

A Primer for Survey Research in Family Medicine

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Purpose

The purpose of this document is to assist those interested in Family Medicine research at Western University in making key decisions before initiating survey research. It is not meant to be a comprehensive guide around the topic, rather a primer to introduce resources and explore big issues in survey research when time is a challenge in completing the work. If you have any questions or concerns with the content or have a suggestion for this document, please email us!

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What is a survey?

A survey is a method of collecting data on a specific topic from a population of interest. Surveys are one of many methods to gather evidence, possibly based on perceptions, knowledge, beliefs, attitudes, and behaviours. Surveys can be used as sole outcome measure within a study or can complement other instruments. They are often used when a researcher wants to move from observation to theory validation.

When is survey research appropriate?

Researchers use survey research for exploration, description, or for explanation. Further, it is often used when a researcher is interested in relationships between context and the topic of interest to explore relationships in the data. Some researchers use survey research to broaden any quantitative results they already have, using a mixed methods design. Other researchers might ask open ended questions and use surveys for qualitative research to find themes in data. If a construct is not well known or documented in the literature or a subgroup has limited information, it might be more appropriate to use qualitative methods of focus groups or in-depth interviews to really delve into the issue. It might not be appropriate at this point to use a survey. If strong evidence is required, methods of experimental design likely will produce more robust/accurate results.

What are the strengths of surveys?

Surveys can be easy to administer and quantify. Much data can be collected in a short amount of time. Relationships between constructs can be explored. Surveys can easily be reused over time and between groups. They can complement data you've collected and confirm findings.

What are the weaknesses of surveys?

Good surveys are very time-consuming to develop. There are many steps involved in developing a survey. Surveys can be biased as they are subjective, with the person being surveyed giving a glimpse into that particular time and place. They might be context specific. They do not provide strong evidence as an experiment could. There also is a limitation in terms of the type and scope of questions. A survey might not capture the "deeper meaning" of a topic.

Should I develop my own survey or find an already validated survey?

As Field (2005) in his research methods chapter on questionnaire design states:

“As a rule of thumb, never attempt to design a questionnaire! A questionnaire is very easy to design, but a *good* questionnaire is virtually impossible to design. The point is that it takes a long time to construct a questionnaire with no guarantees that the end result will be of any use to anyone.” (p.1)

Survey methodology has been overused inappropriately at times as it is seen as a “quick fix” to get information. **Worthwhile data are only produced from a carefully designed or selected survey.** If you want to create a survey, you will need to go through the steps of survey development. If you are interested in collecting responses from your population of interest for your Resident Project, you will need to find an existing survey to carry out data collection. Review the below information for instruction on each project purpose. It is important to judge the rigour of any survey you create or use by using the best practices developed by groups such as the American Association for Public Opinion Research (AAPOR).

Finding a survey to use

It is always recommended that if the purpose of your study is to collect data to get an answer to your overall research question you need to find an existing survey. It may seem impossible to find a validated survey that relates to your project purpose, however, there are many many surveys that have been created and can be found using appropriate methods. There are many advantages to using an already published valid survey. Benefits include time, resources, accuracy, and the capacity to compare your results to other studies. There is no reason to “reinvent the wheel” if time is limited and stakes are high. However, it is extremely important to be aware of validity and reliability when selecting a survey. If a survey does not have this information or its’ metrics are poor, it might be advisable to look for other tools. Look at the following characteristics to help you choose your survey: Validity, reliability, use with population of interest, ease of use, date of publication, time to administer, cost, readability, and language.

How can I find a survey to use?

To find relevant surveys, immerse yourself in the literature of your topic of interest. Some search engines have options to select output articles of tools and instruments. There are many databases found on the internet that have listings of survey tools. Email or talk to subject experts in the field to get their ideas. You might need to make slight modifications to any survey you find in order for it to work in the context of your study.

Use the following resources to find your survey of interest:

1. Western Libraries

- a. Family Medicine program guide: <http://www.lib.uwo.ca/programs/familymedicine/>
 - *Try to use advanced search options and get relevant results. For instance, CINAHL (allied health) database you can limit your search to tools and instruments
 - *use relevant search terms such as ‘assessment’ ‘measur*’ ‘survey’
 - *Use the search term “appended” in order to find references that actually contain the instrument
 - *use MESH terms

- b. Psychology program guide: <http://www.lib.uwo.ca/programs/psychology/>
 - *Look under 'tests and instruments' tab.
 - *In particular, search PsycINFO database, HAPI, and ERIC database.
- c. Text books
 - * Fischer J, Corcoran K. Measures for clinical practice and research: a sourcebook. New York: Oxford ; Oxford University Press, 2007.
 - *Kane R L. Conducting health outcomes research. Kane RL, Radosevich DM.Sudbury, MA : Jones and Bartlett Publishers; c2011.
 - *Bowling A. Measuring health: a review of quality of life measurement scales. Maidenhead, Berkshire, England; New York : Open University Press; 2005.
 - *McDowell I, Measuring health: a guide to rating scales and questionnaires. New York : Oxford University Press; c2006.
 - *Miller Salkind 2002. Handbook of Research Design and Social Measurement

2. Test Review database:

Use the following resource to search for commercially available tests. The following website does not contain the actual tool but a review on it. If you find a relevant test go to the publisher's website. There is likely a cost associated if the tool is found on this website.

Mental Measurements Yearbook (MMY) [Internet]. Lincoln NE: University of Nebraska-Lincoln: 2013. Test Reviews Online. [about 1 screen]. Available from: <http://buros.unl.edu/buros/jsp/search.jsp>

3. Search Tips from the American Psychological Association:

American Psychological Association [Internet]. Washington, DC: American Psychological Association; 2013; FAQ/Finding Information About Psychological Tests; [cited 2013 Jan 11]; [about 3 screens]. Available from: <http://www.apa.org/science/programs/testing/find-tests.aspx>

If I find a good instrument online, can I use it?

Sometimes the survey you want to use might not quite accurately capture the concept you want to measure. Further, it might be inappropriate for use in your population. Make sure you have considered these factors.

You are responsible in ensuring you have permission to use the instrument. You need to contact the author and/or publisher. Describe how you will use the instrument. Authors and publishers need to know that you will use the tool competently and be able to interpret appropriately. If the material is copyrighted you will need to secure permission in writing and this letter is needed in order to get published. Usually contact information is provided in resources such as Mental Measurements Yearbook or searching an author's affiliated institution. Some tests might need to be purchased from the publisher. Whereas other authors wish for their tests to gain popularity through use in the field and will allow use.

Can I modify the survey I find or pick only the survey items I like?

Often, researchers will modify or adapt a survey to better fit their population, location, language, societal norms etc. For example "paper-based chart" might be updated with the term "electronic medical record" to ensure the survey is context-specific. These changes are often identified during pilot testing. The motivation for changes should be documented and described within a paper. Careful modification(s) to a survey does not guarantee validity/reliability in your sample population.

Developing a survey

Survey development is not an easy task and good surveys take months to years to develop. There is a very large body of science on questionnaire development. Quickly producing a set of questions without preparation or pre-testing and determining validity will result in poor results (you will not know if you are measuring what you THINK you are measuring) and therefore, an unpublishable study. Developing a new instrument to measure accurately and consistently thoughts, beliefs, behaviours, etc., is as complicated as developing a new instrument to measure accurately and consistently an enzyme, a hormone, blood sugar, etc. in the body.

If there is limited validated or poorly constructed surveys in the literature, it might be worthwhile to invest time and effort in creating it yourself. This process is a project in itself as it will take time to develop the survey using literature reviews, expert opinion, and survey best practices. Developing a survey requires thought into construct, content and criterion validity, reliability and discrimination, question format, order, response format, wording, time to completion, length, and statistical considerations. It will go through many rounds of quality checks and should be pre-tested to determine measures of reliability and validity.

Consult the following resources to find information on surveys. If necessary, ask the Resident Project Coordinator for help in finding these articles.

Fallowfield L. Questionnaire design. *Arch Dis Child*. 1995;72:76-79.

Field A. Project 3: Design a questionnaire [Internet]. UK: University of Sussex; 2005 Mar 14. Available from:

http://coe.georgiasouthern.edu/foundations/bwgriffin/edur9131/Andy_Field_research_project.pdf

Lydeard S. The questionnaire as a research tool. *Fam Pract*. 1991;8(1):84-91.

Rattray J, Jones MC. Essential elements of questionnaire design and development. *J Clin Nurs*. 2007 Apr 20;16:234-243.

Taylor-Powell E. *Questionnaire Design: Asking Questions with a Purpose*. University of Wisconsin Cooperative Extension. Pub. Number G5638-2. 1998. Madison, WI, USA.

American Association for Public Opinion Research (AAPOR) [Internet]. Deerfield, IL: American Association for Public Opinion Research; 2013: Available from:

<http://www.aapor.org/Home.htm>

Specific examples of survey/instrument design:

Chung KC, Pillsbury MS, Walters MR, Hayward RA. Reliability and validity testing of the Michigan Hand Outcomes Questionnaire. *J Hand Surg*. 1998 Apr 10;23A:575-587.

Wild DJ, Clayson DJ, Keating K, Gondek K. Validation of a patient-administered questionnaire to measure the activity impairment experienced by women with uncomplicated urinary tract infection: the Activity Impairment Assessment (AIA). *Health Qual Life Out*. 2005 Jul 15;3(42).