OPA EVALUATION TA

Designing Surveys Tip Sheet

For grantees providing Teen Pregnancy Prevention (TPP) services or delivering programs, surveys are a common tool for understanding how participants experience that service or program. Even in our daily lives, people and organizations ask us regularly about our experience with services and products, our opinions about key issues, and our thoughts about our own behaviors or the behaviors of others. As a result, surveys appear to be a simple tool for gathering information; however, constructing a high-quality survey can be complex. This tip sheet guides grantees of the Office of Population Affairs' TPP Program through the process of designing survey instruments to support the aims of their program evaluations.

Let the program logic model guide your work

A program logic model is an important foundation on which to design your survey or outcome questionnaire. It serves as a blueprint that links services or program activities to key evaluation questions you want to answer. The decision to use a survey versus another tool for data collection depends on the aims of your evaluation. You can use surveys to understand the attitudes, behaviors, or characteristics of a population or a subset of the population. You can also include outcome questionnaires in your surveys to help you assess the effect of your program on the people you serve. Such questionnaires are based on the outcome goals or indicators outlined in your program logic model. The remainder of this document will walk you through the following seven steps in designing a survey:

Identify your research questions

These help you determine what you want to know about your services, the people you serve, or the people you are hoping to serve. You might have one or more research questions. If your questions are about specific services and the people involved in those services, then your research questions typically link to the outcomes you want to see in the program. This means you should carefully consider the outcomes you reasonably expect to see as a result of the program.

Determine the constructs

Ask yourself, what are the constructs you will need to measure to answer these questions? A construct is a concept, theme, or subject that your survey aims to examine and includes variables that are measurable. Constructs are typically related to your anticipated program outcomes and measure behaviors, intentions, knowledge, or attitudes. A construct might only need to measure one or a few questions. Or, a construct might be complex and require a whole battery of questions to fully measure, including antecedent variables that help explain the relationship between two variables you are studying. A survey might contain one or more constructs.

Table 1. Examples of research questions and survey constructs

Research question	Survey constructs
Does TPP improve student knowledge of healthy relationships?	• Relationship expectations • Social support for relationships • Healthy relationship self-efficacy
Does TPP have a positive effect on youth sexual interactions?	• Attitudes about sexual interactions • Self-efficacy for sexual risk behaviors • Sexual interaction experiences

Confirm design decisions

Determine what else you need to know about the study population and the best way to obtain the survey information. Before you start drafting your questions, consider the following design decisions:

Who is the key audience for your survey? The answer to this question depends on who you think can provide the best information for your research questions. Sometimes the survey respondents might be the people you are directly working with, such as youth in the program. However, in other instances, you might want information from someone close to the people you are working with, such as a parent or a teacher of youth in the program.

You will want to consider the following factors:

- Whose perspective you are trying to obtain
- The nature of the information you are trying to collect and whether it is sensitive
- The ability of the potential respondents to answer your questions
- The physical and psychological burden to potential respondents

When is the best time to collect this information? Does it include a follow-up period?

The best time to collect this information depends on the type of survey design you are using and when you want the information. As noted in the callout box, for a cross-sectional survey that you conduct at one point in time, you might administer it on its own and may (or may not) connect it to a specific program activity. Conversely, a longitudinal survey that is looking at potential changes over time often connects to a specific program activity When considering longitudinal follow-up periods, focus on when you realistically expect to see changes. Changes often depend on the purpose of the program. For example, if the program involves delivering an educational curriculum, you might want to measure changes after completing the curriculum. However, if the program involves a longer service intervention, you might want to measure changes as a person engages in the intervention over time (for example, at 3 months, 6 months, 12 months, 18 months, program completion).

There are two main types of survey designs (Creswell, 2015):

- A **cross-sectional survey design** collects data at one point in time. *Example: At the end of an education program, youth complete a survey about their experience in the program.*
- A **longitudinal survey design** collects data over time and may include two or more data collection time points. *Example: Parenting youth are involved in a program that provides case management, home visits, and pregnancy education to prevent rapid repeat pregnancy. The youth complete the same set of questionnaires related to these activities at the start of the program and at 12 and 24 months after they enroll in the program.*

What additional information will provide context to the survey results? Consider what other information will tell you more about the people or families your program serves. This includes information that will give you important insights into whether there are differences among certain groups

- Demographic information about each survey respondent can provide important information about the responses provided and can allow you to make comparisons among demographic groups. If the survey respondent is answering questions about another person, you may also want to ask for demographic information about the person they are responding about. Some examples of pertinent demographic variables in TPP include:
  - Age
  - Race
  - Ethnicity
  - Biological sex
  - Sexual orientation
  - Education level
  - Income level
  - Pregnant or parenting status
- Program information might also help contextualize survey results, but this may or may not be part of the survey. Pertinent program information might include length of program involvement, program completion, participant satisfaction with programming, and other participant milestones that a specific program has identified. However, it is important to always consider if a survey is the most accurate source for any measure. For example, program facilitators might be a more accurate source of information on program exposure because they take attendance after each session.

What is the best mode for administering the survey? You can administer surveys by telephone, in person via paper and pencil, in person via electronic device, or online (see *Online Survey Data Collection Tip Sheet, 2021* for detailed information on online surveys). The administration mode depends on the type of respondent and the nature of the questions. In general, it is good practice to ensure respondents can complete a survey in a way that protects their privacy so that others cannot view their responses.

However, if the survey contains sensitive items, you should especially consider a self-administered mode for more accurate responses. You may also consider other factors that could affect a person's ability to respond to the survey, such as intellectual and developmental disabilities, access to electronic devices, and the length of the survey.

Develop the survey questions to measure your constructs

Now that you have completed these preliminary steps, it is time to start developing your survey questions.

Determine the format and type of questions

Survey questions have different purposes, and the format you decide to use depends on the information you are trying to collect. Understanding a few of the most common question types can help with designing a survey or with selecting an existing survey to answer your research questions or measure your program outcomes. Surveys can include a single type of question throughout or use a mix of question types

- **Closed-ended questions.** Questions for which respondents receive possible answer options.
- **Open-ended questions.** Questions that allow respondents to give a response in their own words.
- **Multiple-choice questions.** Closed-ended questions that provide specific response categories for respondents to choose from. The categories are not associated with a numeric value, and you determine whether respondents can select only one or more than one response.
- **Likert scale questions.** Closed-ended questions that help you measure perceptions and opinions through response categories that are associated with a numeric value. Scales might apply to a single question, or you can scale an entire survey to provide a total score or subscale scores for each respondent. Some surveys and questionnaires have a mix of both.
- **Rating scale questions.** Closed-ended questions that provide a numeric range that respondents can select to represent their response.

General tips for survey questions

1. When using multiple-choice questions, instruct respondents on whether they can select only one response or more than one response. If you are conducting the survey online, be sure to select a format that matches the number of selections you want respondents to have.
2. Limit your use of "Other" as a category. Respondents may default to Other even when a provided category will fit with their response. If you do include an "Other" category, ask respondents to specify their response and provide space for them to do so.
3. When using Likert scale questions, include at least three response options but consider including five. There are different opinions on whether to include a neutral option because respondents might default to the neutral option rather than commit to specific perception or opinion.
4. Avoid too many open-ended questions. Respondents will tire of answering these questions, and you might not get the data you need. Open-ended questions also take more time to code and analyze.
5. Be clear what time period you want respondents to consider for their responses and try to keep it consistent. You can note the time period in the overall survey instructions or in each question. People's memories can fade or become distorted over time, so avoid asking participants to consider long time periods.

Survey tip:

Good survey design includes careful consideration of question order using a few general rules:

- ✓ *Start with general or easy questions to ease respondents into the survey and to reduce the potential for partial completes.*
- ✓ *Place sensitive topics and questions in the middle of the survey to ease the transition into and out of these items.*
- ✓ *Include demographic questions at the end of the survey because respondents are more likely to feel comfortable responding to these after they have seen your main questions.*

Specific tips for questions on sexual behavior

1. Clearly define sex. In some cases, you might be asking about any type of sexual activity or sex practices youth are engaging in. In other cases, you might be asking about a specific activity.
2. Clearly identify body parts if asking about a specific activity. Do not assume respondents use the same terms as you for different sexual activities.
3. Make sure your questions are free from judgment. Test your questions with others to ensure the wording does not appear to have a right or wrong answer, which can lead to social desirability bias.
4. Consider the potential effects of trauma and how these might affect a respondent's ability to answer the questions. You may want to distinguish between sexual practices that are consensual (wanted) versus nonconsensual (not wanted).

Survey question resources

- Youth Risk Behavior Surveillance System questionnaires
- Centers for Disease Control and Prevention (CDC) Q-Bank - Question Evaluation Research for Surveys
- Office of Planning, Research, and Evaluation Healthy Marriage and Relationship Education outcome domains and item bank
- National Longitudinal Survey of Youth questionnaires

Finding an established or previously used measure

Before designing your survey, it is good to see if an existing survey or questionnaire is available and will meet the needs of your program. Even if an entire survey or questionnaire does not match what you need, certain questions might be useful. This can save you a considerable amount of time. However, not all surveys or questionnaires are high quality. The following tips highlight just a few considerations if you are using an established or previously used measure.

- ✓ **Look into the recent work within the TPP field first.** Consult with colleagues, other grantees, or your technical assistance liaison to see if they know of specific tools or resources already available.
- ✓ **Check for published reliability and validity statistics.** Reliability refers to the consistency of the questionnaire across questions, across respondents, and over time (if applicable). Validity refers to whether the questionnaire is measuring what you expect it to measure; there are many types of validity to examine. Published statistics should talk about these and discuss what their reliability and validity results mean. You should also review whether other researchers used the questionnaire with a study population similar to yours.
- ✓ **If your program has already used the measure, review the data.** Review your own data and calculate your own reliability statistics. In general, an acceptable reliability coefficient is .7–.79, and a fair or good reliability coefficient is .8 or higher. However, you should also interpret the relational strength or magnitude conveyed through the reliability coefficient within the context of statistical significance to ensure that the results are not just due to chance. A p-value of .05 or less typically indicates statistical significance and when combined with a reliability coefficient of .7 or higher should indicate that the measure is reliable.
- ✓ **Obtain permission to use the questionnaire or specific items.** Existing questionnaires often include the authors' contact information, so you can reach out to them directly to obtain permission. You should also check whether there is a cost to use the questionnaire if the questionnaire or website does not explicitly note this.

Draft your survey

1. **Insert transitions to help respondents focus on sets of similar questions.** Transitions may occur naturally when you order survey questions to flow from topic to topic. However, the survey might also need transition statements to help respondents understand they are moving to a new question block and that the next questions focus on a specific topic. Transition statements can also be a useful way to define items that respondents might interpret differently.

   Examples:

   - The next few questions ask for your thoughts about relationships with romantic partners, such as a boyfriend or girlfriend.
   - These next questions are about sexual activity. By sexual activity, we mean vaginal, oral, or anal sex.

2. **Limit the different time periods referenced in the survey.** Switching time periods too frequently might confuse respondents. They also might not notice this subtle change, which will affect the quality of the data you collect. Insert transition statements between sections that reference different time periods to help orient respondents to a new time period.

   Examples:

   - Now we want you to think about the past three months.
   - In the next set of questions, we want you to think about your sexual activity in the past three months.

3. **Consider whether some question items only apply to certain respondents.** For example, you may have questions specifically for youth in relationships, but not all of your youth respondents will be in a relationship. If some questions only apply to certain respondents, you must be very clear about what questions respon- dents should skip and who should skip them. This is called "skip logic." You can program skip logic into an online survey, making it easy for respondents to move past questions that do not apply to them. For skip logic in a paper-and-pencil survey, be sure to mark it very clearly (for example, using bold text, arrows, larger or all-caps font) so that people do not complete the wrong questions.

4. **Consider the best format for displaying the questions.** Consider displaying sets of similar questions with similar responses options in a table for better readability and to reduce the overall survey length. However, for questions that have different response options, displaying them on a separate line or page within an online survey might work better.

5. **Create a crosswalk that maps the final survey measures to program outcomes.** The crosswalk should also include how those outcomes relate to your research questions so you can be sure that you are not missing anything in the survey. Update this crosswalk after the pilot (discussed in the next step) and before you begin using the survey.

6. **Aim to keep the survey as short as possible.** The longer the survey is, the greater the concern about reduced data quality due to respondent fatigue. Reduced data quality may mean high levels of missing data or respondents not providing honest answers to the questions. The environment in which you are administering the survey may also not be conducive to a long survey, for example, a classroom with limited time available for extra activities.

Survey tip:

Skip logic may cause the length of the survey to be different across groups of respondents. If you have large sections that apply to only one group of respondents, consider how this difference might affect privacy and inadvertently show which group respondents belong in. For example, a survey that you administer in a classroom and asks youth who are sexually active to respond to an additional lengthy set of questions can cause those youth to complete the survey later than their peers and make it obvious which youth are sexually active. You can prevent this by including additional items for nonsexually active youth to make sure the length is about the same.

Pilot testing

Pilot testing can help ensure your survey is collecting high-quality data. These steps will help you review and finalize your survey.

- **Plan for multiple rounds of pilot testing.** Read through the survey with a critical lens, then have a colleague read it and provide feedback. Next, pilot test the survey with youth or others who are similar to your respondent group. One way to conduct a pilot test is through a debriefing questionnaire. Administered at the end of the survey being tested, the debriefing form seeks participant feedback about words that are confusing, response choices that are unclear, understanding of definitions, items that might be too sensitive, and the overall flow of the survey. It also allows you to review preliminary data. Take note of any "floor" or "ceiling" effects, which means everyone agreed or disagreed, or everyone answered all of the knowledge questions correctly. This might be a sign that you will have difficulty assessing change if that is what your survey aims to do. The pilot test can also confirm whether the survey timing is what you expected.

- **Get buy-in from schools.** You will want to carefully consider the population and the community where you are administering the survey, especially when your survey has sensitive items such as asking about sexual behaviors or substance use. After you finalize your survey, share the questions you plan to use with schools to get feedback. You will also want to include a parent consent form that describes the topics covered in the survey so that the process is transparent. You can also provide schools with a copy of the survey to keep on-site that parents can review in advance.

Survey tip:

See the list of survey design resources at the end of this tip sheet for resources that go into more detail about rigorous testing of surveys and outcomes questionnaires.

Review preliminary data

It is important to begin reviewing your data as soon as you start fielding the survey. This will allow you to see levels of missing data, questions that might be confusing to respondents, and problems in your skip logic. It can also help you identify issues with response rates and whether you need new strategies for ensuring respondents complete the survey. You should continue to review your data throughout the entire data collection period.

Survey design resources

The information in this tip sheet introduces the foundations of survey design, but there are several other considerations in survey research. The following resources provide additional information about design issues, sampling, respondent bias, and psychometric measurement in survey research.

Creswell, J. (2015). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (5th ed.). Pearson.

Furr, R. M., & Bacharach, V. R. (2014). *Psychometrics: An introduction* (2nd ed.). Sage.

Lavrakas, P. J. (Ed.). (2008). *Encyclopedia of survey research methods*. Sage. https://methods.sagepub.com/reference/encyclopedia-of-survey-research-methods

Suggested citation