQ-10), adolescent version (Allison et al., 2012). To adapt any screening tools for use in Nigeria, selecting suitable and culturally sensitive measures was crucial. Thus, a consensus group of the relevant professionals and lay people resident in Nigeria were recruited for the study. The study aimed to consider the face, content and cultural validities of our chosen screening tools and make recommended adaptations for use with Nigerian adolescents using a consensus group methodology.

METHOD

Consensus method

The consensus group methodology was chosen due to its extensive use in studies for similar decision-making (Humphrey-Murto et al., 2017; International Test Commission, 2017). The process is based on the notion that valid, accurate and reliable evaluation can be best achieved by consulting a team of experts and stakeholders. Achieving accurate and reliable assessment is assumed achievable through the group (Humphrey-Murto et al., 2017). Consensus methods have been used in education for curriculum development (O'Neil & Jackson, 1983), in medical research (Humphrey-Murto et al., 2017) and in health studies for planning (Van de Ven & Delbecq, 1972). Studies supporting the use of the consensus group methods in developing items for measurement tools, developing clinical guidelines, and examining patient-reported outcomes measures (PROMs) all exist (Humphrey-Murto et al., 2017; Khayatzadeh-Mahani et al., 2020; Murphy et al., 1998; Soh et al., 2021; Tuffrey-Wijne et al., 2016; Van de Ven & Delbecq, 1972). For instance, Soh et al. (2021) used the nominal group technique (NGT) to refine and generate content for PROMs in a balance recovery tool. Similarly, Tuffrey-Wijne et al. (2016) used the NGT to develop research priorities for palliative care of people with ID, Lawson et al. (2022) used the NGT to develop expert consensus for a core outcome set of symptoms to be monitored by patients, Khayatzadeh-Mahani et al. (2020) identified barriers to identify, explore and prioritise barriers to employment for persons with developmental disabilities while Van de Ven and Delbecq (1972) used the NGT to ascertain the qualitative dimensions of a comprehensive healthcare programme. In these studies, the consensus groups examined, for example, the relevance of healthcare consumers, the language of the tools, symptoms to be monitored by patients and treatment impact on patients. These are similar to the intent of using the consensus group in assessing the identified autism and ID screening tools in this study. Another reason for using consensus methods is that they control for possible researcher bias. An appropriate and systematic process must be employed to select the best option, outcome, or measure. Using the consensus group method has been shown to be such a technique (Delbecq, 1967; Hutchings et al., 2010; Hutchings et al., 2012). Consensus methods are considered qualitative and a systematic means for determining and developing consensus. The goal is to establish how well experts and stakeholders agree on an issue through consultation and accepting the group agreement (Tammela, 2013). This method also allowed for a consideration of the cultural relevance of each measure and for associated adaptations to address any issues.

Two main techniques are used for consensus group meetings: the NGT or the Delphi method. With each method, questions are raised, solutions are proffered, and responses are ranked and agreed upon. Each of these methods has its strengths and weaknesses. Although the Delphi method is used quite often for the development of initial research questions and involves a large number of participants who are anonymous, the Delphi method limits discussions. The NGT, on the other hand, involves a smaller number of participants, it allows for face-to-face discussions and debates. Given that we chose existing tools that had been previously developed and we aimed to ascertain the cultural relevance, the NGT was chosen as it allows for extensive discussion.

The NGT was used to review, evaluate, and consider our screening tools' face, content, and cultural validities within a Nigerian context and make any associated adaptations. The technique has also been applied for problem-solving and planning (Delbecq & Van de Ven, 1971), team decision-making (Bartunek & Murninghan, 1984) and as a research instrument (Van de Ven & Delbecq, 1972). NGT is a semi-quantitative, highly structured and facilitated group-based decision-making process. The process is deemed an excellent form of brainstorming with limited member-to-member discussions. Facilitation of discussions allows for and encourages the active participation of all members and prevents the potential of an individual member's dominance of the discussions (McMillan et al., 2016; Murphy et al., 1998). The face-to-face interactive nature of the NGT usually involves 5–12 participants (Humphrey-Murto et al., 2017; O'Neil & Jackson, 1983; Tammela, 2013). Where the group size is greater than this, the suggestion is that subgroups of 8–10 members can be formed (O'Neil &

Jackson, 1983). Delbecq and Van de Ven (1971) outlined the nominal group model's implementation process. Although there is a set of guidelines and a structure for using the NGT, in practice, the techniques have been varied based on the project or user requirements (McMillan et al., 2016; Murphy et al., 1998). Such variations may be due to the participants' time, level of clarification, research goals, or consensus. At other times, the requirement may be an adaptation to the stages, such as reviewing an existing protocol, measure or where the population is culturally or linguistically diverse (McMillan et al., 2016). A modified NGT was used here to select and decide which autism and ID screening tools would be used for the validation study.

Choice of experts

Experts, in the context of the NGT, are individuals who are knowledgeable about the subject matter. Given this objective, the recruitment of experts—psychologist, speech pathologist, behavioural technician, psychiatrist, teacher and paediatrician—was purposive to include members from the relevant professions with professional experience and knowledge of the relevant population. For existing measures, content validity is evaluated by systematically asking professionals and users about the comprehensiveness, relevance, and comprehensibility of the items (Terwee, Prinsen, Chiarotto, de Vet, et al., 2018). A parent and layperson were also included to assess the comprehensibility of the screening tools, while comprehensiveness and relevance were assessed by the professionals (Terwee, Prinsen, Chiarotto, de Vet, et al., 2018). Inclusion of the layperson and parent in the group was based on the different benefits outlined by Delbecq and Van de Ven (1971) and Van de Ven and Delbecq (1972). First, it eliminated the sole focus on the professional perspective. Secondly, the user's needs and perspective, in this case, the parent's, are included and finally, it allows a more robust assessment of the screening tools because of the user's participation and representation in the decision-making process. This professional and public group method was previously utilised in several health-related studies (McMillan et al., 2015; Tammela, 2013).

Through the first author's networks, experts were either identified through parent networks or recommended by general practitioners who were approached and asked to share information about the study. Seventeen experts, parents, and laypersons were invited via email, telephone messages and personal contact. Participants were given three possible meeting dates and asked to provide feedback on availability. They were followed up via email, telephone calls and chat messages, with several reminders sent to the non-responders. Following telephone and chat responses, the proposed meeting dates and schedules were shared with eight individuals who confirmed their availability. All were provided with the information sheets about the study.

Participants

The participants comprised a group of eight individuals, of whom 60% were female, and 40% were male. The participants' ages ranged between mid-30s to mid-50s, and all were middle-income urban dwellers. The group consisted of a psychologist, a psychiatrist, a teacher, a paediatrician, a behavioural technician, a speech pathologist, a layperson with a background in information technology and a parent (Table 1).

The meeting

The meeting started late morning and lasted 6 h with a 1-h lunch break. The researcher, who also facilitated, made a 15-min presentation to provide background information on the project and a summary of the systematic review results (Nwokolo et al., 2022) for the participants. After that, the nominal group process was explained, and the participants were given the consent form to read and sign. Consent included granting permission to record the meeting. The participants were assured that all information would be anonymised and treated confidentially. Signed consent forms indicated a willingness to participate. Ethical approval for the study was obtained from the University of Kent, Tizard Centre Ethics Committee, and the National Health Research Ethics Committee of Nigeria (NHREC; NHREC/01/01/2007–16/09/2019).

Additionally, the researcher explained the goal and expected outcomes to the participants. Once all questions

TABLE 1 Distribution of participants.

Profession	Sex	Age bracket
Psychologist	Male	Late 40s
Psychiatrist	Male	Late 40s
Paediatrician	Male	Late 50s
Teacher	Female	Late 50s
Parent	Female	Mid 30s
Behaviour technician	Female	Mid 30s
Layperson	Female	Late 30s
Speech pathologist	Female	Late 40s

were answered and clarity provided, the screening tools to be reviewed were handed out. The meeting was organised in two sessions: the first segment discussed the >autism tools, while the ID tools were discussed in the second half of the session. As the screening tools were not redesigned, the NGT method was modified (McMillan et al., 2016). Phases one and two were merged, and the first step—silent generation of ideas—was modified to review each measure's existing format, questions and content. After that, one measure was selected for autism and one for ID and reviewed in detail. Phases three to five were merged for the second stage. During the second stage, the discussion was open, and group members' interactions were allowed but moderated by the facilitator. Allowing open discussion and interaction was a culture-based decision that had minimal influence on the individual suggestions and conclusions. During the discussions, ideas and comments were stated in a round-robin manner, with clarifications given. The facilitator collated all suggestions, votes, and agreements. The entire meeting was recorded, transcribed and analysed for themes.

Measures

Autism screening tools

The two screening tools reviewed were the SCQ and AQ-10 adolescent version. Both measures were identified via a systematic review (Nwokolo et al., 2022). The SCQ is a brief 40-item parent, or caregiver-report screening measure used widely in research (Berument et al., 1999). The measure has two versions, the lifetime version and the current version, both focusing on symptoms of autism most likely to be observed by the individual's principal caregiver. The SCQ is designed for anyone 4 years old and above, and it takes about 10–15 min to complete and about 5 min to score. The lifetime version was used in this study, given the intended age range of participants (11–26 years) for the validation study. In addition, Wei et al. (2015) reported that the lifetime version had better psychometric properties than the current version. The AQ-10 is the short version of the AQ-50 and is usually completed by a parent or caregiver. The AQ-10 adolescent version can be completed in 10 min or less and was found to have good psychometric properties based on the systematic review (Nwokolo et al., 2022). Also, it is adolescent-specific, which is useful, given the age range of the participants for the validation study. The lifetime version of the SCQ and the AQ-10 were presented to the consensus group participants.

ID screening tools

Two tools identified through a systematic review were presented to the participants (Nwokolo et al., 2022). The tools were the CAIDS-Q and SCIL. The CAIDS-Q is a short 7-item screening questionnaire for detecting ID in children and adolescents developed by McKenzie and Paxton (2012). The SCIL was developed as a 14-item screening tool in the Dutch language (Geijsen et al., 2018; Nijman et al., 2018). There is no commercially available English version of the SCIL. Translation from Dutch to English was therefore performed, following the procedure laid out by the International Test Commission (International Test Commission, 2017). To ensure that the overlap in definition and constructs measured were adequately captured, a 2-person expert and bi-lingual team of clinical psychologists in the field of ID translated the Dutch version to English. Both team members were Dutch; one was resident in the United Kingdom, and the other in the Netherlands. English-only speaking clinical psychologists reviewed the English version. The English translation was then sent back to the Dutch developers to be translated back into Dutch and finally back into English. Internationally, the back translation and adaptation process is often used to ensure that linguistic equivalence, psychological and cultural differences are considered (Grisay, 2003; International Test Commission, 2017). Usually, the source version (Dutch) of the text is translated into the intended version (English) and then translated back to the original language for comparison and identification of possible discrepancies. This back-translation technique is useful for detecting essential interpretation issues or mistranslations (Grisay, 2003; Hambleton, 2002). Once the English version correctly reflected the Dutch version's content, structure, and language, the research team finalised the arrangement and utilised it with the Nominal Group. Both measures (SCIL and CAIDS-Q) were designed for use with adolescents, have good psychometric properties, and have been used in various studies (Nwokolo et al., 2022). Also, given the age range (11–26 years) of the intended participants in the Nigerian validation study, both tools were deemed appropriate.

Measure review

The participants were given the four screening tools (two each for autism and ID), the SCQ, AQ-10, CAIDS-Q and SCIL, to review. Participants were asked to assess the face validity, content validity and cultural relevance of all four tools. To assess face validity, the participants were required to evaluate the items with respect to language, ambiguity, interpretability, comprehensibility, understandability and familiarity of items (Mokkink et al., 2018; Mousazadeh

et al., 2017). For content validity, all participants except the parent and layperson assessed the comprehensiveness, applicability in practice, understandability, and relevance to the Nigerian context. The open discussion allowed the parent and layperson to flag potential challenges that may be encountered in practice. Following the assessment, a comparison was made between the SCQ and the AQ-10 and the pros and cons were discussed. Similarly, the group compared the SCIL to the CAIDS-Q. In-depth discussion of the preferred measures followed with the facilitator's guidance. Ambiguous words and examples were clarified, and more culturally relevant words or phrases were suggested. After the discussion and clarification, the suggested options were voted on and selected.

Data analysis

Consensus

Although Fink et al. (1984) stated that there are no specific rules for establishing consensus, they describe the various criteria, such as the percentage of participants in support, topics with the most votes, and rating on a scale. They also mention that the narrower the criteria, the more challenging obtaining consensus usually is. Given that consensus meetings aim to determine the extent of agreement between experts, the threshold for agreement is usually predetermined. Williamson et al. (2012) and Humphrey-Murto et al. (2017) suggested that advance consideration and clear definition be given to the criteria for consensus. Various thresholds have been reported in the literature as acceptable; 67% (Cantrill et al., 1996), 75% and 80% (McConachie et al., 2018), while Williamson et al. (2012) suggested 70% for consensus. The extent to which each participant agrees with the contents of each measure under consideration was defined as agreement. Based on Williamson et al. (2012), a criterion of 75% threshold was set for this study. The threshold of 75% meant six out of the eight participants (Fink et al., 1984) had to agree on the retention of the original wording of the measure or with the suggested modification. A simple tallying of responses for each question was used, and percentage agreement was calculated. For the SCQ, each of the 40 questions was analysed separately and similarly for the 14 questions of the SCIL. All data were collated and analysed using Microsoft Excel for Windows 10.

Meeting transcription and theme generation

Because consensus methods are considered to be qualitative methods (Jones & Hunter, 1995; Tammela, 2013), the

TABLE 2 Main themes and subthemes for the SCQ and SCIL.

Main theme	Subthemes
Language	• Use of words • Meaning of the word • Context • Nigerian parlance
Cultural relevance	• Examples given • Family dynamics (the way parents relate with their children) • Context
Technical	• A professional versus the parent's understanding of the question • Face validity • Environment

meeting recording was transcribed and analysed following the thematic analysis (TA) methodology (Alhojailan, 2012; Braun & Clarke, 2006). Thematic analysis has been used before to analyse NGT data (McMillan et al., 2014; Søndergaard et al., 2018). To mitigate against eclipsing individual positions, individual idiosyncrasies are included as themes, with the reverse also being applicable, where the group is not eclipsed while privileging the individual. For this study, a combination of the process and modifications outlined in Tomkins and Eatough (2010) and Palmer et al. (2010) were used. Tomkins and Eatough (2010) employed a superordinate (individual level) theme analysis while maintaining the group interactive context. Palmer et al. (2010) explored the participants' experiential claims and concerns followed by a development of a parallel commentary in the context of the group discussion.

The following steps, with an explanation of what was done, were followed in analysing the data.

- Familiarisation with the data. Familiarisation involved the first author transcribing the data and re-reading the transcript at least three times while appraising each participant's comments and contribution. Noting of initial ideas also occurred.
- Initial codes generated. Codes were generated based on the meaning of each participants' statements and were colour coded. Comments were made on the right-hand side of the margin about the meaning.
- Searching for themes. The colour-coded texts were clustered into potential themes on a group level. Coloured words, phrases, sentences, and passages were re-read to get a sense of the overall perspective from a particular participant without eclipsing the group. Each colour represented an emerging theme.

- Collating codes into themes. All data were extracted and gathered into relevant main and sub-themes. Main and sub-themes were produced and named (Table 2). These themes are described in some detail with reference to direct quotes from the participants.
- Reviewing themes. Themes were cross-checked relative to the codes with ongoing analysis to refine the specifics of each theme and the overall story.
- Producing the report. Examples of effective extracts were selected and analysed for inclusion in the study report. The selection of the extracts was made relative to the research question.

Data trustworthiness is relevant in qualitative research work and Nowell et al. (2017) outlined the process to ensure data trustworthiness. The process expands on the steps outlined in Braun and Clarke (2006). Trustworthiness is measured by credibility, transferability, dependability, and confirmability criteria. In phase 1, for instance, the process requires prolonged engagement with the data and maintaining records of all data field notes and transcripts. The data were reviewed thrice during transcription, with continuous reference to the data while putting together the study report. The raw data and original notes were stored in a safe place. Other steps suggested by Nowell et al. (2017) are team consensus on themes in phase 5, member checking (phase 6) and documentation of meetings (phase 2). The research team members (PL and GM) vetted the themes and subthemes proposed by the first author and reached an agreement. Additionally, the summary of all meeting sessions was documented and stored via a secure system.

RESULTS

Measures

For screening ID, the participants chose the SCIL as they found it to be more robust, stating that the CAIDS-Q was overly simplified. The group indicated that the SCIL tested the relevant skills, such as intellectual functioning and some adaptive skills. Similarly, for screening autism, the SCQ was chosen over the AQ-10 as being more robust and comprehensive, with questions that examined the relevant autism spectrum domains.

Participants

Seven out of the eight participants were present at the start of the meeting. The eighth participant joined about 40 min later. Also, about an hour from the end of the

meeting, one participant left due to a prior engagement. Although one participant joined late and another exited early, the agreement calculation was based on the total number of participants, eight. However, this had no significant impact on the results reported in the relevant sections below, as the threshold of 75% agreement set for the study was exceeded.

Themes

Following the analysis of the transcription, three themes were identified. Namely language, cultural relevance and technicality. These are listed in Table 2.

Language

This theme focuses on how Nigerians use the English language and the meaning attached to certain words, sometimes depending on the context. The word '*rituals*' used in question 8 of the SCQ was deemed to have a negative connotation, and the participants advised that an alternative word be used. In the African context and Nigeria, rituals involve sacrifices to 'deities' or some god. In addition, Question 9 'has her/his facial expression usually seemed appropriate to the particular situation, as far as you could tell?' on the SCQ elicited the following dialogue:

> R: how do we determine what appropriate facial expression is?
> BK: to the situation, it says 'to the particular situation'. For instance, someone is dead, and you are smiling.
> AB: or they are supposed to be afraid or scared.
> AO: again, one of the things I have come to realise is that there is a Nigerian English. If I want to say that thing, I may say that 'has her/his facial expression often reflected the situation at hand', as far you could tell?

A good number of Nigerian dialects are spoken with a double emphasis, which may appear as either verbal or logical tautology when translated to English. In Yoruba, for instance, the phrase '*pada sẹhin*', when translated to English, means '*return back*'. Thus, AO stated that 'there is a Nigerian English'. Another example was with item 14 of the SCQ, 'has she/he ever seemed to be *unusually* interested in the sight, feel, sound, taste, or smell of things or people?'. The discussion was as follows:

> AB: sorry to take you back to #14. Even though it cuts across all senses, some persons, when

you talk about feeling things, may not be able to relate that to touch. So how do you go about that?'

Me: the parent or the individual...?

BK: what I hear him say is that the word 'feel' in this context may be interpreted emotionally as opposed to tactile

AB: is there a way to put 'touch' in brackets?

All: tactile

GB: that one is grammar

OO: 'touch' is more appropriate for our environment than tactile

R: 'tactile' sounds really oyibo, 'touch'

AO: there is Nigerian grammar even with academic papers. The editor will ask you to find a native English speaker who will edit, who knows exactly what you are saying but puts it in a different way. But when you are dealing with instruments like this, I believe the more you 'Nigerianise' it, the more you'll get the appropriate response

Question 31 of the SCQ asks, 'when she/he was 4 to 5, did she/he ever try to comfort you if you were sad or hurt?'. Since Nigerians use 'sorry' loosely, the group recommended adding examples for clarity.

For the SCIL, language reference was minimal. The agreement was to change the word 'GP' to 'doctor' as the term 'GP' is not used in Nigeria. Regarding the dictation component of the measure in question 12, the group agreed to exclude words with consonants likely to be mispronounced to avoid possible h-dropping (such as hitting). Question 13 of the SCIL tests reading skills and the ability to read fluently incorporates the reader's comprehension, familiarity with the words and background knowledge of the context. The translation of question 13 in the SCIL was '*pay for parking by mobile phone. When you have parked your car, log in on your mobile using the (location) code as advertised/displayed on the signs and parking machines. When you leave, you log out by phone/mobile*'. In the Nigerian environment, parking is not paid for like this but point of sale (POS) machines with bank cards are used in stores. To use language that will be familiar in the Nigerian context, the group agreed on 'bank card'. Below are some excerpts from the discussion.

BK: this is based on those places where you have parking metres. Then you slot in and pay for your parking. Where there's no context for it...

AO: parking at the mall. No, you do not even need to do the possibility. Just say, the process of...

R: are you allowed to change it completely?

BK: no, you are turning it into a title. It's a sentence. It tells you it is possible to pay by phone, then it now telling you how to do it.

Me: (tell my story). In this context, in order not to change the story completely, we can say 'ATM' or 'POS'.

R: can we say 'card'? Is it everybody that knows 'POS'?

BK: yes, is it not every Nigerian that knows 'POS'?

R: adolescents?

BK: yeah, it's the language of the environment.

AO: yes, it is. 'POS' is the language, but I do not want us to introduce a word that is not actually a word; 'POS'.

Me: ok, so, with 'card' because 'POS' is 'point of sale'. So, by 'card'.

Cultural relevance

There were three sub-themes under cultural relevance: the examples given, family dynamics (the way parents related with their children), and context. All the examples given related predominantly to the design environment, the West. The group advised utilising more culturally relevant examples. For instance, vacuuming, gardening, or mending things were given as examples in question #21 on the SCQ. In the Nigerian context, not everyone vacuums, and mending things appeared vague. Therefore, the participants suggested using examples such as sweeping and washing. A portion of the dialogue follows below.

AO: sweeping, more people sweep than they vacuum even if they are cosmopolitan or whatever group we are looking at

BK: maybe just cleaning, washing

OO: that's appropriate. Just look at things that we do here

GB: local content

Following this discussion on question 21, the group agreed that the questions were relevant and appropriate from questions 32 and below. However, while the questions were accepted, more local examples and songs were suggested as replacements. GB mentioned activities such as 'backing a baby', 'cooking with hibiscus flower', 'playing mummy and daddy'. At the same time, AO said, '*I see that even in real practice, what differentiates what we do at times from questionnaires alone, is that opportunity to spend time explaining what we do, unlike just giving it to them to fill. You realise that the more you are engaging,*

the more the individual is able to know exactly what you are talking about'. Buttressing AO's point, AB said, '*which is what I've found with parents most often. When you give them a questionnaire like this, what they do is to fill, and when they get to where they don't understand, they will ask a question. Once you give them examples, it's clear, and they give you other examples*'. AO, '*so meaning that a useful questionnaire in this environment will do well to have short-short examples where necessary, which is what we are doing*'.

Turning to family dynamics, question 2 on the SCQ, designed to assess the extent of vocalisation may require some explaining, as holding 'to and fro conversation' is not the norm in typical Nigerian homes. Although there is some shift regarding this, children are often expected to respond to questions asked by parents rather than chit–chat. The younger parents are at the fore of changing this narrative. One of the younger participants, AO, said, '*to and fro, they may get a little bit but once you say converse (pause), in fact, a lot of people complain that they are coming to come and tell you that yeah, they are talking, but he is still having problems with conversation*'. Therefore, the group agreed to leave the question as is and give examples of what a 'to and fro conversation' entails.

Technical

The last theme, technical, covers the face validity, environment and professional versus parents' understanding of a question. As the SCQ is a self-administered questionnaire, the participants opined that it might be more useful if the professionals administered it to allow for explanations where there is the possibility of confusion or lack of clarity. For instance, question 4 reads as '*has she/he ever used socially inappropriate questions or statements? For example, has she/he ever regularly asked personal questions or made personal comments at awkward times?*' To which the following dialogue ensued.

GB: when a child is done eating, there is no need to say, 'will the food be ready'.

AO: I'm thinking that while I agree that it is clear, we must also remember that if you are very familiar with autism, some of these questions will be clear to you. But if you are not familiar with autism, you may not actually grasp it. This particular question, we all know what this question is trying to test.

Me: that's why I'm looking at my parent; as a parent, if you are given this question, is this clear enough. Are you able to answer yes, or no?

R: yes, but I am a parent who already knows quite a bit. Going back to what he's saying, I am not a lay parent that has just come.

TABLE 3 List of questions and the agreed cultural examples and modifications for the SCQ.

SCQ item number	Number of votes	Comments and suggested clarifications
1	7	Include examples such that it is clearer (mummy see, etcetera. number of words).
6	8	Give examples of respondents in context Nigeria, e.g., 'jagbajantis' for mess
8	8	For the word 'rituals' use 'routine'
9	8	Example laughing when something is funny or showing concern when something is wrong
12	8	Include a second example—combing the doll's hair over and over, switching a torch on and off
13	8	Examples are male dominant; add dolls, etcetera. For females
14	8	For feel put 'touch' in brackets
15	8	Include 'face'
16	8	Examples—hanging upside down from a chair, twisting their body into a funny shape, any unusual body movement
18	8	Give other examples—cars, dolls, something that seems like a favourite item
20	8	The words in bracket meant for clarification ('rather than to get something'), we can use 'only to get something'
21	8	Local examples such as sweeping, cleaning the table, washing plates
28	8	For engage, put 'get' and 'keep' in brackets
30	8	Add, e.g., playing hide and seek
31	8	Add, e.g., 'say sorry'
33	8	Example in brackets (sad, etc.)
34	8	Examples of local songs and common ones; 'if you are happy', 'ABCD ...', 'twinkle twinkle', 'xxx is a good girl or boy'
35	8	Example playing daddy and mummy, backing a baby[a]

[a]A traditional African method where mothers carry babies and infants on their backs swathed in cloth.

TABLE 4 List of old questions and their modifications for the SCQ.

SCQ item number	Old question	Modified question
1	Is she/he able to talk using short phrases or sentences? If *no*, skip to question 8.	Is she/he able to talk using short phrases or sentences? If *no*, skip to question 8. How many words can she/he use when talking? For example, 'mummy see', 'come here', 'what is your name?'
6	Has she/he ever used words that she/he seemed to have invented or made up her/himself; put things in odd, indirect ways; or used metaphorical ways of saying things (e.g., saying *hot rain* for steam)?	Has she/he ever used words that she/he seemed to have invented or made up her/himself; put things in odd, indirect ways; or used metaphorical ways of saying things (e.g., saying *jagbajantis* for mess)?
8	Has she/he ever had things that she/he seemed to have to do in a very particular way or order or rituals that she/he insisted that you go through?	Has she/he ever had things that she/he seemed to have to do in a very particular way or order or routines that she/he insisted that you go through?
9	Has her/his facial expression usually seemed appropriate to the particular situation, as far as you can tell?	Has her/his facial expression usually seemed appropriate to the particular situation, as far as you can tell? For example, laughing when something is funny or showing concern when something is wrong.
12	Has she/he ever seemed to be more interested in parts of a toy or an object (e.g., spinning the wheels of a car), rather than using the object as it was intended?	Has she/he ever seemed to be more interested in parts of a toy or an object (e.g., spinning the wheels of a car, combing the doll's hair over and over, switching a torch on and off), rather than using the object as it was intended?
13	Has she/he ever had any special interests that were unusual in their intensity but otherwise appropriate for her/his age and peer group (e.g., trains, dinosaurs)?	Has she/he ever had any special interests that were unusual in their intensity but otherwise appropriate for her/his age and peer group (e.g., trains, dinosaurs, dolls, clothes)?
14	Has she/he ever seemed to be unusually interested in the sight, feel, sound, taste, or smell of things or people?	Has she/he ever seemed to be unusually interested in the sight, feel (touch), sound, taste, or smell of things or people?
15	Has she/he ever had any mannerisms or odd ways of moving her/his hands or fingers, such as flapping or moving her/his fingers in front of her/his eyes?	Has she/he ever had any mannerisms or odd ways of moving her/his hands or fingers, such as flapping or moving her/his fingers in front of her/his eyes or face?
16	Has she/he ever had any complicated movements of her/his whole body, such as spinning or repeatedly bouncing up and down?	Has she/he ever had any complicated movements of her/his whole body, such as spinning, repeatedly bouncing up and down, hanging upside down from a chair, twisting their body into a funny shape, any unusual body movement?
18	Has she/he ever had any objects (other than a soft toy or comfort blanket) that she/he had to carry around?	Has she/he ever had any objects (other than a cars, dolls, something that seems like a favourite item) that she/he had to carry around?
20	When she/he was 4–5, did she/he ever talk with you just to be friendly (rather than to get something)?	When she/he was 4–5, did she/he ever talk with you just to be friendly (rather than only to get something)?
21	When she/he was 4–5, did she/he ever *spontaneously* copy you (or other people) or what you were doing (such as vacuuming, gardening, or mending things)?	When she/he was 4–5, did she/he ever *spontaneously* copy you (or other people) or what you were doing (such as sweeping, cleaning the table, washing plates)?
28	When she/he was 4–5, did she/he ever show you things that interested her/him to engage your attention?	When she/he was 4–5, did she/he ever show you things that interested her/him to engage (get and keep) your attention?
30	When she/he was 4–5, did she/he ever seem to want you to join in her/his enjoyment if something?	When she/he was 4–5, did she/he ever seem to want you to join in her/his enjoyment if something (e.g., playing hide and seek)?
31	When she/he was 4–5, did she/he ever try to comfort you if you were sad or hurt?	When she/he was 4–5, did she/he ever try to comfort you if you were sad or hurt (e.g., say sorry)?

TABLE 4 (Continued)

SCQ item number	Old question	Modified question
33	When she/he was 4–5, did she/he show normal range of facial expressions?	When she/he was 4–5, did she/he show normal range of facial expressions (e.g., sad, angry, happy etc.)?
34	When she/he was 4–5, did she/he ever spontaneously join in and try to copy the actions in social games, such as *The Mulberry Bush* or *London Bridge Is Falling Down*?	When she/he was 4–5, did she/he ever spontaneously join in and try to copy the actions in social games, such as *ABCD*, *Twinkle Twinkle Little Star*, *If You're Happy and You Know It Clap Your Hands*, or *XXX is a good girl or boy*?
35	When she/he was 4–5, did she/he play any pretend or make-believe games?	When she/he was 4–5, did she/he play any pretend or make-believe games (e.g., playing daddy and mummy, backing a baby)? (See Table 3 for backing a baby).

BK: the idea of inappropriateness, from the example given, it's one more out of context versus something more socially inappropriate in terms of asking a personal question.

Once all participants had expressed their opinions, the group agreed that the correct response, 'yes' or 'no', would be elicited from respondents irrespective of their background.

Regarding the screening tool for ID, the SCIL, the group discussed questions 1 and 2 extensively. The questions are centred on special education and level of education. Many Nigerian schools in the urban areas purportedly offer special education services.

OO: looking at question 1 for me, looks like the first stem and second stem are looking at the same thing.

GB: but in the true sense of it for people practising, for example, 'did you receive special education?' You can be in a regular school system and be receiving support from a unit.

PA: yes, and you are receiving support from a unit. Yes.

GB: do you go to a special needs school? You could have a school that is a special needs school, all the teachers there are specialist trained personnel, and you have special materials, and that school is labelled for that specific learning difficulty. It may be school for hearing impaired, school for individuals with learning disability or school for individuals with autism. So, you could have that, or did you have a special education need? That means are you having challenges with learning, typically. So, the three questions are not actually the same. We could sample different people differently.

TABLE 5 List of questions and the agreed cultural examples and modifications for the SCIL.

SCIL item number	Number of votes	Comments and suggested clarifications
1	8	Type SEN in full
2	8	Add WAEC/*IGSE*/SAT, college/ monotechnic/polytechnic/ university
3	8	Write 'ID' in full; for—'service' (exclude lesson teachers)
4	8	'In case of emergency or difficult situation …'
5	7	Add Naira sign, change 6.95 to 6.50
6	7	Change GP to Doctor (can use a different context)
7	7	Change GP to Doctor (can use a different context)
8	7	Remove 'say every letter'
9	7	'paper' be more specific (newspaper)
10	7	Change to 'raining cats and dogs', 'make hay while the sun shines', 'a stitch in time saves nine'
11	7	Put in boxes
12	7	Change 'deer' to 'cow', use 'avoid', change 'hitting' to 'knocking down'
13	7	Change mobile phone to 'card'
14	7	Add 'mins' to 15, use 'detailed'

AO: in any case, the answer is 'yes' or 'no'. Meaning that when you read through the question, anyone of it is what you are responding to.

GB: you will fall into one category. The one that applies to you.

TABLE 6 List of old questions and their modifications for the SCIL.

SCIL item number	Old question	Modified question
1	Did you receive special education? Do you go to a special needs school? Did you have a SEN?	Do you receive special education? Do you go to a special needs school? Do you have a special educational needs (SEN)?
2	Which school/college do you attend now?	Which school/college do you attend now, or did you attend in the past?
	None	None
	Primary school	Primary school
	Special needs school	Special needs school
	GCSE	WAEC/IGCSE/SAT
	A Level	A-level
	Polytechnic college	Polytechnic/Monotechnic/Teacher's college
	University	University
	Other	Other
3	Have you received support from a service for people with ID?	Do you receive or have you received support from a service for people with ID (excluding a home tutor or lesson teacher)?
4	Have you got family members or relatives who you can contact if you have a problem?	Have you got family members, relatives or friends who you can contact if you have a problem (for example a difficult situation or emergency)?
6	Imagine you are at your GP (General Practitioner) 19th of January. He wants to see you again in 3 weeks. When (which date) would that be?	Imagine you are at your Doctors on the 19th of January. He or she wants to see you again in 3 weeks. When (which date) would that be?
7	Imagine you are at your GP (General Practitioner) on January 3rd. He wants to see you again in 3 weeks. When (which date) would that be?	Imagine you are at your Doctors on the 3rd of January. He or she wants to see you again in 3 weeks. When (which date) would that be?
9	Do you read a paper or magazine? If so, which one?	Do you read a newspaper or magazine? If so, which one?
10	What does this mean: The apple does not fall far from the tree?	What does this mean: 'Like father, like son?'
12	I'm going to read a few sentences for you to write in the box. Try to do this well/correct and as fast as you can.	I'm going to read a few sentences for you to write in the box. Try to do this well or correct and as fast as you can.
	(a) We are dumping the load of soil/sand at the back of our house.	(a) We are dumping a load of sand in the back garden.
	(b) During the night the driver had to swerve/avoid hitting a deer with big antlers.	(b) During the night the driver had to avoid knocking down a cow.
13	I am going to ask you to read a story. Read this as quickly as you can without making mistakes.	I am going to ask you to read a story. Read this as quickly as you can without making mistakes.
	It is possible to pay for parking by text(phone).	It is possible to pay for parking with your bank card.
	When you have parked your car, log in on your mobile using the (location) code as advertised on the signs and parking machines. When you leave you log out by phone.	When you have parked your car, you use your bank card to pay as advertised/displayed on the signs and parking machines. When you leave you take your receipt.
14	In this box draw a clock that says 9.45 (15 to 10). Draw this as complete/detailed as you can with hands	In this box draw a clock that says 9:45 (quarter to ten). Draw this as complete/detailed as you can with hands.

Once the different educational categories and services were agreed on, the team accepted the questions. The levels of education were also expanded to include the different curriculums, both national and international, offered in the country. Some of which are the West African Examination Council (WAEC), polytechnic, monotechnic

and teachers' colleges. In discussing question 3, '*do you receive or have you received support from a service for people with Intellectual Disability (excluding a home tutor or lesson teacher)?*' was examined at length by the participants. The exclusion of home tutors and lesson teachers was the consensus, as there are no such services for a person with ID in Nigeria. Typically, a private tutor (lesson teacher) is employed once a child struggles in school. However, some who do not struggle with schoolwork have these tutors as a competitive advantage. The distinction lies in their academic performances, so that having a private tutor does not necessarily indicate a pupil who is struggling to understand the material.

For both the SCQ and the SCIL, the consensus from the group was that face validity was met. The items on the SCIL have specific and relevant questions that test for ID. At the same time, the different DSM-5 domains (social and communication deficits, repetitive and restricted behaviours) of autism are captured in the SCQ.

SCQ for screening autism

Between 87.5% and 100% agreement was achieved for all 40 questions. The participants agreed that more local and culturally relevant examples should be given in the tool. For instance, for question #6 ('has she/he ever used words that she/he seemed to have invented or made up her/himself; put things in odd, indirect ways; or used metaphorical ways of saying things (e.g., saying *hot rain* for *steam*)?'), experts' opinion was to give examples to the respondents in context with Nigeria. Thus, for question no. 6, the replacement for '*hot rain for steam*' would be '*jagbajantis for mess*'.

Another example was question no. 8; the word 'ritual' was explained as 'routine' to remove any fetish connotation. According to Hambleton (1996, p. 28), 'when an instrument is adapted for use in another population, documentation of the changes should be provided, along with evidence of the equivalence'. The list of examples of other culturally relevant words, examples, and clarifications are in Table 3. Overall, the participants agreed that a total of 22 (55%) out of the 40 items were culturally relevant and required no modification. Table 4 shows the SCQ questions which were modified.

SCIL for screening ID

The same participants reviewed the measures for both autism and ID. The agreement for the SCIL to give more locally and culturally relevant examples was between 87.5% and 100%. Although more local and culturally

relevant examples were given, other relevant categories were included. Including these categories was necessitated by the fact that there is no commercially available English version, and this study was an effort to create one. Therefore, the face validity was examined, but culturally relevant words and examples were included. Question no. 1 on the level of education was modified to include all the different categories of educational qualifications obtained in Nigeria. One key factor was language. In most Western societies, a 'diploma' refers to a secondary school certificate, while in Nigeria, a 'diploma' refers to certificates obtained in post-secondary school. In question no. 3, because there are no 'services' as obtained in the West, 'services' had to be modified to exclude individuals who provided extra tutoring at home as a competitive advantage. However, where individuals visited any psychiatric facility or psychologist, these qualified as receiving services. Another example is changing the word 'GP' to 'doctor' as the term 'GP' is not utilised in Nigeria. Results of other modifications are provided in Table 5. Table 6 shows the list of old and modified questions for the SCIL.

DISCUSSION

Cross-cultural adaptation of any tool is often complicated, thus requiring careful elimination of possible construct, item, and method biases (Van de Vijver et al., 1997; Van de Vijver & Tanzer, 2004). Beyond the biases identified by Van de Vijver et al. (1997) and Van de Vijver and Tanzer (2004), Peña (2007) identified another type of bias which can occur when conducting cross-cultural adaptation of screening tools called 'equivalence'. According to Peña (2007), there are four types: cultural, linguistic, metric and functional equivalence. A qualitative review of the dialogue between the nominal group participants revealed that the biases of concern were around linguistic, cultural and functional equivalence. The linguistic equivalence ensures the consistency of words, sentences, meaning and language used between the original and the adapted tool (Peña, 2007). One challenge with linguistic equivalence is that even when words are the same across the original and adapted tools, culture, interpretation, and word familiarity may result in potential differences in patterns of responses. In the SCIL, for instance, the phrase 'mobile phones' is similar in the Nigerian context; however, the function attributed to it was different. With cultural equivalence, how members of different linguistic and cultural groups interpret the underlying meaning of words or items is crucial. For instance, question 2 in the SCQ asks about 'holding to and fro conversation', which is not the norm in an average Nigerian family.

With functional equivalence, both the original tool and the adapted version should allow examination of the same construct. Both versions should offer the same opportunity to demonstrate knowledge while eliciting the intended response from participants. An example of this was the observation made on question 14 of the SCQ on 'tactile' in the original version versus 'touch' in the Nigerian context. Overall, there is an interaction between the linguistic, cultural and functional equivalence, which should not be ignored in the adaptation process. Additionally, participants were concerned about the method bias (mode of administration) and item bias, especially for the SCQ. In cultures where social interactions and dialogues are salient, dyadic administrations may be more valuable.

The modified NGT was used to select the most robust screening tool for autism and/or ID from the 4 tools identified through a systematic review (Nwokolo et al., 2022). The cultural relevance, face validity, and content validity for use with the Nigerian adolescent were examined. The SCQ is an existing measure developed in the Western environment with various translations. Three of the participants were familiar with the SCQ and had used it often. The group reviewed the Lifetime English version with the consensus reached on all the face and content validity items. On cultural relevance, the consensus was to use indigenous examples in language and activities mentioned in the SCQ. The group agreed that although the SCQ is a self-administered tool, it may be best administered as a quasi-interview questionnaire to get a more accurate response in the Nigerian context. Doing so will allow the administrator to explain potentially confusing concepts, quickly substitute examples, expound phrases and note areas of importance or value to the respondent. This view of adapting tools to meet the specific culture and environment of intended use was captured by Soto et al. (2015).

Reviewing the SCIL required more depth as there currently is no English version. The group chose the SCIL over the CAIDS-Q, stating that the SCIL had specific questions in certain areas like mathematics and reading. The SCIL was deemed more engaging and functional. Not only did they agree on the face validity, but also the group noted that the contents of the SCIL tested individual abilities and the DSM-5 domains for ID (conceptual, social and practical). The question on the level of education was expanded to include all the different curricula offered in Nigeria, including the Nigerian, British and American curricula.

To have an adapted tool that is culturally relevant, linguistically appropriate and applicable to the environment of intended use, such as Nigeria, individuals who understand the people and are also familiar with the construct of interest need to be involved in the adaptation process. Whereas adaptation of tools includes language translation, modification of methods, clarification of concepts and sometimes changing the content, for the tool to be genuinely relevant culturally, the values and peculiarities of the environment of intended use should be considered (Al Maskari et al., 2018; Soto et al., 2015). For instance, the word 'ritual' in the SCQ will elicit a different response as some people believe in idols and engage in 'rituals' (sacrificial killings) in Nigeria. Therefore, respondents will likely answer 'no' if they do not hold such beliefs or ignore the question where they feel it is a private event. The nominal group paid attention to such content and recommended that alternative wording be used and/or to have the administrator explain the question. On the SCIL, the group suggested that the type of 'service' be qualified. In Nigeria, there are no similar government-funded organisations or services like those in the West, where the tool was initially developed.

Limitations

This study focused on adapting screening tools in English, which reduces its use outside of non-English speaking African countries, and in the rural areas of Nigeria. The late arrival of one of the participants and the early exit of another meant that expert representation in those fields was not available for the entire meeting period. The small number of participants was also a limitation. It would have been ideal to have between 10 and 12 participants. Initially, two participants per profession were invited, but the unavailability of some invitees affected this. We recommend further reliability and validity studies of the identified screening tools. While efforts to ensure the qualitative data's trustworthiness were examined, it is possible that data validity was not explored in its entirety. One possible means of exploring data validity would have been the use of investigator or theory triangulation (Guion et al., 2011). Using an evaluation team outside the researcher's group may have lent different perspectives or interpreted the data differently.

A limitation of the NGT is 'groupthink', where a more powerful or vocal individual dominates the decision; thereby leading other group members to 'agree' even in cases where the decision may be wrong. List (2001) provides guidelines to address the power disparity. Because conversations around autism and ID are still in their infancy, there was no involvement of a neurodivergent person. However, a parent of a neurodivergent individual was involved. Including a neurodivergent person in future consensus studies should be considered.

CONCLUSION

Realising that the adaptation process beyond language translation can be complicated and challenging, using the appropriate knowledge, skill and expertise is crucial. A group of Nigerian experts in the relevant professions were consulted to review the identified tools for face validity, content validity and cultural validity. Assessing some of the properties (face validity, content validity) of the screening tools using the NGT was found useful. Following the recommendations and consensus of the group, the SCQ and the SCIL were agreed on as measures to be validated with the Nigerian adolescents, with only a small number of adjustments to allow for different use of language, customs, and environment in the Nigerian context. The SCQ and SCIL should be further tested in validation studies in Nigeria.

CONFLICT OF INTEREST STATEMENT
The authors do not have any conflict of interest to declare.

ETHICS STATEMENT
Ethical approval for the study was obtained from the University of Kent, Tizard Centre Ethics Committee, and the National Health Research Ethics Committee of Nigeria (NHREC; NHREC/01/01/2007-16/09/2019).

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