

# Research Report Checklist

The following instruction sheet covers the order and content of all pieces of an APA style research report. The questions that each major section should address are adapted from Table 1 in Kazdin, A. E. (1995). Preparing and evaluating research reports. *Psychological Assessment*, 7, 228-237.

Some general notes on APA style include: (1) everything is double-spaced, with no extra blank lines between paragraphs or sections of the paper; (2) use 1" margins on all sides; and (3) never use underlining or bold print—use italics for emphasis. Items on the following list that are marked with an asterisk (\*) begin on a new page of the manuscript.

## **Title Page\***

- Title is usually 10-15 words (can have punctuation) and includes major constructs under investigation.
- First few words of title, then page number, go in page header (right justified).
- Author and affiliation are centered just below title.
- Running head is what you would want printed at top of page if the article is published in a journal or a book; usually limited to about 50 characters.

## **Abstract\***

- Write this absolutely last; need to be clearer, more concise than anywhere else (revise, revise, revise...) because this is the gateway to your article—provided on electronic indexes, people will read this to determine whether to seek/read your full paper.
- Length is usually about 120 words or 960 characters.
- Provide one-two sentences on each of four major sections of paper (Intro., Method, Results, Disc.), keeping this information in proper order.
- Questions to answer:
  - What were the main purposes of the study?
  - Who was studied (sample, sample size, special characteristics)?
  - What type of design was used? (Note experimentally manipulated independent variables and measured subject variables.)
  - What was the procedure?
  - How were the data analyzed and what were the main findings?
  - What conclusions were drawn and what are their implications?

## **Introduction\***

- Begin the hourglass form: Open with broad statement of topic area to convince reader it's worthy of attention, then gradually narrow down to your specific topic, question, explicit hypotheses (if any).
- Highlight unresolved issues, controversies, novelty of your study, and so forth.
- Keep the method out of the introduction: Unless your subject matter is the

method, save it for the appropriate section, and use conceptual (rather than operational) definitions and hypotheses.

- Do not organize the introduction around the references: Avoid trap of one paragraph per background study by (1) outlining paper in advance and write based on topics and points, (2) citing the references wherever they belong; they may cluster together quite a bit.
- Questions to answer:
  - What is the background and context of the study?
  - What in current theory, research, or applied work makes this study useful, important, or of interest?
  - What is different or special about the study in focus, methods, or design to address a need in the area?
  - Is the rationale clear regarding the constructs to be manipulated and assessed?
  - What specifically were the purposes, predictions, and hypotheses?

## **Method**

### *Design*

- Specify the number of factors in the design and name each.
- For each factor, indicate (1) how many levels there are (and name them), (2) whether it is BS or WS, (3) whether it was manipulated (i.e., independent variable) or measured (i.e., subject variable).
- Use operational definitions, link to conceptualizations elsewhere in paper.
- Questions to answer:
  - What is the design and how does it relate to the goals of the study?
  - How were participants assigned to conditions?
  - Why were these conditions critical to address the questions of interest?

### *Participants*

- Describe relevant characteristics of your sample; if a "special population," mention this and describe in detail.
- Briefly indicate nature of recruitment into study and the sample size (note reasons for and amount of any attrition or dropout).
- Questions to answer:
  - Who were the participants and how many of them were there in the study?
  - Why was this sample selected in light of the research goals?
  - How was this sample obtained, recruited, and selected?
  - What are the demographic characteristics of the sample (e.g., gender, age, ethnicity, race, socioeconomic status)?
  - What, if any, inclusion and exclusion criteria were invoked (i.e., selection rules to obtain participants)?
  - How many of those participants recruited actually participated in the study?

### **Materials**

- Describe everything that you will present to participants, including questionnaires and tasks.
- Describe constructs assessed, psychometric properties of measurements.
- Mention any special equipment that was used in conducting the study and provide technical specifications.
- Questions to answer:
  - How were the constructs of interest assessed?
  - What are the relevant reliability and validity data from previous research that support the use of these measures?
  - Were multiple measures and methods used to assess the constructs?
  - Was any special equipment used in the study?

### **Procedure**

- Give a cookbook recipe for an exact replication of your study.
- Write at the operational level (link to concepts introduced earlier).
- Begin with recruitment into study or arrival for study and conclude with debriefing.
- Questions to answer:
  - Where was the study conducted (setting)?
  - What was the chronological sequence of events that participants experienced?
  - Were participants run individually or in groups?
  - How long did participation take?
  - How was topic/study introduced to participants?
  - What instructions were provided?
  - How were independent variables manipulated?
  - How were subject and dependent variables measured?
  - In what order were measures and other tasks completed?
  - What procedural checks were completed to avert potential sources of bias in implementation of the manipulation(s) and assessment?

### **Optional Sections of Method**

- Analysis
  - For complex or uncommon analyses only.
  - Depends on knowledge of your intended audience.
- Coding
  - For highly involved coding schemes.
  - Describe how the coding scheme was developed, how coders were trained.
  - Who were the coders? How many?
  - Report inter-rater reliability (e.g., Kappa,  $r$ ,  $\alpha$ ).
- Scaling/Data Reduction
  - Use when developing a scale or reducing questionnaire items to a more manageable number for analysis.
  - Describe the items on (and report psychometrics for) each scale.

### **Results**

- Organize by hypothesis or subject matter, not by type of analysis: Briefly restate a hypothesis, then report the results of the relevant statistical test(s).
- Do not elaborate on the results, just state their relation to the hypothesis (i.e., do they tend to support or refute it?).
- Explain direction and scoring of measures before talking about relations among variables or differences between conditions.
- Don't write in terms of SPSS variable names and don't include any SPSS printouts.
- Communicate with words, not numbers: In plain English, write simple sentences that convey the results and include statistical information (typically in parentheses and/or at the end of the sentence) to back up these statements.
- Clearly distinguish between main effects and interactions when reporting a factorial analysis.
- Report exact p-values rather than " $p < .05$ " or " $p > .05$ ".
- Avoid the term "significant" by using less misleading language (e.g., "statistically significant," "reliable").
- If  $.05 < p < .10$ , can call the result "marginally reliable" or "borderline" and discuss the result with due caution.
- Follow relevant formatting guidelines: (1) Italicize all statistical abbreviations or tests ( $t$ ,  $F$ ,  $M$ ,  $SD$ ,  $p$ , etc.), but not Greek letters (e.g.,  $\alpha$ ,  $\mu$ ,  $\sigma$ ); (2) report all calculated values to 2 decimal places (with the exceptions of  $p$ -values, which are reported to 3 decimal places, and non-calculated values, such as when you say that a response scale ranged from 1 to 7).
- Questions to answer:
  - What are the scores on the measures of interest for different groups and the samples as a whole (e.g., measures of central tendency and variability)?
  - What analyses were used and how specifically did these address the original hypotheses and purposes?
  - Were the assumptions of the data analyses met?

## Discussion

- Reverse the flow of the introduction to complete the hourglass.
- Begin with brief restatement of hypotheses (no references or lengthy explanations).
- Interpret results in this context (no numerical or statistical information).
- Broaden to consider conclusions as they relate to broader issues as first introduced.
- Note limitations of study and address these yourself; argue (if possible) on your own behalf.
- Point to directions for future research that can (1) patch up problems in your study, (2) replicate and extend your results, or (3) follow up on promising new leads.
- Questions to answer:
  - What were the major findings of the study?
  - How do these findings add to research and how do they support, refute, or inform current theory?
  - What alternative interpretations may explain the data?
  - What limitations or qualifiers must be placed on the study given methodology and design issues?
  - What research follows from the study to move the field forward?

## References\*

- List all sources that are cited in the text (and only those cited in the text) in alphabetical order by the last name of the first author.

## Appendices\*

- Supplementary material that is particularly lengthy (e.g., passages from the instructions provided to participants, copies of stimuli used in the procedure, mathematical proofs) can be placed into an Appendix.
- If there are multiple Appendices, organize them by letter in the order they appear in the text and begin a new page for each.

## Footnotes\*

- Detailed or technical notes that would otherwise break the flow in the main text are indicated by number and then placed onto a separate Footnotes page.

## Tables\*

- Used to organize or simplify the presentation of voluminous results.
- If you run a series of related tests, you can put them all into one table:
  - Descriptive statistics—listing of variable names, central tendency, variability
  - T-tests, ANOVAs—means (standard deviations), test statistic, df, p-value
  - Correlation matrix
- In body of Results section, cite table rather than restate the details.
- If there are multiple Tables, organize them by number in the order they appear in the text and begin a new page for each.
- APA style notes: (1) Line up columns of numbers in a table by decimal point (decimal tab on Word); (2) notes at bottom of table run from general, to specific (superscripts), to probability (asterisks).

## Figure Captions\*

- Descriptive notes for all figures are placed on a separate Figure Captions page.

## Figures\*

- Used to clarify results through graphical display.
- Interaction or nonlinear effects are particularly suitable for figures.
- Figure pages bear no titles or captions, turn off page header as well; should be ready to be photographed.
- Include labels for axes, values along axes, and error bars on all graphs.
- Do not have a border around the entire graph (Excel will do this by default; turn it off).

**\*\* A manuscript that contains all of the sections described here—plus an Author Notes page, which is not necessary unless the manuscript is submitted to a journal—can be viewed online. Go to the “Course Materials” page from [www.etown.edu/psychology](http://www.etown.edu/psychology) and select “Sample Manuscript in APA Format.”**