Sexual Health Assessment of Practices and Experiences (SHAPE)

Questionnaire and implementation considerations







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Declaration of interests by external contributors

In accordance with WHO procedures, all external contributors were asked to declare in writing any competing interests prior to their engagement in the consultations, meetings and the study that led to the development of the questionnaire. All external contributors completed and signed a standard WHO declaration of interests (DOI) form and sent it to the responsible technical officers at WHO. All contributors were instructed to notify the WHO responsible technical officers of any change in relevant interests during the course of their engagement, in order to review the management of any conflicts of interest accordingly. The WHO coordination team reviewed all DOIs to determine whether any conflict of interest was serious enough to pose a risk to the process. All findings from the received DOI statements were managed in accordance with WHO DOI guidance on a case-by-case basis. Conflicts of interest arising from academic research or engagement in the area of sexual health and sexual health research were noted but not considered serious enough to exclude the individual from the process.

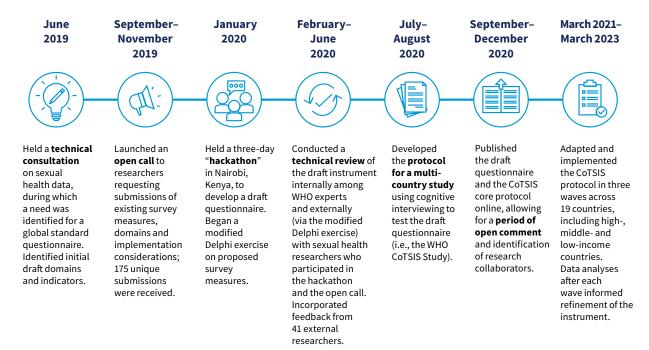
1. Overview

The Sexual Health Assessment of Practices and Experiences (SHAPE) questionnaire includes a set of priority questions related to sexual practices, behaviours and health-related outcomes that are relevant and comprehensible to the general population. The questionnaire is a combination of interviewer-administered and self-administered modules, intended to be used across diverse global contexts, with the goal of improving the ability of researchers to collect and compare relevant data on sexual practices and sexual health-related outcomes across countries. The questionnaire is preceded by information on its development, content (including intended use, population, and modality), and suggestions on how to adapt and implement it. This resource does not provide guidance on sampling or data analysis.

2. Approach to questionnaire development

This questionnaire was developed, underwent cognitive testing, and was further refined through a global, multi-year consultative process, described below and summarized in Fig. 2.1.

Fig. 2.1 Consultative process for questionnaire development



In 2019, the UNDP-UNFPA-UNICEF-WHO-World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP), which is hosted at the World Health Organization (WHO) Department of Sexual and Reproductive Health and Research, supported partners to compile nationally representative data on sexual practices and sexual health-related outcomes from around the world (1). The collected data were reviewed during a subsequent three-day, in-person technical consultation in London in June 2019, supported by the Wellcome Trust. The attendees included 16 invited global experts experienced in sexual health research and data analysis, several of whom had specific experience in conducting nationally representative surveys on sexual health and related practices. The expert participants reflected on what was needed to improve the quality, availability and global comparability of data on sexual health. The technical consultation identified a need for a global standard questionnaire for assessing sexual health-related practices and behaviours in a consistent manner to enable cross-national comparison. A draft list of content domains, indicators and key implementation considerations was also compiled and included.

Following the technical consultation, WHO/HRP began a multi-stage global consultation to develop a draft questionnaire, supported by the London School of Hygiene and Tropical Medicine (LSHTM), the Social Innovation in Health Initiative (SIHI), the Social Entrepreneurship to Spur Health (SESH), and the HRP Alliance for Research Capacity Strengthening (2). The consultation used crowdsourcing methodology (3, 4) as a way to encourage inputs from the diverse array of researchers with relevant expertise. On World Sexual Health Day in September 2019, WHO/HRP issued an open call to solicit existing survey instruments, content domains, measures and implementation considerations. This resulted in 175 unique submissions from researchers from all six WHO regions. The researchers who submitted this material ranged from demographers to epidemiologists, and from those leading research with key populations to those conducting research on contraception. Submissions were reviewed by a global and multidisciplinary group of sexual health experts, who assessed them based on three factors: relevance to sexual health survey, feasibility and generalizability.

In January 2020, 20 participants from the open call with high-scoring submissions and an additional eight experts (predominantly principal investigators of national surveys on sexual health and behaviour) were invited to Nairobi, Kenya, for a three-day, in-person hackathon, hosted by the African Population and Health Research Centre and co-funded by the HRP Alliance for Research Capacity Strengthening. Over the course of these three days, participants compiled items from existing surveys to develop a draft questionnaire intended to meet the following criteria: approximately 10-minute completion time, applicable to a general population, use of single-item measures only, and appropriate for ages 15 and over (2). In some cases, new items were written when no existing single-item measures were found to assess a priority topic (e.g., several social perception questions were added in Module E). Complex constructs more appropriately assessed by multi-item scales or indices (e.g., on sexual functioning) were excluded from this draft questionnaire.

The resulting draft questionnaire and an accompanying consensus statement including guiding principles of sexual health survey design, data collection and implementation were further refined through a modified Delphi exercise in 2020 with the involvement of participants from the 2019 open call and the hackathon (2). The questionnaire was subsequently sent for external review to approximately 70 individuals who had made eligible submissions to the 2019 open call. Forty-one

¹ "A hackathon or designathon is a sprint-like event that brings together individuals with diverse backgrounds to solve a problem" (2, 3).

² Since 2017, the HRP Alliance has been bringing together a network of SRHR research institutions by supporting SRHR research capacity strengthening, in response to an HRP mandate.

individuals responded and their feedback was incorporated. The revised questionnaire was also reviewed by relevant experts at WHO/HRP to ensure that the questions aligned with the development of other global sexual and reproductive health and rights (SRHR) measures.

In parallel, a research protocol was developed to conduct cognitive testing on the draft questionnaire among members of the general population in multiple countries (5). Cognitive testing of a questionnaire assesses the willingness of individuals to answer questions of a sensitive nature, determines item comprehensibility, and evaluates whether the questionnaire assesses the intended constructs consistently and accurately when translated and implemented in diverse settings. As the questionnaire comprised single-item measures only, the protocol did not incorporate psychometric testing. The research protocol was titled "Cognitive testing of a survey instrument to assess sexual practices, behaviours, and health-related outcomes" – referred to as the CoTSIS Study.

The draft questionnaire and CoTSIS Study core protocol were published online on World Sexual Health Day in September 2020 as part of a second open call for proposals, issued by WHO/HRP and the HRP Alliance. This allowed for (i) a period of open comment on the draft questionnaire and (ii) identification of research collaborators to implement the multi-country CoTSIS protocol. Institutions or principal investigators whose primary affiliation was an institution in a low- or middle-income country could apply to receive a small research grant (up to US\$20 000) to support study implementation.

The second open call ran until the end of December 2020, and 35 applications were received. Each proposal was assessed by two independent reviewers (one internal to WHO/HRP and one external) and later discussed with a team of technical officers at WHO/HRP. The assessment form used to guide the evaluation of each project included aspects related to quality of the proposal, including feasibility and geographic representation, research team experience in qualitative research and cognitive testing, their understanding of population-level surveys, and the extent to which research capacity strengthening was embedded within the planned study implementation. Proposals selected for funding were those that scored highest overall (5).

Nineteen research collaborators were selected and worked with WHO/HRP through 2021 to adapt the protocol for their settings and obtain local ethics approval. The CoTSIS Study was ultimately implemented in a mixture of high-, middle- and low-income countries representing all WHO regions. Participating study sites were divided into three consecutive waves, allowing for iterative data collection and refinement of the draft questionnaire after each wave. Training began for the first wave of the CoTSIS Study in March 2022, and data collection finished for the final wave in March 2023. In total, CoTSIS researchers interviewed 636 individuals across the following 19 countries: Australia, Bangladesh, Botswana, Brazil, Canada, Colombia, Ghana, Guinea, Indonesia, Italy, Kenya, Malaysia, Mali, Myanmar, Nigeria, Pakistan, Thailand, Uganda and Uruguay.

3. About the questionnaire

This section provides a brief overview of the questionnaire's content as well as its purpose, target population and implementation modalities, which were all established during the development process described in section1. However, in a real-world implementation setting, variations in research objectives and available research infrastructure and/or funding (6) may result in modifications to content, target population and/or implementation modality. Some of these potential variations, along with their implications, are also discussed in this section. Adaptation and translation notes related to individual measures can also be found in the questionnaire itself (Annex 1).

3.1 Topics covered by the questionnaire

Items included in this questionnaire reflect the priority sexuality related health, demographic and behavioural measures (2), arranged into six sequential modules:

Module A. Personal information and health

Module B. Sexual health outcomes

Module C. Sexual biography

Module D. Sexual practices

Module E. Social perceptions/beliefs

Module F. Sociodemographics

The full questionnaire is available as Annex 1, and instructions on reading the form are in Annex 2.

3.2 Purpose and use of the questionnaire

This questionnaire is envisioned for use in either of two ways.

- As a global, common set of measures for research on sex, sexuality, and sexual and reproductive health and rights (SRHR) to facilitate cross-national comparison.
- As a sexual health and sexual practices module for incorporation into broader health and demographic surveys.

Variations on intended use

Because this questionnaire is brief, it is not comprehensive across all SRHR domains. Researchers should incorporate additional measures that reflect their specific research objectives. For example, a researcher interested in understanding sexual functioning in detail would need to incorporate measures to assess this construct. Implementers of existing national-level surveys on sexual health

and behaviour looking to contribute globally comparable data may opt to incorporate the measures from this questionnaire into their longer and more detailed instruments. In either instance, researchers should endeavour to preserve the wording and the order of the measures in this questionnaire to facilitate data comparability with others using the questionnaire.

3.3 Intended survey population

This questionnaire is intended for use among the general population of a given geographic area. The intended population includes individuals of any age, identity, physical ability or profession. This consideration was determined after cognitive testing of the questionnaire across 19 countries, which included respondents ranging in age from 15 to 86 years, recruited from both rural and urban areas. The testing phase also included respondents from specific population groups to ensure acceptability of the tool across individuals with diverse life experiences. These groups included people living with disabilities (including deaf people), lesbian, gay, bisexual, transgender and gender-diverse individuals, and people who engage in sex work.

Variations on intended population

Some survey research focuses on understanding the lived experience and health needs of specific communities, for example adolescents/youth, older adults, persons who are incarcerated, persons living with HIV, or persons of diverse sexual orientations, gender identities, gender expressions, and sex characteristics (see Box 3.1). For these studies, there may be other measures or questionnaires that reflect the priority health and research needs of the selected community better than the SHAPE questionnaire. In such cases, the SHAPE questionnaire can serve as a reference, but researchers should incorporate additional relevant measures as appropriate.

Box 3.1 Lessons learned and specific considerations for the inclusion of persons of diverse sexual orientations, gender identities, gender expressions, and sex characteristics (SOGIESC)

One aspect of improving population-level health data is to ensure the collection and inclusion of data that reflects the diversity of SOGIESC within the general population, as well as data on the specific health needs of persons of diverse SOGIESC.

Within the 19 countries participating in the cognitive testing of this questionnaire, respondents' conceptualizations of the constructs of gender identity, sexual orientation and variations in sex characteristics varied widely – as did their understanding of SOGIESC identifiers (e.g., sexual orientations like "gay" and "lesbian" versus gender identities like "transgender" or "non binary"). Testing also revealed that, in several sites, certain sexual practices asked about in the questionnaire (e.g., anal sex) were erroneously perceived by some respondents to not be relevant for cisgender, heterosexual individuals. This resulted in modifications to the questionnaire to improve comprehension among respondents and thus support more accurate reporting and data.

These comprehension challenges were not encountered among the respondents recruited in several sites who identified as lesbian, gay, bisexual, transgender and/or nonbinary. For these individuals, there was a different challenge; they reported that the questionnaire was not representative of the wealth of experiences and identities found among these respondents of diverse SOGIESC. Additionally, some of these respondents felt frustrated by sections of the questionnaire that focused only on a gender binary (i.e., "women" and "men").

What does this mean for the final questionnaire and the experience of persons of diverse SOGIESC?

- This questionnaire can strengthen the ability of population-based surveys to capture globally comparable data on sexual orientation and gender identity. The questionnaire is able to capture sexual orientation and gender identity in ways that have been demonstrated to be broadly comprehensible and also reflect trends in population-based data collection (7–9).
- Collecting data on sexual practices from across the general population can help to debunk the perception that some sexual practices are linked only to persons of diverse SOGIESC. For example, the perception that anal sex is a sexual practice only among men who have sex with men, rather than something that anyone with an anus could potentially engage in.
- In settings where there is poor acceptance (including criminalization) of certain sexual orientations and gender identities, added safeguards may need to be put in place if asking these questions. Data collected should follow a human-rights-based approach to prevent misuse of collected data (10) and should never be used to enable criminal prosecution of persons of diverse sexual orientations and gender identities, and/or those engaging in same-sex relations.
- Ensuring that the questionnaire is globally comprehensible means that response options may appear limited (e.g., capturing "gay" and "lesbian" identities as a first-level response option, but not "asexual"). Questions and response options should be expanded in research settings where there is increased understanding of the spectrum of diversity found across SOGIESC among the general population.
- This questionnaire does not currently include a question asking about intersex characteristics due to the likelihood of misinterpretation. In line with recommendations from groups representing intersex persons, a stand-alone question asking about intersex variations and including a short definition of the term "intersex" was tested during the CoTSIS Study, separate from items asking about sex and/or gender identity (11). The question tested poorly in most sites. It was misinterpreted often conflated with being transgender and in several cases this resulted in incorrect reporting. Therefore, the stand-alone question was removed, but it could be included in settings where there is a greater understanding of intersex among the general population.
- As an instrument for the general population, this questionnaire is not appropriate for research that focuses exclusively on the experiences of persons of diverse SOGIESC.

Version 17 of the questionnaire tested the following as a stand-alone question (following A1):
 Intersex is a term for people born with physical sex characteristics that do not fit typical definitions of male or female.
 These variations may be in their anatomy, chromosomes and/or hormones. Do you have an intersex variation?

^{1.} No

^{2.} Yes

^{3.} Unsure

3.4 Intended survey modality

This questionnaire is intended to be implemented using a combination of computer-assisted personal interviewing (CAPI) and computer-assisted self-interviewing (CASI). To facilitate this, REDCap and XLSForm versions of the English-language questionnaire are available for download (see further information in Annex 3).

With CAPI, an interviewer reads questions to the respondent from an electronic data-capture system (allowing it to be implemented using a tablet, mobile phone or computer), enters the respondent's responses, and progresses through the questionnaire. With CASI, the respondent is provided with the electronic device and is able to read and respond to questions and move through the questionnaire on their own. The interviewer can still be present to answer any questions.

Computer-assisted interviewing is suggested due to the complex nature of the skip logic and data checks required. Programming the questionnaire into an electronic data-capture system enables respondents to progress through the questions most relevant to them, according to their previous answers. This ensures efficiency and is responsive to the sensitive nature of the questionnaire's content.

Cognitive testing of the draft questionnaire indicated that Modules A and B are well suited for CAPI, while CASI is suggested for Modules C, D, E and F, given the sensitivity of the information being collected in these modules.

Variations on intended modality

Variations in financial resources, the composition of data-collecting teams, literacy (including digital literacy) and accessibility of the target populations, and available research implementation infrastructure (including existing population-based surveys into which this questionnaire could be nested) may result in the questionnaire or specific modules of it being implemented with a different modality. While the questionnaire should ideally be implemented using a combination of CAPI and CASI, alternative modalities are briefly described here.

- **Entirely CASI** Use of this questionnaire as a self-administered web-based survey is an example of entirely CASI implementation. The COVID-19 pandemic has markedly increased the use of online surveys for health research (12).
 - ▶ In this case, research teams should modify the interviewer instructions in the CAPI modules. They should also watch for (and report on) potential non-response and dropout rates that may come as a result of respondents becoming disengaged.
- Entirely CAPI There are several scenarios in which this modality might be used. For studies with in-person data collection, entirely CAPI administration may be appropriate for respondents who may find it difficult to navigate the self-completion sections. This may include respondents living with certain disabilities as well as participants with low literacy and/or low digital literacy. Alternatively, if a study is making use of telephone interviews (landline or mobile) and/or video interviewing, the data collectors conducting these interviews remotely may have no way to give respondents access to modules for self-completion, and thus revert to entirely CAPI or computer-assisted telephone interviewing implementation.

- ▶ In the case of an entirely CAPI implementation, research teams should modify respondent instructions in the CASI modules. They should also watch for (and report on) potential for biases and non-response that may come as a result of respondents being asked sensitive questions and not being willing to answer aloud to an interviewer. Interviewers should be thoroughly trained on how to collect these sensitive data.
- **Pen and paper questionnaire** Despite a general increase in the accessibility of digital technology, the digital divide persists (13). In some settings, cost, infrastructure and/or digital literacy requirements may result in teams opting to implement a paper-based version of this questionnaire.
 - ▶ In this case, research teams should use the provided skip logic in designing a paper-based version of the questionnaire. The hard copy questionnaire should be piloted to ensure that it is easily navigable by respondents and interviewers alike. Should respondents consistently struggle to correctly complete the questionnaire during piloting, researchers may need to consider having more modules that are administered by interviewers. Interviewers should be extensively trained on the paper-based version and anticipated skip logic.

IMPORTANT: Cognitive testing of the draft questionnaire has indicated that the skip logic can be challenging to follow on paper, even for trained interviewers. As such, implementation using an electronic data-capture system is encouraged where feasible.

4. Adapting and implementing the questionnaire

This section outlines steps that should be taken by research teams to familiarize themselves with the questionnaire, adapt it to their setting, conduct their research, and report results.

4.1 Translation process

When translating the questionnaire for use in a new language, the aim should be to create conceptually equivalent versions. This means that translators should aim for conceptual equivalence of words and phrases rather than conducting a literal word-for-word translation. Translations should use language appropriate to the general population with a basic reading level. The questionnaire contains translation notes for certain individual items to aid in this process (14, 15).

A suggested process for conducting a rigorous translation is outlined below.

- 1. **Forward translation:** One or more translator(s) translates the original (English) questionnaire into the target language.
- 2. **Expert panel:** A panel of bilingual experts identifies and resolves inadequacies in the first translation(s).
- 3. **Back translation:** A different translator (with no knowledge of the original questionnaire) back translates the questionnaire from the target language into English.
- 4. **Review:** One or more separate person(s) compares the back translation to the original English version and the process repeats until all discrepancies are resolved.

At a minimum, the following guidelines should be met when executing this process.

- Translators have full professional proficiency (spoken and written) in English (the language of the original questionnaire) and the target language.
- Forward translation(s) and back translation(s) are performed by separate individuals.
- Initial forward and back translations are performed independently of each other, then compared.
- An expert panel³ should be involved to adjudicate.

4.2 Adaptation for use in English

For questionnaire implementation in English where a full translation of the core tool will not take place, the questionnaire may still need to be adapted for the specific context in which it will be administered. The questionnaire document contains adaptation notes indicating specific items where the inclusion of locally appropriate terms (which may differ across English-speaking contexts) should be considered to improve comprehensibility.

4.3 Training research teams

In addition to training on human subjects research ethics and survey methods, interviewers administering this questionnaire should be trained in sexual health and sexuality research methods, sensitized to the questionnaire's content and the intent of items (particularly those that may feel unfamiliar), and be prepared to speak with respondents about sensitive issues.

³ The expert panel may comprise original translators, study investigators, sexual health experts, and researchers experienced with questionnaire development and translation, etc.

Interviewers themselves may find some content discomforting – research teams should identify and discuss these together in advance of data collection.

With regard to sensitive research topics, there are several options for values clarification and attitude transformation trainings that are useful to sexual health researchers or others working on topics that are often stigmatized. Such trainings allow research team members to identify and interrogate their own personal values that may act as barriers to their ability to engage non-judgmentally with study participants. The HRP Alliance can provide good research training resources. Research teams should factor in time for this additional training to take place before survey implementation. Teams should also reflect on interpersonal skills-building, including establishing rapport with a respondent, gender dynamics (e.g., women interviewing men or vice versa), age dynamics (e.g., younger people interviewing older people) and adopting a trauma-informed approach.

During implementation, there should be regular, ongoing supervision and support (e.g., through regular debriefs) of the research team, to address any issues that may only become apparent during data collection.

4.4 Respondent comfort and safety

Central to this questionnaire are the respondents being asked to complete it. The questionnaire delves deeply into various aspects of individuals' sexuality, including aspects they may not be used to talking about or even thinking about routinely. Discussing experiences with intimate sexual practices or attitudes around sexuality can make respondents giggle, hesitate or become uncomfortable or distressed. On occasion, some questions can bring to mind painful memories of traumatic or non-consensual experiences.

This questionnaire includes instructions for respondents that explain why they are being asked these questions and reaffirms that they are able to stop completing the questionnaire at any time. Additionally, prior to entering sections that ask specifically about non-consensual experiences, respondents are provided the option to skip over that section entirely. Beyond the questionnaire's built-in safeguards, interviewers should also remind respondents of the voluntary nature of their participation, that they can skip any question, or even abandon the questionnaire at any time.

Legal and ethical considerations in the study site

Research teams should be familiar with laws and/or institutional policies in their study setting that may affect the comfort as well as the safety of their respondents (16). For example, this may include mandatory reporting requirements as well as laws against certain services (e.g., seeking an abortion), identities and behaviours (e.g., same-sex relations). Familiarity with such laws and policies can enable teams – in consultation with local organizations and/or local ethics boards – to put in place procedures that further safeguard respondent privacy, confidentiality and safety. These may include modifications in how respondents are recruited, the documentation of consent, location of interviews and questions asked, among others.

There may be instances where the legal obligations of research teams (e.g., to report intimate partner violence) may be at odds with their ethical obligations to maintain respondent confidentiality. Research teams should develop a reporting protocol in line with local requirements and ensure that all interviewers are familiar with the protocol before any data collection activities begin. Additionally, any mandatory reporting requirements should be clearly explained to respondents during the consent process (17). Research teams should be guided by the principle "do no harm", ensuring that any actions during data collection, management and/or use are in the best interests of the individual(s) concerned (10, 17, 18).

Identifying and responding to respondent distress

As part of thoroughly reviewing the questionnaire during training, research teams should identify issues that may be potentially sensitive for respondents. In some cases, this may be due to cultural beliefs or stigma (e.g., discussing abortion or premarital sex). In other cases, it may be due to a respondent's personal experience (e.g., the loss of a wanted pregnancy or experience of intimate partner violence). Not all sources of distress can be anticipated. Interviewers should be trained to recognize and respond to signs of respondent discomfort and/or distress.

Developing a distress protocol (a simplified example is presented in Annex 4) prior to implementing the questionnaire can aid interviewers in addressing respondent distress. Such a protocol would typically include a series of actions for interviewers to follow. Actions may include taking a break, skipping questions/modules, moving the location of the interview, or ending the interview entirely. Additionally, research teams should be able to provide support or have clearly established referral pathways for support (e.g., health care, legal assistance and/or social services) where desired by respondents.

Being attentive to respondents also means being patient in allowing them to reflect on and respond to questions – feeling pressure to answer quickly can inadvertently add to respondent stress.

4.5 Testing and piloting

Through the CoTSIS Study, this questionnaire was tested using qualitative cognitive interviewing and found to be comprehensible by respondents in Australia, Bangladesh, Botswana, Brazil, Canada, Colombia, Ghana, Guinea, Indonesia, Italy, Kenya, Malaysia, Mali, Myanmar, Nigeria, Pakistan, Thailand, Uganda and Uruguay. However, it is advisable that any team intending to translate and/or implement this tool conduct additional cognitive interviewing with a small sample to establish whether the items are interpreted as intended. This process can indicate where changes are needed in the wording to improve clarity and ensure fidelity to intended measurement aims. Given the absence of composite measures (e.g., scales or indexes), validity and reliability analyses were not conducted. The CoTSIS Study protocol has been published and can serve as a resource in planning for cognitive interviewing (5). Box 4.1 lists resources for guidance on cognitive interviewing techniques.

Box 4.1 Resources for guidance on cognitive interviewing

Scott K, Ummer O, LeFevre AE. The devil is in the detail: reflections on the value and application of cognitive interviewing to strengthen quantitative surveys in global health. Health Policy Plan. 2021;36(6):982–95. https://doi.org/10.1093/heapol/czab048

Miller K, Chepp V, Willson S, Padilla JL, editors. Cognitive interviewing methodology. John Wiley & Sons; 2014.

Willis, Gordon B. Cognitive interviewing. Thousand Oaks (CA): SAGE Publications, Inc.; 2005. https://doi.org/10.4135/9781412983655

If testing in multiple languages and/or settings simultaneously: Fitzgerald R, Widdop S, Gray M, Collins D. Identifying sources of error in cross-national questionnaires: application of an error source typology to cognitive interview data. J Off Stat. 2011;27(4):569–99.

Following this testing, a period of piloting the final questionnaire with the intended study population before full implementation of the survey can provide further opportunity to identify errors in programming within the electronic data-capture system, assess completion times and improve efficiency, while also providing an opportunity for field practice for data-collection teams.

4.6 Reliability and validity testing

The questionnaire comprises single-item measures only, with no composite measures. Nonetheless, cognitive testing may be advisable in the piloting period.

4.7 Reporting

This questionnaire aims to provide core measures in order to facilitate harmonization and comparability of data in sexual health-related research. The questionnaire is also designed to be adapted to suit the setting in which it is being delivered.

Clear and detailed reporting of survey-based research is critical for contextualizing study results and making comparisons with similar data collected elsewhere. There are several existing reporting checklists that have been developed to assist researchers to improve the quality of their survey research design, implementation and reporting (19, 20).

In addition to clear reporting according to the criteria in these checklists, carefully documenting aspects of the questionnaire that have been modified for use in a given setting will ensure that differences in adaptation, implementation and delivery are clearly visible when comparing findings across settings. As a matter of course, including the adapted questionnaire in full as a supplementary material to any publication can ensure transparency in any report about the translation and adaptation of the questionnaire content. Additionally, section3 of this document has highlighted likely variations in questionnaire use, population and modality, any of which would need to be described when reporting the survey research.

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Annex 1. Sexual Health Assessment of Practices and Experiences (SHAPE) Questionnaire

[NOTE FOR THE INTERVIEWER]

Modules A and B are intended to be interviewer-administered. As you progress in these modules, please read all of the following aloud to participants: instructions to participants, questions, and response options until the final question mark.

[READ TO PARTICIPANT]

This survey is about sexual and reproductive health experiences. The information collected through this questionnaire may be used to inform health policy, improve health care and health outcomes. This survey is designed to be completed by a wide range of people so some questions may not apply to you. Some of the questions may surprise you, may cause embarrassment, and/or may be difficult to answer. Please remember that you can choose not to answer any question you do not want to. All your responses will be completely confidential and kept anonymous. Thank you for your participation.

Translation/Adaptation note: If there are specific mandatory reporting requirements in your setting, remind participants of what must be reported.

A. Personal information and health [INTERVIEWER-ADMINISTERED]

[READ TO PARTICIPANT]

I would like to begin by asking you some questions about yourself. This will also include some questions about your living situation, as well as your current health status and personal history.

Item no.	Item	Coding categories	Skip	Notes
A1	At birth, was your sex recorded as	male	Complete the rest of Module A, then go to Module C (do not complete Module B)	Translation/Adaptation note: In settings where the terminology "sex assigned at birth" is already established, use A1alternative wording instead and maintain the same response options and skip pattern. A1alternative: What was your sex assigned at birth? Was it Programmer note: If the response is "another term" a new free text response (new variable) would automatically appear to record the specific term.

Item no.	Item	Coding categories	Skip	Notes
A2	Today, do you think of yourself as	man/male		Translation/adaptation note: For options 1 and 2, consider keeping only man/woman or male/female, depending on locally used terms for gender identity. In settings where there are additional, commonly-understood gender identities (for example, nonbinary), add these as options, while maintaining "in another way". Programmer note: If the response is "in another way" a new free text response (new variable) would automatically appear to record the answer.
А3	How old were you at your last birthday?	Years		
A4	Are you currently living with someone as a couple?	Yes 1 No 2 Notsure 3 Prefer not to say 888		
A5	How many times have you lived together with someone as a couple?	Times	► If answer is 0, go to A7	
A6	How old were you when you first started living with someone as a couple?	Years		
A7	Thinking about your health currently, how is your health in general? Is it	very good 1 good 2 fair 3 poor 4 very poor? 5 Prefer not to say 888		

Item no.	Item	Coding categories	Skip	Notes
A8	Do you currently have any mental or physical illness, disability, or condition that limits your usual activities in any way?	Yes		Programmer note: If the response is "yes," a new free text response (new variable) would automatically appear to record the name(s) of the illnesses, disabilities, and/or conditions.
ModuleBcheck: Check the participant's response to A1. Did they respond "female", "male" or "another term"?		Yes, the participant responded "female", "male" or "another term" at A1. No, the participant responded "prefer not to say" at A1.	Proceed to I	

B. Sexual health outcomes [INTERVIEWER-ADMINISTERED]

[READ TO PARTICIPANT]

The next section asks about your reproductive history and other sexual health outcomes. This includes topics like pregnancy and HIV testing.

Item no.	Item	Coding categories	Skip	Notes
participan to A1 . Did	k: Check the it's response they respond or "another term"?	Yes , the participant responded either "female" or "another term" at A1 .	Continue to B1V1	
		No , the participant responded "male" at A1 .	→ Go to B1V2	
		No , the participant responded "prefer not to say" at A1 .	→ Go to Module C	

Item no.	Item	Coding categories	Skip	Notes
B1V1	To the best of your knowledge, how many times have you been pregnant to date, including any pregnancies that did not result in a live birth?	No pregnancies	If reported 1 or more times, go to B2V1 If 0, 999, 888 or 777, and participant responded "female" to A1, go to B8 If 0, 999, 888 or 777, and participant responded "another term" to A1, continue to B1V2	
B1V2	To the best of your knowledge, how many times have you gotten someone pregnant to date, including any pregnancies that did not result in a live birth?	Times — No pregnancies 0 Don't know 999 Prefer not to say 888 Does not apply 777	If reported 1 or more times, go to B2V2 If 0, 999, 888 or 777, go to B8	
B2V1	How old were you at the time of your first pregnancy, including any pregnancies that did not result in a live birth? Interviewer note: Report the age at the end of the pregnancy, for example ask participant "Can I just confirm that this was your age at the END of that pregnancy?"	Years999 Prefer not to say 888 _	Go to B3V1 check	

Item no.	Item	Coding categories	Skip	Notes
B2V2	How old were you the first time you got someone pregnant, including any pregnancies that did not result in a live birth? Interviewer note: Report the age at the end of the pregnancy, for example ask participant "Can I just confirm that this was your age at the END of that pregnancy?"	Years	Go to B3V2 check	
partic B1V1 .	check: Check the ipant's response to Did they report 2 or pregnancies?	Yes, the participant reported 2 or more pregnancies at B1V1. No, the participant did not report 2 or more pregnancies at B1V1.	➤ Continue to → Go to B4V1c	
B3V1	How old were you at the time of your last or current pregnancy, including any pregnancies that did not result in a live birth? Interviewer note: Report the age at the end of the pregnancy, for example ask participant "Can I just confirm that this was your age at the END of that pregnancy?"	Years999 Prefer not to say 888 _	Go to B4V1 check	

Item no.	Item	Coding categories	Skip	Notes
partic B1V2 .	check: Check the ipant's response to Did they report 2 or pregnancies?	Yes, the participant reported 2 or more pregnancies at B1V2. No, the participant did not report 2 or more pregnancies at B1V2.	→ Continue to → Go to B4V2c	
B3V2	How old were you the last time you got someone pregnant, including any pregnancies that did not result in a live birth? Interviewer note: Report the age at the end of the pregnancy, for example ask participant "Can I just confirm that this was your age at the END of that pregnancy?"	Years999 Prefer not to say888 _	Go to B4V2 check	
partic	check: Has the ipant had a pregnancy n the last 5 years?	Yes, they have had a pregnancy within the last 5 years. No, their most recent pregnancy was more than 5 years ago.	→ Continue to → Go to B5V1	B4V1
B4V1	When you became pregnant with your last or current pregnancy, how much did you personally want to get pregnant? Did you	not want at all to become pregnant at that time	← Go to B5V1	

Item no.	Item	Coding categories	Skip	Notes
partic	check: Has the ipant gotten someone ant within the last s?	Yes, they have gotten someone pregnant within the last 5 years. No, the most recent time they got someone pregnant	→ Continue to	B4V2
		was more than 5 years ago. —	➤ Go to B5V2	
B4V2	Thinking back to the last time you got someone pregnant, how much did you personally want to get them pregnant at that time? Did you	not want at all to get them pregnant at that time	→ Go to B5V2	
B5V1	Now I will ask you about the pregnancy/ies you mentioned earlier. First, are you currently pregnant?	Yes	If yes and reported only 1 pregnancy at B1V1, go to B8 Otherwise, go to B6.1	
B5V2	Now I will ask you about the pregnancy/ies you mentioned earlier. First, is anyone currently pregnant with your child?	Yes	If yes and reported only 1 pregnancy at B1V2, go to B8 Otherwise, go to B6.1	

Item no.	Item	Coding categories	Skip	Notes
B6.1	How many of these pregnancies resulted in live birth, that is, a baby born alive? Interviewer note: If participant reports "ectopic pregnancy", categorize as "miscarriage". If participant reports being pregnant with multiples (e.g., twins, triplets, etc.) with different delivery outcomes (e.g., one live birth, one stillbirth), record each outcome separately in the relevant section.	Number of live births Don't know		Translation/Adaptation note: As a reference for translation only, technical definitions are below: Abortion: The deliberate interruption of an ongoing pregnancy by medical or surgical means. Miscarriage: A spontaneous loss of pregnancy (i.e., embryo or fetus) before 22 completed weeks of gestation. Stillbirth: A fetus who dies at 22 or more completed weeks pregnancy, but before or during birth, is classified as a stillbirth.
B6.2	How many of these pregnancies resulted in an abortion, medical or surgical for any reason? Interviewer note: If participant reports "ectopic pregnancy", categorize as "miscarriage". If participant reports being pregnant with multiples (e.g., twins, triplets, etc.) with different delivery outcomes (e.g., one live birth, one stillbirth), record each outcome separately in the relevant section.	Number of abortions		

Item no.	Item	Coding categories	Skip	Notes
B6.3.1	How many of these pregnancies resulted in a miscarriage at less than 12 weeks pregnancy? Interviewer note: If participant reports	Number of miscarriages Don't know		
	"ectopic pregnancy", categorize as "miscarriage".			
	If participant reports being pregnant with multiples (e.g., twins, triplets, etc.) with different delivery outcomes (e.g., one live birth, one stillbirth), record each outcome separately in the relevant section.			
B6.3.2	How many of these pregnancies resulted in a miscarriage at 12 or more weeks pregnancy? Interviewer note: If participant reports "ectopic pregnancy", categorize as "miscarriage". If participant reports being pregnant with multiples (e.g., twins, triplets, etc.) with different delivery outcomes (e.g., one live birth, one stillbirth), record each outcome separately in the relevant section.	Number of miscarriages Don't know		

Item no.	Item	Coding categories	Skip	Notes
B6.3.3check: Check the participant's response to B6.3.1 and B6.3.2 . Did they report 1 or more miscarriages at either item?		Yes, they reported 1 or more miscarriages at B6.3.1 or B6.3.2. No, they reported 0 miscarriages at B6.3.1 or B6.3.2.	→ Continue to B6.3.3 → Go to B6.4	
B6.3.3	How many miscarriages required an additional medication or procedure?	Number of miscarriages Don't know		
B6.4	How many of these pregnancies resulted in stillbirth or baby born without heartbeat/ breathing? Interviewer note: If participant reports "ectopic pregnancy", categorize as "miscarriage". If participant reports being pregnant with multiples (e.g., twins, triplets, etc.) with different delivery outcomes (e.g., one live birth, one stillbirth), record each outcome separately in the relevant section.	Number of stillbirths Don't know		
B7V1check: Check the participant's response to A1 and B6.1 and B6.4. Did they respond "female" or "another term" at question A1 and report 1 or more live births and/or stillbirths at B6.1?		Yes, they responded "female" or "another term" to A1 and reported 1 or more live births and/or stillbirths. — No, they responded "male" to question A1 and reported 1 or more live births and/or stillbirths. — No, they reported 0 live births and 0 stillbirths. —	→ Continue to B7V1 → Go to B7V2 → Go to B8	

Item no.	Item	Coding categories	Skip	Notes
B7V1	How old were you when you first gave birth? Interviewer note: If the first pregnancy resulted in a live birth, then this response should be the same as B2 (age at the end of first pregnancy).	Years999 Prefer not to say888 _	Go to B8	
B7V2	How old were you when your first biological child was born? Interviewer note: If the first pregnancy resulted in a live birth, then this response should be the same as B2 (age at the end of first pregnancy).	Years999 Prefer not to say888		
В8	Have you ever had a time lasting 1 year or longer when you and your partner were trying to get pregnant and it did not happen?	Yes 1 No 2 Don't know 999 Prefer not to say 888		

[READ TO PARTICIPANT]

The following questions ask about the human immunodeficiency virus, also known as "HIV" the virus that causes AIDS. They also ask about sexually transmitted infections, also known as STIs. As a reminder, you do not need to share any information if you do not want to.

В9	When, if ever, were you last tested for HIV? Was it	within the last year	→ Go to B11	Translation/Adaptation note: "within the last year" means within the preceding 12 months. For example, if it's currently May 2023, then anything between May 2022 to May 2023 would be considered "within the last year". Translate this in a way that best preserves this intention.
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Item no.	Item	Coding categories	Skip	Notes
B10	What was the results of your last HIV test? Was it	positive (you have HIV) 1 negative (you do not have HIV) 2 you are still waiting for the test results?		
B11	Aside from HIV, when, if ever, were you last tested for any sexually transmitted infections (STIs)? Was it Interviewer note: If a participant does not understand the term "sexually transmitted infection (STI)" when first asked the question, you can provide a definition: These are infections that are transmitted through sexual contact, including vaginal, anal and oral sex. These can include chlamydia, gonorrhoea, herpes, syphilis (insert local terms for common STIs here).	within the last year		Translation/Adaptation note: "within the last year" means within the preceding 12 months. For example, if it's currently May 2023, then anything between May 2022 to May 2023 would be considered "within the last year". Translate this in a way that best preserves this intention.

Item no.	ltem	Coding categories	Skip	Notes
B12	Aside from HIV, when if ever, did you last receive treatment for any sexually transmitted infection (STI)? This can be self- treatment or treatment from a doctor. Was it Interviewer note: If a participant does not understand the term "sexually transmitted infection (STI)" when first asked the question, you can provide a definition: These are infections that are transmitted through sexual contact, including vaginal, anal and oral sex. These can include chlamydia, gonorrhoea, herpes, syphilis (insert local terms for common	within the last year		Translation/Adaptation note: "within the last year" means within the preceding 12 months. For example, if it's currently May 2023, then anything between May 2022 to May 2023 would be considered "within the last year". Please translate this in a way that best preserves this intention.
	STIs here).			
	Interviewer note: Ask B12, even if participant indicates that they've not been tested for STIs in B11.			

[READ TO PARTICIPANT]

These next questions are about non-consensual sexual situations that you may have encountered. Depending on your responses, you will be asked 3–6 questions. I understand that these are sometimes difficult to think and talk about, and you can skip any questions you feel uncomfortable answering. As a reminder, there are resources available that [I/the interviewer] can connect you with, should you feel that you need additional support.

Item Item **Coding categories** Skip **Notes** no. **OPT-OUT QUESTION FOR NON-CONSENSUAL SEXUAL SITUATIONS** B13.0 Are you willing Yes 1-Continue to proceed with to B13.1 the following No 2 → Go to questions about Module C. non-consensual sexual situations? B13.1 At home, how safe not at all safe 1 do you typically somewhat unsafe 2 feel from sexual somewhat safe 3 assault... completely safe? 4 Prefer not to say 888 B13.2 Outside your home, not at all safe 1 Translation/Adaptation note: for example, at work Cognitive testing indicates somewhat unsafe 2 or on the street, how that this question has been somewhat safe 3 interpreted by participants safe do you typically completely safe? 4 feel from sexual to include both verbal sexual assault... harassment (e.g., catcalling) Don't know 999 and sexual violence (e.g., rape). *If there is a desire to distinguish* Prefer not to say 888 between the two, questions asking about each of these explicitly are needed. **B14** Has another person Yes 1 **Translation/Adaptation note:** ever forced or Cognitive testing indicates No 2 frightened you into that this question has been Go to doing something interpreted by participants to Module C Don't know 999 sexually that you did include both attempted and Prefer not to say 888 _ not want to do? actual forced sex. If there is a desire to distinguish between the two, an additional question is needed. Yes 1 → Go to B15.1 B15 Has this happened to you more than once? Module C Prefer not to say 888 → Go to Module C

Item no.	Item	Coding categories	Skip	Notes
B15.1	How old were you the first time this happened?	Years999 Prefer not to say		
B15.2	How old were you the last time this happened?	Years999 Prefer not to say	Go to Module C	
B15.3	How old were you when this happened?	Years999 Prefer not to say	Proceed to Module C	

C. Sexual biography [SELF-ADMINISTERED]

[READ TO PARTICIPANT]

I am now going to give you a questionnaire to complete by yourself about your sexual history. I won't be able to see your answers. If you get stuck or need help with anything, let me know. Please take as much time as you need to complete the questionnaire.

[TEXT FOR THE PARTICIPANT TO READ]

The next question is about **sexual experience**. By "sexual experience" we mean any kind of contact with another person that you felt was sexual. It could be kissing, touching, intercourse or any other form of sex. Please think back to all the people with whom you have had sexual experiences, whether they were casual or one-time encounters, regular partners or spouses.

Item no.	Item	Coding categories	Skip	Notes
C1	Which of these statements best describes you? (Choose all that apply).	I have not had any sexual experience		Programmer note: if the survey is administered digitally, consider restricting the response options so that participants cannot choose contradictory responses. These are: - Options 1 and 888 cannot be combined with any other response option. - Options 2 through 6 cannot be combined with each other. - Option 7 can be combined with 2, 3, 4, 5 or 6. Programmer note: If the response is "another term" a new free text response (new variable) would automatically appear to record the specific term.

Item no.	Item	Coding categories	Skip	Notes
C2	Do you think of yourself as	Gay or lesbian	Go to the "TEXT FOR PARTICIPANT TO READ" before C3 Continue to C2.1 Go to C2.2	Translation/Adaptation note: This is intended to assess sexual orientation (sexual orientation refers to a person's physical, romantic and/or emotional attraction towards other people). Sites should expand the response options at the first level of this item to include additional, local, commonly used sexual orientation identities (e.g., pansexual, asexual).
C2.1	By "another identity not listed here", did you mean that	You are not straight, but identify with another label such as queer, pansexual or asexual 1 Label that best describes you: (please specify) You have not figured out your sexuality or are in the process of figuring it out 2 You do not use labels to identify yourself 3 You made a mistake and did not mean to pick this answer 4 — You mean something else 5 —		Translation/Adaptation note: insert culturally appropriate terms for identity as needed. Programmer note: If the response is "another label" a new free text response (new variable) would automatically appear for the participant to specify the label.
C2.2	You did not enter an answer for the question. That is because you:	Don't understand the words	Go to the "TEXT FOR PARTICIPANT TO READ" before C3 Continue to C2.3 Go to the "TEXT FOR PARTICIPANT TO READ" before C3	

Item no.	Item	Coding categories	Skip	Notes
C2.3	What do you mean by something else?			

This next section asks questions about **sex**. By "sex", we mean any sexual contact involving the genital area between people. This may include oral sex, vaginal sex, anal sex, petting/fondling or rubbing genitals.

C3	Which statement applies best to you the first time you had sex?	I have not had sex		
C4	How old were you the first time you had sex with someone? Please write the age in years, and estimate if you do not know exactly. (If you don't know, write 999. If you prefer not to say, write 888.)	Years999 Prefer not to say888		
respons C1. Did option with on option with on option	se to survey question lyou choose only 2 (sexual experiences aly males) or only 6 (sexual experiences aly females) or only 7 (sexual experiences aly another term)?	Yes, I chose only option 2, 6 or 7 at question C1. No, I chose another option(s) at question C1.	→ Go to C6 → Continue to	C5

Item no.	Item	Coding categories	Skip	Notes
C5	The first time you had sex, was the person you had sex with:	Male 1 Female 2 Another term 3 Term that best describes them: (please specify) Don't know 999 Prefer not to say 888		Programmer note: If the response is "another term" a new free text response (new variable) would automatically appear for the participant to specify the term.
C6	The first time you had sex, how old was the person you had sex with? Please write the age in years, and estimate if you do not know exactly.	Years————————————————————————————————	to C6.1	
C6.1	Was the person you had sex with older than you, younger than you, or about the same age as you?	Older than me	Continue to C6.2 → Go to C7	
C6.2	By how many years?	1–2 years		

Item no.	Item	Coding categories	Skip	Notes
C7	What, if any, precautions against pregnancy or HIV/STIs did either of you take the first time you had sex? (Choose all that apply).	No precautions	Go to the "TEXT FOR PARTICIPANT TO READ" before C8	Translation/Adaptation note: Translation/Adaptation note: Please make modifications to the list if necessary according to local terminology for these methods and what is available locally. Programmer note: If the response is "other method of protection" a new free text response (new variable) would automatically appear to record the answer.

Alternative versions of C4, C5, C6 and C7

[TEXT FOR THE PARTICIPANT TO READ]

The next few questions will ask about that first time. Depending on your responses, you will be asked 4–6 questions. We understand that this may be difficult to think about. Remember that you can skip any questions you feel uncomfortable answering.

As a reminder, there are resources available that the interviewer can connect you with, should you feel that you need additional support.

Programmer note:

Remember these alternative versions are to be used if the participant responds to C3 with response option 4: "I was forced or frightened into doing it". The wording has been slightly modified to be more sensitive to the fact that the actions they are reporting on were not consensual.

Item Skip Item **Coding categories Notes** no. [OPT-OUT QUESTION FOR FORCED FIRST TIME QUESTIONS]: C4.0alt You indicated that Yes1-**→**Continue you were forced to C4alt or frightened the No 2 → Go to the first time you "TEXT FOR had sex. Are you **PARTICIPANT** willing to proceed TO READ" with the following before C8 questions about that first time? C4alt How old were you when that Don't know 999 happened? Please write the age in years, and estimate Prefer not to say 888 if you do not know exactly. (If you don't know, write 999. If you prefer not to say, write 888.) C5altcheck: Check your Yes, I chose only option 2, 6 ➤ Go to C6alt response to survey question or 7 at question C1.-C1. Did you choose only option 2 (sexual experiences No, I chose another option(s) with only males) or only at question C1. -Continue to C5alt option 6 (sexual experiences with only females) or only option 7 (sexual experiences with only another term)? C5alt Was that person: Male 1 **Programmer note:** *If the* response is "another term" a Female 2 new free text response (new Another term 3 variable) would automatically Term that best appear for the participant to describes them: specify the term. (please specify)

Item no.	Item	Coding categories	Skip	Notes
C6alt	How old was that person at the time? Please write the age in years, and estimate if you do not know exactly. (If you don't know, write 999. If you prefer not to say, write 888.)	Years999 – Don't know999 – Prefer not to say888 –	to C6.1alt	
C6.1alt	Were they older than you, younger than you, or about the same age as you?	Older than me	Continue to C6.2alt Go to C7alt	
C6.2alt	By how many years?	1–2 years		
C7alt	What, if any, precautions against pregnancy or HIV/STIs did either of you take at that time? (Choose all that apply).	No precautions		Programmer note: If the response is "other method of protection" a new free text response (new variable) would automatically appear to record the answer.

Item	Item	Coding categories	Skip	Notes
no.	iteiii	County Categories	экір	Notes

The next few questions will ask you about the number of people you have had sex with over different time periods. Please include everyone you have had sex with, whether it was just once or multiple times, whether they were casual or one-time encounters, regular partners or spouses.

C8	In the last 4 weeks, how many people have you had sex with? (It is okay to estimate if you do not know the exact number. If none, write 0. If you don't know, write 999. If you prefer not to say, write 888.)	Number of females	Programmer note: If the survey is programmed for digital/ web-based administration, participants should automatically only be asked to provide the number of people of the sex(es) they previously reported having had sexual experiences with at C1. For example, participants reporting at C1 that they have had sexual experiences with males only would not be prompted here at C8 to report the number of females or people who use another term. This instruction should be modified based on the administration method.
			Programmer note: This field should be programmed to accept only numeric input (with the exception of below note).
			Programmer note: If the response includes the number of "people who use another term" a new free text response (new variable) would automatically appear so respondents can specify the term(s).

Item no.	Item	Coding categories	Skip	Notes
C9	In the last 12 months, how many people have you had sex with? (It is okay to estimate if you do not know the exact number. If you don't know write 999. If you prefer not to say, write 888.)	Number of females		Programmer note: If the survey is programmed for digital/ web-based administration, participants should automatically only be asked to provide the number of people of the sex(es) they previously reported having had sexual experiences with at C1. For example, participants reporting at C1 that they have had sexual experiences with males only would not be prompted here at C9 to report the number of females or people who use another term. This instruction should be modified based on the administration method. Programmer note: This field should be programmed to accept only numeric input (with the exception of below note). Programmer note: If the response includes the number of "people who use another term" a new free text response (new variable) would automatically appear so respondents can specify the term(s).

Item no.	Item	Coding categories	Skip	Notes
C10	In your life so far, how many people have you had sex with? (It is okay to estimate if you do not know the exact number. If none, write 0. If you don't know write 999. If you prefer not to say, write 888.)	Number of females		Programmer note: If the survey is programmed for digital/web-based administration, participants should automatically only be asked to provide the number of people of the sex(es) they previously reported having had sexual experiences with at C1. For example, participants reporting at C1 that they have had sexual experiences with males only would not be prompted here at C10 to report the number of females or people who use another term. This instruction should be modified based on the administration method.
				Programmer note: This field should be programmed to accept only numeric input (with the exception of below note).
				Programmer note: If the response includes the number of "people who use another term" a new free text response (new variable) would automatically appear so respondents can specify the term(s).

The next two questions are about situations when sex is exchanged for goods, services or money.

C11	When, if ever, was the last time you gave money, material goods, favours, gifts, drugs or shelter in exchange for sex? By material goods we mean things like food, rent, clothes/ shoes/cell phones, cosmetics, transport, good marks in school or school fees, or items for someone or for their children or their family.	Never	Translation/Adap "within the last yea within the precedir For example, if it's 2023, then anythin May 2022 to May 20 be considered "wit year". Please trans in a way to best pre meaning.	ar" means ng 12 months. currently May g between 023 would hin the last late this
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Item no.	Item	Coding categories	Skip	Notes
C12	When, if ever, was the last time you received money, material goods, favours, gifts, drugs or shelter in exchange for sex? By material goods, we mean things like food, rent, clothes/shoes/cell phones, cosmetics, transport, good marks in school or school fees, or items for your children, your family or yourself.	Never	Proceed to Module D	Translation/Adaptation note: "within the last year" means within the preceding 12 months. For example, if it's currently May 2023, then anything between May 2022 to May 2023 would be considered "within the last year". Please translate this in a way to best preserve this meaning.

D. Sexual practices [SELF-ADMINISTERED]

[TEXT FOR PARTICIPANT TO READ]

This section asks questions about sexual practices, which may seem personal. Collecting information like this can help to better understand and respond to health needs.

As a reminder, the interviewer will not be able to see your answers. If you get stuck or need any help with anything let them know. Please take as much time as you need. Remember, that you can skip any questions you feel uncomfortable answering.

Item no.	Item	Coding categories	Skip	Notes
response indicate of people	: Check your e to C8 . Did you that the number e you have had sex ne last 4 weeks was ter?	Yes, I indicated at C8 that I have had sex with at least 1 person in the last 4 weeks. No, I indicated at C8 that I have not had sex with anyone in the last 4 weeks.	➤ Continue with D1 ➤ Go to D2check	

Item no.	Item	Coding categories	Skip	Notes
D1	You previously indicated how many people you have had sex with in the last 4 weeks. Now we would like to ask: In the last 4 weeks, how many times have you had sex? (It is okay to estimate if you do not know the exact number of times. If you don't know, write 999. If you prefer not to say, write 888.)	Times999 Prefer not to say888 _	Go to D3	
respo Did yo numb had so 4 wee the nu have h	eck: Check your onses to C8 and C9. Ou indicate that the per of people you have ex with in the last eks was 0, but that cumber of people you had sex with in the last enths was 1 or greater?	Yes, I indicated at C8 that I have not had sex with anyone in the last 4 weeks, but indicated at C9 that I have had sex with at least 1 person in the last 12 months. — No, I indicated at question C8 and C9 that I have not had sex with anyone in the last 12 months.	→ Continue wi	
D2	When did you last have sex?	MM/YYYY/		
D3	When, if ever, was the last time you performed oral sex on someone? That is, your mouth on their genital area.	Never		

Item no.	Item	Coding categories	Skip	Notes
D4	When, if ever, was the last time someone performed oral sex on you? That is, their mouth on your genital area.	Never		
D5	When, if ever was the last time you had penile-vaginal intercourse with someone? That is, a penis inserted into a vagina.	Never		

The next four questions ask about sexual practices related to the **anus** (rectum or back passage).

D6	When, if ever, was the last time you had receptive penileanal intercourse with someone? That is, having a penis inserted into your anus (rectum or back passage).	Never	
D7check: Did you respond "male" or "another term" at A1 (regarding your sex at birth)?		Yes, I responded "male" or "another term" at A1. No, I responded "female" or chose not to say in regards to A1.	Continue to question D7 Go to question D8

Item no.	Item	Coding categories	Skip	Notes
D7	When, if ever, was the last time you had insertive penileanal intercourse with someone? That is, inserting your penis into another person's anus (rectum or back passage).	I do not have a penis 1 Never		
D8	When, if ever, was the last time someone anally stimulated you? That is, touching or inserting something other than a penis into your anus (rectum or back passage). This can include fingers, hands, mouth, dildo or other sexual aids.	Never		
D9	When, if ever, was the last time you anally stimulated someone? That is, touching or inserting something other than a penis into their anus (rectum or back passage). This can include fingers, hands, mouth, dildo or other sexual aids.	Never		

Item	Item	Coding categories	Skip	Notes
no.	iteiii	County Categories	экір	Notes

The next three questions ask about sexual practices related to the **genital area**.

D10	When, if ever, was the last time you stimulated someone's genital area using fingers, hands or other objects? That is, petting/fondling, fingering, hand job, or using other sexual aids.	Never	
D11	When, if ever, was the last time someone stimulated your genital area using fingers, hands, or other objects? That is, petting/ fondling, fingering, hand job or using other sexual aids.	Never	
D12	When, if ever, was the last time you rubbed your genitals directly against the genitals of someone?	Never	
D13	When, if ever, did you last masturbate, that is, arouse and pleasure yourself sexually?	Never	

Item no.	Item	Coding categories	Skip	Notes	
D14check: Check your response to C9 . Did you indicate that you have had sex with 1 person or more in the last 12 months?		Yes, I indicated at C9 that I have had sex with at least 1 person in the last 12 months. — No, I indicated at C9 that I have not had sex with anyone in the last 12 months or preferred not to answer. —	Continue to D14 Go to D21		
D14	Which statement applies best to you the most recent time you had sex? That is, the most recent time you had any sexual contact involving the genitals with another person. That may include oral sex, vaginal sex, anal sex, petting/fondling, rubbing genitals, etc.	I wanted it			

The next set of questions are about the most recent time you had consensual sex, meaning the most recent time you had any consensual sexual contact involving the genitals with another person. This may include oral sex, vaginal sex, anal sex, petting/fondling or rubbing genitals. Remember that you can skip any questions you feel uncomfortable answering.

D14.1	If you cannot remember the most recent time you had consensual sex or you have not had consensual sex, you do not need to proceed with this section. Are you willing to proceed with the set of questions about your most recent consensual sex?	Yes	➤ Continue to D15 ➤ Go to D21	
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Item no.	Item	Coding categories	Skip	Notes
D15	Which one of these descriptions applies best to you and that person at the time you most recently had sex? Only give one answer.	We were living together as a couple / married at the time		Programmer note: If the response is "something else" a new free text response (new variable) would automatically appear to record the answer.
D16	The most recent time you had sex, how old was the person you had sex with? Please write the age in years and estimate if you do not know exactly. (If you don't know, write 999. If you prefer not to say, write 888.)	Years	to D16.1	
D16.1	Was the person you had sex with older than you, younger than you, or about the same age as you?	Older than me	Go to D16.2 Go to D17check	
D16.2	By how many years?	1–2 years		

Item no.	Item	Coding categories	Skip	Notes
D17Check: Check your response to C1. Did you select response 2 (sexual experiences with only males), 6 (sexual experiences with only females) or 7 (sexual experiences with only another term)?		Yes, I responded 2, 6 or 7 at C1. — No, I responded with one or more of the other options at C1.	→ Go to D18 → Continue wi	th D17
D17	The most recent time you had sex, was the person you had sex with:	Male 1 Female 2 Another term 3 Term that best describes them: (please specify) Don't know 999 Prefer not to say 888		Programmer note: Programmer note: If the response is "another term" a new free text response (new variable) would automatically appear for the participant to specify the term.

Item no.	Item	Coding categories	Skip	Notes
D18	The most recent time you had sex with this person, which of the following did you do? (Choose all that apply).	You performed oral sex on them. That is, your mouth on their genital area 1 They performed oral sex on you. That is, their mouth on your genital area 2 You had penile-vaginal intercourse. That is, a penis inserted into a vagina 3 You had receptive penile-anal intercourse. That is, having a penis inserted into your anus (rectum or back passage) 4 You had insertive penile-anal intercourse. That is, inserting your penis into another person's anus (rectum or back passage) 5 They stimulated your anus or inserted something into your anus that is NOT a penis, but includes fingers, mouth, hands, dildo or other sexual aids 6 You stimulated their anus or inserted something into their anus that is NOT a penis, but includes fingers, mouth, hands, dildo or other sexual aids 7 You stimulated their genital area, using fingers, hands or other objects. That is, petting/fondling, fingering, hand job or using other sexual aids 8 They stimulated your genital area using fingers, hands or other objects. That is, petting/fondling, fingering, hand job or using other sexual aids 9 You both rubbed your genital area using fingering, hand job or using other sexual aids		Programmer note: If the electronic data capture system allows, only the practices that the participant previously reported ever having done (in items D3–D13) should appear as response options in D18. If not, all response options can appear, as in the REDCap and XLSForm versions that have been made available. Translation/Adaptation note: If sites believe that capturing what the "other" response option is, you will need to add a new variable D18other that allows for free text entry to record the other sexual contact not listed above.

Item no.	ltem	Coding categories	Skip	Notes
D19	What, if any, precautions against pregnancy or HIV/ STIs did either of you take, the most recent time you had sex? (Choose all that apply).	No precautions		Programmer note: If the response is "other method of protection" a new free text response (new variable) would automatically appear to record the answer.
D20	How pleasurable did you find the most recent time you had sex?	Very pleasurable 1 Pleasurable 2 Neutral 3 Unpleasurable 4 Very unpleasurable 5 Prefer not to say 888		
D21	In general, how satisfied have you been with your sex life in the last year ? Please answer, even if you haven't had sex, or haven't had sex in the last year.	Very satisfied 1 Satisfied 2 Neutral 3 Dissatisfied 4 Very dissatisfied 5 Prefer not to say 888	Proceed to Module E	

E. Social perceptions/beliefs [SELF-ADMINISTERED]

[TEXT FOR PARTICIPANT TO READ]

In this next section, you will be asked about your personal beliefs on issues related to sex and sexual and reproductive health. For some people, these beliefs differ when talking about women versus men. Therefore, certain questions ask about beliefs about women and men separately.

You may not see yourself or your experience reflected in every question, but we still want your opinion. There are no right or wrong answers.

For the first few questions, you will see a statement and be asked to indicate whether you:

Strongly agree

Agree

Disagree

Strongly disagree

Prefer not to say

Item no.	Item	Coding categories	Skip	Notes	
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Translation/Adaptation note: This module includes questions about personal beliefs related to sexual behaviours and needs of "men" and "women", that may reflect common beliefs held in broader society. In some settings researchers may add specifications (e.g., questions about the needs of "cisgender women" and/or "transgender women"). Researchers may also incorporate additional questions that respond to beliefs commonly held in their specific setting.

E1	A woman has the right to say "no" to sex if she does not want it.	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Prefer not to say 888	
E2	A man has the right to say "no" to sex if he does not want it.	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Prefer not to say 888	
E3	It is okay for a woman to have sex before marriage.	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Prefer not to say 888	Translation/Adaptation note: "Okay" is meant to indicate "alright" or "personally acceptable".

Item no.	Item	Coding categories	Skip	Notes
E4	It is okay for a man to have sex before marriage.	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Prefer not to say 888		Translation/Adaptation note: "Okay" is meant to indicate "alright" or "personally acceptable".
E5	In my opinion, pleasure is important for women during sex.	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Prefer not to say 888		
E6	In my opinion, pleasure is important for men during sex.	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Prefer not to say 888		
E7	It is okay for someone to use a contraceptive method/family planning to avoid or delay pregnancy.	Strongly agree 1 Agree 2 Disagree 3 Strongly disagree 4 Prefer not to say 888		Translation/Adaptation note: When this item was cognitively tested, some participants disagreed out of concerns about side effects from certain methods, rather than disagreement on use of contraception to prevent pregnancy. Translation/Adaptation note: "Okay" is meant to indicate "alright" or "personally acceptable".

Item no.	Item	Coding categories	Skip	Notes
E8	Which of these statements is closest to your personal view?	Young people start having sex earlier if they are taught sex education in school 1 Teaching sex education in school does not lead to young people having sex earlier 2 Prefer not to say 888		Translation/Adaptation note: "Sex education" refers to "comprehensive sexuality education" (CSE) which may also be called life skills, family life education or a variety of other names. CSE programmes should be based on an established curriculum; scientifically accurate; tailored for different ages; and comprehensive, meaning they cover a range of topics on sexuality and sexual and reproductive health, throughout childhood and adolescence. Please use the locally appropriate term.
E9	Which of these statements is closest to your personal view?	Sex between two consenting adult women is wrong 1 Sex between two consenting adult women is okay 2 Prefer not to say 888		Translation/Adaptation note: "Okay" is meant to indicate "alright" or "personally acceptable".
E10	Which of these statements is closest to your personal view?	Sex between two consenting adult men is wrong		Translation/Adaptation note: "Okay" is meant to indicate "alright" or "personally acceptable".
E11	Which of these statements is closest to your personal view?	Men naturally have more sexual needs than women 1 Women naturally have more sexual needs than men 2 I don't agree with either of the above statements 3 Prefer not to say		

Item no.	Item	Coding categories	Skip	Notes
E12	Which of these statements is closest to your personal view?	It is okay for someone to have an abortion/terminate a pregnancy for any reason if they want to		Translation/Adaptation note: "Okay" is meant to indicate "alright" or "personally acceptable".
E13	Who do you think should make the final decision whether someone has an abortion/ terminates a pregnancy?	The pregnant woman 1 Their spouse or partner 2 The pregnant woman and their spouse/partner together 3 Other people	Proceed to Module F	Translation/Adaptation note: In certain contexts, it may be appropriate to replace "pregnant woman" in response options 1 and 3, with "pregnant person" as an option, or to use both terms together (e.g., "pregnant woman/pregnant person"). Programmer note: If the response is "other people" a new free text response (new variable) would automatically appear for the participant to specify the answer.

F. Sociodemographics [SELF-ADMINISTERED]

[TEXT FOR THE PARTICIPANT TO READ]

Finally, we would like you to answer a few questions about **yourself and your daily life**.

Item no.	Item	Coding categories	Skip	Notes
F1	What is your marital status?	Never married		Translation/Adaptation note: In some countries, there are official or legal registrations of relationships other than marriage. Legal civil designations other than marriage can be included in this item, if appropriate and applicable for the setting.
F2	Education	<response determined="" locally="" options=""> Prefer not to say</response>		Translation/Adaptation note: Make use of an existing measure to assess educational attainment that is commonly used in your context.
F3	Which best describes your employment?	<response determined="" locally="" options=""> Prefer not to say</response>		Translation/Adaptation note: Make use of an existing measure to assess employment status that is commonly used in your context.
F4	How often does your household not have enough resources to obtain what it needs to live day to day?	Every day		
F5	To which of the following ethnic groups do you consider you belong?	<response determined="" locally="" options=""> Prefer not to say</response>		Translation/Adaptation note: Make use of an existing measure to assess ethnicity that is commonly used in your context.
F6	What is your current religion?	<response determined="" locally="" options=""> Prefer not to say</response>		Translation/Adaptation note: Make use of an existing measure to assess religious affiliation that is commonly used in your context.

Item no.	Item	Coding categories	Skip	Notes
F6.1	How important are religion and religious views to you now?	Not important at all		

Thank you for completing the survey. This is the end. Please return the device to the interviewer. Please feel free to let the interviewer know if you have any questions, or if there is additional information or resources you would like.

Translation/Adaptation

note: A site-specific end script should be put here thanking the participant for coming, letting them ask questions, and offering additional specific information about services or (where necessary) providing referrals.

Annex 2. Instructions on how to read the SHAPE Questionnaire

The way the questionnaire has been written reflects the intended use and survey modality as described in <u>section 3</u>. Therefore any variations in these (including whether particular modules are administered by the interviewers or by the respondents themselves) will require adaptation of this questionnaire. This annex provides instructions on how to read this questionnaire, by showing two sample sections from the questionnaire with numbered annotations below them.

Fig. A2.1 Sample section of the questionnaire showing the start of Module F

- 1 F. Sociodemographics [SELF-ADMINISTERED]
- [TEXT FOR THE PARTICIPANT TO READ]
 Finally, we would like you to answer a few questions about yourself and your daily life.

3	Item no.	4 Item	5 Coding categories	Skip	6 Notes
	F1	What is your marital status?	Never married		Translation/Adaptation note: In some countries, there are official or legal registrations of relationships other than marriage. Legal civil designations other than marriage can be included in this item, if appropriate and applicable for the setting.
	F2	Education	<response determined="" locally="" options=""> 7 Prefer not to say</response>		Translation/Adaptation note: Make use of an existing measure to assess educational attainment that is commonly used in your context.
	F3	Which best describes your	<response determined="" locally="" options=""></response>		Translation/Adaptation note: Make use of existing

- 1. Module title, with indication of whether it is intended to be administered by an interviewer or by the respondent (self-administered).
- 2. Preambles in boxes to introduce modules and specific questions. Orange text indicates whether an interviewer would read the preamble aloud to the respondent or the respondent would read this on their own.
- 3. "Item number" is shown in the first column of the table and this is the identifier for each question/measure.

- 4. The "Item" column presents the question posed to the respondent. In interviewer-administered modules, some items may include an additional note for the interviewer, to assist them during data collection (e.g., a reminder to confirm with the respondent their age at the end of a pregnancy).
- 5. "Coding categories" are the response options for each question, presenting numbers that correspond to how each response should be coded. Throughout the instrument, 999 corresponds to "Don't know", while 888 corresponds to "Prefer not to say". In interviewer-administered modules, the placement of a question mark after a response option indicates that the interviewer should read aloud both the question and all the response options before the question mark.
- 6. The column for "Notes" is where "translation/adaptation notes" and "programmer notes" are provided. The former provide additional clarity to researchers adapting the questionnaire to their setting. The latter are intended to assist those responsible for programming the questionnaire into an electronic data-capture program.
- 7. For certain items, cells have been left entirely open for local adaptation. In the case of some items (specifically C2.1, F2, F3, F5 and F6), this is to ensure that measures used reflect those already used in the setting (e.g., response options used to capture education levels/types in item F2). In the case of preambles to modules or questions (specifically, for items C3, D14 and D15), this is to allow for the use of local terms for certain practices, which may be more easily recognized by respondents. Research teams should review these carefully and insert appropriate measures and terms before administering the questionnaire.

This questionnaire is intended to be implemented with the assistance of an electronic data-capture form (see <u>Annex 3</u>). This reduces cognitive load on both interviewers and respondents by removing responsibility for following skip logic. As such, the grey rows and "skip" notes should be carefully reviewed by those individuals who are programming the questionnaire.

Item Item **Coding categories** Skip Notes no. D17Check: Check your Yes, I responded 2, 6 or 7 ➤ Go to D18 to guestion C1. response to C1. Did you select response 2 No, I responded with (sexual experiences with one or more of the other only males), 6 (sexual options to C1. -Continue with D17 experiences with only females) or 7 (sexual experiences with only another term)? D17 The most recent **Programmer note:** Male 1

Fig. A2.2 Sample section of the questionnaire showing a grey row and a "skip" note

- 8. Grey rows are alerts to "check" on a response to a previous question which will inform how to proceed through the subsequent questions.
- 9. "Skip" notes indicate where certain response options would send a respondent to a different set of questions (i.e., skipping the next question or questions).

Programmer note: If the

time you had sex,

Fomalo

Annex 3. Using electronic datacapture forms to administer the SHAPE Questionnaire

The SHAPE Questionnaire <u>has been made available</u> on two electronic data-capture forms: REDCap and XLSForm. These forms provide a template for those wishing to administer the questionnaire, using a combination of computer-assisted personal interviewing (CAPI) and computer-assisted self-interviewing (CASI).

Teams can further adapt these REDCap and XLSForm templates for the setting in which they intend to administer the questionnaire. If the researchers already have access to other electronic data-capture systems, the REDCap and XLSForm templates can be referenced for their branching logic. Based on differing system capabilities of REDCap and XLSForm, minor differences in the questionnaire appearance and user experience exist between the two templates. These do not alter the content or flow of the questionnaire or the data collected.

No restrictions, constraints or response requirements have been programmed into the REDCap or XLSForm templates. Teams may consider adding constraints and requirements to various questions if they deem it appropriate. For example, questions A1 and C1 are key to determining the flow of various modules and questions for an individual respondent, so a team may wish to make it a requirement to enter a response for these questions.

Annex 4. Example distress protocol

This annex presents an example "skeleton framework" for a possible distress protocol, adapted from other training materials.⁴ This framework presents the minimum response that would be expected – many research institutions and ethics review committees require additional procedures. Distress protocols can be developed through discussion with research teams and local support services, and with inputs from ethics review committees. All data collectors should be familiarized with distress protocols during training.

Distress protocol

This questionnaire addresses topics that are personal and very sensitive, which may cause emotional distress for some respondents.

If a respondent shows signs of emotional distress, such as crying, please follow this protocol.



After the

interview

- Offer to STOP the interview.
- Offer immediate support and/or offer to take a break.
- Assess the participant by asking supportive questions, such as:
 - Would you like to tell me what you are feeling?
 - ▶ Would you like to tell me what thoughts you are having?
 - ▶ Do you feel able to go on with the interview?
 - ▶ Do you feel safe?
- If the participant feels able to carry on, resume the interview.
- If the participant is unable to carry on, go to stage 2.
- Discontinue the interview.
- Ask the participant if they would like the interviewer to contact a family member, caregiver or other trusted individual.
- Ask the participant if they would like the interviewer to contact a member of their usual health care team, such as a doctor or mental health professional.
- Remind the participant of the list of local services and contact numbers (provided during the consent process) and encourage the participant to utilize these services if they experience distress after the interview.
- If the participant consents, the interviewer will contact the participant or a family member to check on the well-being of the participant. The participant and interviewer will agree on a follow-up plan, and it will only be enacted with the consent of the participant.
- The interviewer will notify their field supervisor or principal investigator (PI) of the
 participant's distress during the interview, the agreed upon follow-up plan, and
 the outcome of follow-up actions. (Note: Include contact details here in the distress
 protocol for the supervisor or PI who should be contacted.)

Draucker CB, Martsolf DS, Poole C. Developing distress protocols for research on sensitive topics. Arch Psychiatr Nurs. 2009;23(5):343-50. doi:10.1016/j.apnu.2008.10.008.

Ritchie T, Purcell T, Westhead S, et al. Enablers and barriers to primary healthcare for Aboriginal and Torres Strait Islander adolescents: study protocol for participatory mixed-methods research that builds on WHO global standards BMJ Open 2021;11:e046459. doi:10.1136/bmjopen-2020-046459.

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