University of Minnesota

CYFC
Children, Youth & Family Consortium

Savvy Use of Research:

Tips for Policy Makers

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Being an informed consumer of research and determining when research findings are questionable and when they can be trusted is important for good policy-making. Policy decisions that are based on credible research provide accountability and improve outcomes. This brief offers tips to evaluate the credibility of research studies.

What Does the Term "Research" Mean?

"Research" is used broadly to refer to a variety of information gathering activities. Most commonly, it is used to refer to program evaluation research, theory testing research, and systematic information gathering about policies and programs. Whether the research is being conducted by a university, a community or a privately funded organization, there is a wide range of quality in the information generated by research.

Making Research Work for You

Research is an important tool because it allows us to: a) identify proven needs, b) create policies and programs that are based on effective strategies and c) assess the effectiveness of policies and programs.

Social science research has some unique characteristics. Human behavior is a changing, often unpredictable phenomenon that is more challenging to draw conclusions about than stationary, observable facts. For this reason, flexibility and adaptability of research designs to match the unique nature of the study are essential to yielding credible findings.

Different Types of Research Have Different Strengths and Uses

A key indicator of the quality of a research study--and subsequently the claims that can be based on it--is how the research study is designed. The research design is the way the study is structured to answer a question(s).

There are two broad types of research: quantitative research and qualitative research. Typically, *quantitative* research produces numeric data, while *qualitative* research produces descriptive or narrative data. Both qualitative and quantitative research methods are credible research methods *when used correctly and matched appropriately* to the questions the research seeks to answer.

Quantitative Research Designs

A number of quantitative study designs exist. One type, the *experimental design* (sometimes called a *controlled study*) is popular because it offers strong evidence about cause and effect. In an experimental design, researchers randomly assign individuals from the same population to two groups, a treatment group and a control group, and then compare the two groups on some outcome. Experimental studies are generally quite expensive and may be impractical to conduct. There may also be ethical issues that prevent using experimental design studies, such as assigning children to different research treatment groups to attain the control needed, when it significantly disadvantages one group of children over the other.

People sometimes refer to experimental design studies as the "gold standard" of all research. However, when studying human behavior, this type of study may or may not make sense, be practical or yield the most accurate results. If the study design does not match the study question--regardless of what design is used--the results won't be credible.

Quasi-experimental studies are another type of quantitative research design that is useful for measuring the effects of different programs and services on children, youth and families. Quasi-experimental studies do not use random assignment to create two separate groups to be studied. Instead, they find comparable groups of people to study the effects of different programs. These studies can find associations between a program and human outcomes, but they cannot be used to establish a relationship between cause and effect. For example, a quasi-experimental study may find that children who participated in an enrichment program had better social skills than those that did not, but it cannot prove that the program caused the increase in social skills (perhaps the children in the program had better social skills to begin with, and the program, therefore, had no effect).

In a *"pre-post" research design*, researchers measure an outcome(s) on the same group of people, both before an intervention is applied and then again after the intervention. This design attempts to determine what, if any, affect the intervention had on the study population. For this study design to produce credible results, it must include ways of assuring that any effect that is noted is a direct result of the intervention and would not have happened anyway.

Qualitative Research Designs

Qualitative research typically seeks to generate information about human experience, and reports data in words, rather than numbers. This may include descriptions, categories, or even numeric frequencies of concepts or words that emerge in the study (in a focus group, for example, how often was the phrase "improved behavior" used?). Qualitative studies often provide descriptive accounts of people's actions, behaviors, intentions or experiences in a place, a group, a program or a community. Such studies may also seek to understand people's interpretation of the changes or behaviors that occurred.

Data collection for qualitative studies may include interviews (group and/or individual), observation, review of written documentation or other methods. One of the advantages of qualitative research is that it can be approached without a predetermined belief or hypothesis about the outcomes. It generates information that describes, rather than predicts, behavior.

The benefit of narrative accounts (one type of qualitative reporting) is to raise awareness. It is important to note that qualitative designs are generally not used to draw conclusions about broader groups of people. Rather, when considering the value of narrative information, consider whether there is evidence that the data are "typical" of a larger group of people. Qualitative research can be used to help shape a hypothesis to guide quantitative research.

Understanding Research Designs

Research results are about the topic as it was measured

In any research study, the topic studied is measured in some specific way. Knowing how the topic was measured helps in understanding what the research was really about. For example, a researcher may study child aggression. This topic could mean different things to different people, from calling someone names to physically attacking someone. Since a topic such as aggression can be so broadly defined, researchers always come up with a more specific, precise definition of the topic they are studying. The definition of aggression in a study could be the number of times the child displayed five specific behaviors (shouting, hitting, kicking, biting, pushing), as observed by researchers or as reported by the child's teacher.

The results are only about this precise definition, so it is important to know exactly what is being studied. It is also important to make sure the definition makes common sense--if not, the results are about something other than what you and others would assume. For example, if a study refers to "healthy marriages", the term "healthy" needs to be clearly defined for the findings to make sense and be applicable.

Research Checklist

- ☑ How was the research topic(s) defined and measured in this study?
- ☑ Does the precise definition used make common sense?
- ☑ Did this study use a similar or different definition than other studies have for this topic?
- ☑ Does it match the purpose for which you want to use the study?
- ☑ Were there relevant factors that were not included in the study that should have been included?

Sampling procedure is more important than sample size

While a study's sample size is important, the way in which the sample was collected is even more important. Quantitative research is often based on the assumption that the findings for a sample of people can be generalized to the larger population. If the procedures to select the study's sample are not done well, then we cannot assume that the findings for the sample can be generalized to the larger population. Random selection is important if the findings are to be generalized to a larger group of people. In general, if the sample is hand picked, the group is not representative of the larger population, and cannot be generalized to the larger group. The larger the sample size, the smaller the difference in outcomes needed between the study group and the sample group to be assured that the difference is not attributed to chance alone.

Qualitative research may include a sample of one (such as a case study) or may include a much larger sample. A large sample size is not as important in qualitative research because the focus is on in-depth study of fewer cases, rather than breadth of study. When small samples are used, it is important that the cases chosen are rich in information. Random selection is not always important in qualitative research because the findings are not typically generalized to a larger group.

Assessing the Quality of a Research Study

Consider the source

Evaluate the credibility of the individual(s) and the organization that produced the research. Research produced by respected researchers and institutions is more likely to be trustworthy. Also, research produced or funded by groups with a strong political, economic, or commercial agenda is less trustworthy since these groups have a vested interest in the study's findings supporting their viewpoint. Investigator bias also should be considered.

Has the research been published, and where?

Research published in peer-reviewed journals has been scrutinized by other researchers before being published. Unpublished research, or research published in publications that don't critically evaluate it, usually has not been given such scrutiny. However, all research starts out unpublished, so just because a study is unpublished does not mean it is poor quality. It may be helpful to look to the reputation and credibility of the research institution as a guide to the trustworthiness of the research.

The media may not convey research accurately and thoroughly

Media coverage of research findings may not fully or accurately summarize the original research. Because research can be technical and complex, and because media coverage often seeks to be attention grabbing and succinct, media reporting of research sometimes oversimplifies the research, leading to misinterpretation. Obtaining a copy of the original research article, or getting more information from additional sources, will provide more detailed and credible information on which to base decisions.

To augment information provided in the media, seek information from additional sources, such as the Internet, researcher's web site or professional journals.

Sampling Checklist

For quantitative studies:

- ☑ What type of sample is it? (See http://www.socialpsychology.org/methods.htm for more information on sampling)
- ☑ How was the sample selected?
- ☑ What was the response rate for the study?

For qualitative studies:

- ☑ What is the sample size used in the study?
- ☑ Are the people in the sample typical of a larger group of people, or are they relatively unique?

Be careful that the information collected is not generalized to larger groups of people to whom it does not apply.

Source Checklist

- ☑ What do you know about the person or organization that did the research?
- ☑ Who funded the research?
- ☑ What are the author's qualifications? Reputation as a researcher?
- ☑ Is the researcher from a reputable organization, university or research institute?
- ☑ Does the person or organization have a political agenda they consistently promote?
- ☑ Is oversight being done externally and implementation being done internally?

Publishing Checklist

- ☑ Has the research been published? If so, did the publication use a peer-review process?
- ☑ How reputable is the journal in which it was published? (It may help to ask the perspective of researchers in the field about the reputation of the journal)
- ☑ If the research is unpublished, what is the reputation of the researcher or the research institution?

Media Checklist

- ☑ Was the media coverage very brief?
- ☑ Was the reporting on it provocative?

Using Findings: How Do They Translate into Policy?

Statistical significance explained

It is very helpful for policy makers to have data about the effects of a policy on the people being served. A study that reports a statistically significant difference between those who received a service (referred to as a study group, treatment group, or intervention group) and those who did not (control group) can provide valuable information about the program.

A statistically significant result is one that is unlikely to be due to chance, therefore allowing conclusions to be made about the results. Statistical significance is different than the substantive significance, or meaningfulness, of a finding. A result may be statistically significant but unimportant. Conversely, a result may not be statistically significant, perhaps because the sample size was too small, but it may be meaningful nonetheless because it suggests an important change in an outcome. An example is when study findings contradict conventional wisdom. Although the findings may not be statistically significant, they might provide important insight because they increase awareness that the conventional wisdom may not be correct.

Generalizing findings from one group to another

Quantitative research results are often based on comparisons between groups of people. This makes research findings particularly relevant for policy decisions since policies affect groups of people. However, it is important to be cautious about generalizing from the research population to another group of people if there are differences in the groups. Before policies are made based on research results, thought should be given to the groups of people who will be affected by the policy. How are they similar to the study group and how are they different?

This is especially important to consider when applying findings to groups of people whose makeup is different from the study population. Much research is conducted on people from the dominant culture, and often those findings may not apply to other populations.

Findings Checklist

- ☑ For findings comparing two groups, what were the differences between the groups?
- ☑ Consider aspects of race, age, ethnicity and culture--which populations were included, and do the findings apply across other groups of people?

Generalizing Checklist

- ☑ Has there been other past research on this same topic? If so, how much?
- ☑ If this study's findings are different than past research, did the researchers explain why it is different?
- ☑ Has there been enough high-quality research so that we can say we know a lot about this topic?
- ☑ If there has only been a little research on this topic, are the findings consistent?
- ☑ How current is the research?
- ☑ How does it fit within the larger body of research on this topic? Does the study report include a literature review?
- ☑ Has this body of research been summarized by someone qualified in research methods?

All research is not created equal

When faced with different studies that have yielded conflicting findings, higher-quality studies should be given more weight. In other words, better studies can refute poorer studies, but not the other way around.

Any one study is not the whole story

Although we usually come across research one study at a time, it is most valuable when many studies are taken together to tell the whole story of what we know on a given topic. Any single study, no matter how good, should be viewed in the context of other research on the topic and within the body of research to which it belongs.

Building a solid body of research means including only credible, well conducted research and not poorly designed or implemented studies. Typically, the body of research to which a study belongs is included in the literature review section of the study report.

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This policy brief is a modified version of a similar brief written by Stephanie A. Schaefer, Ph.D., Policy and Advocacy Specialist with *Voices for America's Children*. The Children, Youth & Family Consortium at the University of Minnesota is grateful to Dr. Schaefer for granting permission to rely heavily on her work to develop this brief.