

# Appendix B

## Questions to Ask About a Research Article

1. What is the basic research question or problem? Try to state it in just one sentence.
2. Is the purpose of the study explanatory, evaluative, exploratory, or descriptive? Did the study have more than one purpose?
3. Was the theoretical framework presented? What was it? Did it seem appropriate for the research question addressed? Can you think of a different theoretical perspective that might have been used?
4. What prior literature was reviewed? Was it relevant to the research problem? To the theoretical framework? Does the literature review appear to be adequate? Are you aware of (or can you locate) any important omitted studies?
5. How well did the study live up to the guidelines for science? Do you need additional information in any areas to evaluate the study? To replicate it?
6. Did the study seem consistent with current ethical standards? Were any trade-offs made between different ethical guidelines? Was an appropriate balance struck between adherence to ethical standards and use of the most rigorous scientific practices?
7. What were the major concepts in the research? How, and how clearly, were they defined? Were some concepts treated as unidimensional that you think might best be thought of as multidimensional?
8. Were any hypotheses stated? Were these hypotheses justified adequately in terms of the theoretical framework? In terms of prior research?
9. What were the independent and dependent variables in the hypothesis or hypotheses? Did these variables reflect the theoretical concepts as intended? What direction of association was hypothesized? Were any other variables identified as potentially important?

10. Did the instruments used—the measures of the variables—seem valid and reliable? How did the author attempt to establish this? Could any more have been done in the study to establish measurement validity?

11. What were the units of analysis? Were they appropriate for the research question? If some groups were the units of analysis, were any statements made at any point that are open to the ecological fallacy? If individuals were the units of analysis, were any statements made at any point that suggest reductionist reasoning?

12. Was the study design cross-sectional or longitudinal, or did it use both types of data? If the design was longitudinal, what type of longitudinal design was it? Could the longitudinal design have been improved in any way, as by collecting panel data rather than trend data, or by decreasing the dropout rate in a panel design? If cross-sectional data were used, could the research question have been addressed more effectively with the longitudinal data?

13. Were any causal assertions made or implied in the hypotheses or in subsequent discussion? What approach was used to demonstrate the existence of causal effects? Were all three criteria for establishing causal relationships addressed? What, if any, variables were controlled in the analysis to reduce the risk of spurious relationships? Should any other variables have been measured and controlled? How satisfied are you with the internal validity of the conclusions?

14. Was a sample or the entire population of elements used in the study? What type of sample was selected? Was a probability sampling method used? Did the authors think the sample was generally representative of the population from which it was drawn? Do you? How would you evaluate the likely generalizability of the findings to other populations?

15. Was the response rate or participation rate reported? Does it appear likely that those who did not respond or participate were markedly different from those who did participate? Why or why not? Did the author(s) adequately discuss this issue?

16. Was an experimental, survey, participant observation, or some other research design used? How well was this design suited to the research question posed and the specific hypotheses tested, if any? Why do you suppose the author(s) chose this particular design? How was the design modified in response to research constraints? How was it modified in order to take advantage of research opportunities?

17. Was an evaluation research design used? Which type was it? What was the primary purpose of the evaluation?

18. Were multiple methods used? Were findings obtained with different methods complementary?

19. Was any attention given to social context? To biological processes? If so, what did this add? If not, would it have improved the study? Explain.

20. Summarize the findings. How clearly were statistical and/or qualitative data presented and discussed? Were the results substantively important?

21. Did the author(s) adequately represent the findings in the discussion and/or conclusions sections? Were conclusions well grounded in the findings? Are any other interpretations possible?

22. Compare the study to others addressing the same research question. Did the study yield additional insights? In what ways was the study design more or less adequate than the design of previous research?

23. What additional research questions and hypotheses are suggested by the study's results? What light did the study shed on the theoretical framework used? On social policy questions?