

ARTICLE CRITIQUE CHECKLIST

INTRODUCTION

<i>Problem</i>	Yes	No	N/A
Is there a statement of the problem or a qualitative topic of study?	___	___	___
Does the problem of topic indicate a particular focus of study?	___	___	___
Is the problem "researchable," that is, can it be investigated through the collection and analysis of data?	___	___	___
Is the background information on the problem presented?	___	___	___
Is the educational significance of the problem discussed?	___	___	___
Does the quantitative problem statement indicate the variables of interest and the specific relationship between those variables that were investigated?	___	___	___
Does the qualitative problem statement provide a general indication of the research topic or issue?	___	___	___
When necessary, are variables directly or operationally defined?	___	___	___
Does the researcher have the knowledge and skill to carry out the proposed research?	___	___	___
<i>Review of the Related Literature</i>			
Is the review comprehensive?	___	___	___
Are all references cited relevant to the problem under investigation?	___	___	___
Are most of the sources primary; i.e., are there only a few or no secondary sources?	___	___	___
Have the references been analyzed and critiqued, and the results of various studies compared and contrasted? That is, is the review more than a series of abstracts or annotations?	___	___	___
Is the relevancy of each reference explained?	___	___	___
Is the review well organized?	___	___	___
Does it logically flow in such a way that the references least related to the problem are discussed first and the most related references are discussed last?	___	___	___

	Yes	No	N/A
Does it educate the reader about the problem or topic?	___	___	___
Does the review conclude with a summary and interpretation of the literature and its implications for the problem investigated?	___	___	___
Do the implications discussed form an empirical or theoretical rationale for the hypotheses that follow?	___	___	___
Are references cited completely and accurately?	___	___	___

Hypothesis

Are specific questions to be answered listed or specific hypotheses to be tested stated?	___	___	___
Does each hypothesis state an expected relationship or difference?	___	___	___
If necessary, are variables directly or operationally defined?	___	___	___
Is each hypothesis testable?	___	___	___

METHOD

Participants

Are the size and major characteristics of the population studied described?	___	___	___
Are the accessible and target populations described?	___	___	___
If a sample was selected, is the method of selecting the sample clearly described?	___	___	___
Does the method of sample selection suggest any limitations or biases in the sample? For example, is stratified sampling used to obtain sample subgroups?	___	___	___
Are the size and major characteristics of the sample described?	___	___	___
Does the sample size meet the suggested guideline for minimum sample size appropriate for quantitative analyses?	___	___	___

Instruments

Do instruments and their administration meet guidelines for protecting human subjects?	___	___	___
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	Yes	No	N/A
Have needed permissions been obtained?	___	___	___
Is the rationale given for the selection of the instruments (or measurements) used?	___	___	___
Is each instrument described in terms of purpose, content, validity, and reliability?	___	___	___
Are the instruments appropriate for measuring the intended variables?	___	___	___
Does the researcher have the needed skills or experience to construct or administer an instrument?	___	___	___
Is evidence presented to indicate that the instruments are appropriate for the intended sample? (For example, is the reading level of an instrument suitable for sample participants?)	___	___	___
If appropriate, are subtests reliabilities given?	___	___	___
If an instrument was developed specifically for the study, are the procedures involved in its development and validation described?	___	___	___
If an instrument was developed specifically for the study, are administration, scoring or tabulating, and interpretation procedures fully described?	___	___	___
Is the correct type of instrument used for data collection? (For example, using a norm-referenced instrument when a criterion-referenced one is more suitable.)	___	___	___

Design and Procedures

Are the design and procedures appropriate for examining the research question or testing the hypotheses of the study?	___	___	___
Are the procedures described in sufficient detail to permit them to be replicated by another researcher?	___	___	___
Do procedures logically relate to each other?	___	___	___
Are instruments and procedures applied correctly?	___	___	___
If a pilot study was conducted, are its execution and results described as well as its impact on the subsequent study?	___	___	___
Are control procedures described?	___	___	___

	Yes	No	N/A
Did the researcher discuss or account for any potentially confounding variables that he or she was unable to control?	___	___	___
Is the application of the qualitative method chosen described in detail?	___	___	___
Is the context of the qualitative study described in detail?	___	___	___

RESULTS

Are appropriate descriptive statistics presented?	___	___	___
Was the probability level at which the results of the tests of significance were evaluated specified in advance of the data analysis?	___	___	___
Was every hypothesis tested?	___	___	___
If parametric tests were used, is there evidence that the researcher avoided violating the required assumptions for parametric tests?	___	___	___
Are the tests of significance described appropriate, given the hypotheses and design of the study?	___	___	___
Was the inductive logic used to produce results in a qualitative study made explicit?	___	___	___
Are the tests of significance interpreted using the appropriate degrees of freedom?	___	___	___
Are the results clearly described?	___	___	___
Are the tables and figures (if any) well organized and easy to understand?	___	___	___
Are the data in each table and figure described in the text?	___	___	___

DISCUSSION, CONCLUSIONS, OR RECOMMENDATIONS

Is each result discussed in terms of the original hypothesis or topic to which it relates?	___	___	___
Is each result discussed in terms of its agreement or disagreement with previous results obtained by other researchers in other studies?	___	___	___
Are generalizations consistent with the results?	___	___	___
Are the possible effects of uncontrolled variables on the results discussed?	___	___	___

	Yes	No	N/A
Are theoretical and practical implications of the findings discussed?	_____	_____	_____
Are recommendations for future action made?	_____	_____	_____
Are the suggestions for future action based on practical significance or on statistical significance only; i.e., has the author avoided confusing practical and statistical significance?	_____	_____	_____

ABSTRACT OR SUMMARY

Is the problem restated?	_____	_____	_____
Are the number and type of subjects and instruments described?	_____	_____	_____
Is the design used identified?	_____	_____	_____
Are procedures described?	_____	_____	_____
Are the major results and conclusions restated?	_____	_____	_____

TYPE-SPECIFIC EVALUATION CRITERIA

In addition to general criteria that can be applied to almost any study, additional questions should be asked depending on the type of research represented by the study. In other words, there are concerns that are specific to historical studies, and likewise to other qualitative, survey, correlational, causal-comparative, and experimental studies.

<i>Qualitative Research in General</i>	Yes	No	N/A
Does the topic statement provide a general sense of the study focus?	_____	_____	_____
Is the purposive sampling procedure described and related to the study focus?	_____	_____	_____
Is each data collection strategy described?	_____	_____	_____
Is the role the researcher assumed stated (e.g., observer, participant observer, interviewer, etc.)?	_____	_____	_____
Is the research site and the researcher's entry into it described?	_____	_____	_____
Were the data collection strategies used appropriately, given the purpose of the study?	_____	_____	_____
Were strategies used to strengthen the validity and reliability of the data (e.g., triangulation)?	_____	_____	_____
Is there a description of how any unexpected ethical issues were handled?	_____	_____	_____
Were strategies used to minimize observer bias and observer effect described?	_____	_____	_____
Are the researcher's reactions and notes differentiated from descriptive field notes?	_____	_____	_____
Are data coding strategies described and examples of coded data given?	_____	_____	_____
Is the inductive logic applied to the data to produce results stated in detail?	_____	_____	_____
Are conclusions supported by data (e.g., are direct quotes used to illustrate points made)?	_____	_____	_____

Observation Studies **Yes** **No** **N/A**

Are observational variables defined? _____

How were observers trained? _____

Did different observers work and score independently? _____

Were observers required to observe only one behavior at a time? _____

Was a coded recording instrument used? _____

Are the qualifications and special training of the observers described? _____

Was the level of interobserver reliability sufficiently high? _____

Were efforts made to overcome observer bias and observer effect? _____

Was observation of subjects the most appropriate approach for data collection (as opposed to use of some unobtrusive measure)? _____

Was a description of how the observational data were analyzed provided? _____

Historical Research **Yes** **No** **N/A**

Were the sources of data related to the problem mostly primary? _____

Was each piece of data subjected to external criticism? _____

Was each piece of data subjected to internal criticism? _____

Does the researcher examine the possibility of personal bias in the study analysis and conclusion? _____

Are causal inferences or conclusions warranted given the data studied? _____

Is the report of the study an integrated, synthesized, chronological presentation of the results? _____

Survey — Questionnaire Studies **Yes** **No** **N/A**

Are questionnaire validation procedures described? _____

Was the questionnaire pretested? _____

Are pilot study procedures and results described? _____

Are directions to questionnaire respondents clear?	___	___	___
Does each item in the questionnaire relate to one of the objectives of the study?	___	___	___
Does each questionnaire item deal with a single concept?	___	___	___
When necessary, is a point of reference given for questionnaire items?	___	___	___
Does the cover letter explain the purpose and importance of the study and give the potential responder a good reason for cooperating?	___	___	___
If appropriate, is confidentiality or anonymity of responses assured in the cover letter?	___	___	___
What is the percentage of returns and how does it affect the study results?	___	___	___
Are followup activities to increase returns described?	___	___	___
If the response rate was low, was any attempt made to determine any major differences between responders and nonresponders?	___	___	___
Are data analyzed in groups or clusters rather than a series of many single variable analyses?	___	___	___
<i>Survey — Interview Studies</i>	Yes	No	N/A
Were the interview procedures pretested?	___	___	___
Are pilot study procedures and results described?	___	___	___
Does each item in the interview guide relate to a specific objective of the study?	___	___	___
When necessary, is a point of reference given in the guide for interview items?	___	___	___
Are leading questions avoided in the interview guide?	___	___	___
Is the language and complexity of the questions appropriate for the participants?	___	___	___
Does the interview guide indicate the type and amount of prompting and probing that was permitted?	___	___	___
Are the qualifications and special training of the interviewers described?	___	___	___
Is the method used to record responses described?	___	___	___
Did the researcher use the most reliable, unbiased method of recording responses that could have been used?	___	___	___

Did the researcher specify how the responses to semistructured and unstructured items were quantified and analyzed? _____

Correlation — Relationship Studies **Yes No N/A**

Were variables carefully selected; i.e., was a shotgun approach avoided? _____

Is the rationale for variable selection described? _____

Are conclusions and recommendations based on values of correlation coefficients corrected for attenuation or restriction in range? _____

Do the conclusions avoid suggesting causal relationships between the variables investigated? _____

Correlation — Prediction Studies **Yes No N/A**

Is a rationale given for selection of predictor variables? _____

Is the criterion variable well defined? _____

Was the resulting prediction equation validated with at least one other group? _____

Causal — Comparative Studies **Yes No N/A**

Are the characteristics or experiences that differentiate the groups (the independent variable) clearly defined or described? _____

Are critical extraneous variables identified? _____

Were any control procedures applied to equate the groups on extraneous variables? _____

Are causal relationships found discussed with due caution? _____

Are plausible alternative hypotheses discussed? _____

Experimental Research **Yes No N/A**

Was an appropriate experimental design selected? _____

Is a rationale for design selection given? _____

Are sources of invalidity associated with the design identified and discussed? _____

Is the method of group formation described? _____

Was the experimental group formed in the same way as the control group? _____

Were groups randomly formed and the use of existing groups avoided?	_____	_____	_____
Were treatments randomly assigned to groups?	_____	_____	_____
Were critical extraneous variables identified?	_____	_____	_____
Were any control procedures applied to equate groups on extraneous variables?	_____	_____	_____
Were possible reactive arrangements (e.g., the Hawthorne effect) controlled for?	_____	_____	_____
Were tables clear and pertinent to the research results?	_____	_____	_____
Were the results generalized to the appropriate group?	_____	_____	_____