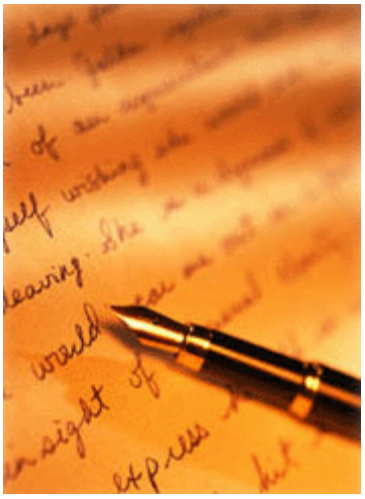
Report Writing for Psychology Research



The purpose of a practical report is to communicate to others what you did, why you did it, how you did it, what you found and what you think it means. Readers of reports will sometimes want the answers to very precise questions (e.g. Where did the participants come from? What exactly were the average scores for these two groups?). They do not want to wade through the whole report looking for this information. For this reason it is useful to follow a standard format, with headings, which allows the reader to locate the information required immediately without having to work through the entire report. This is how it's done in the Social Sciences.

The following format is how I would like you to set up your reports; it is similar to that used in most published papers and is very similar to the sample report, "Buffering Effect of Religiosity for Adolescent Substance Use".

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1. Title

The title should provide a one or two line summary of what you actually did; it should be enlightening but not too long. **'Simple reaction time and temporal uncertainty'** IS sufficient. **'An experiment on reaction time**' is NOT sufficient. One safe form for a title is 'The effect of X on Y' where X is what you are varying in the experiment and Y is what you measure as a result, e.g. 'The effect of emotion on reaction time', 'The effect of instructions on intelligence scores', and so on. In this experiment we measured accuracy ("visual acuity") vs. time and practice in a changed visual field.

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2. Abstract (to be written last but added just after the title)

The abstract is a short summary of the report, but with more detail than the title. You should aim for an abstract which is about 100 words long. It can be quite difficult to write a clear and succinct abstract, and it is probably best attempted when you have completed the rest of the report. The abstract should contain a summary of the topic of interest, the method, the results and the conclusions. In the sample repot, the abstract is the separated paragraph at the beginning.

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3. Introduction

A research paper normally begins with a statement of why you did the experiment and sets the problem in the context of the **previous** literature. The introduction should allow someone who is not an expert on the topic to understand why you did the experiment.

a. The introduction usually begins with general background and progresses through to the specific reasons for and aims of the experiment. This will entail a brief **review** of past work in the area and an explanation of the theoretical or practical reasons for doing the study.
b. You should normally **end** this section with your predictions about the outcome of the study - these are the experimental **hypotheses**.

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4. Method

(do not write anything directly under "Method". As in the sample that I provided, the main section is called Method but the explanations fall under the subheadings as noted below (and in the sample).

The Method must contain enough information for the reader to be able to repeat the experiment, but it should not include irrelevant details. For example, if you gave your subjects lists of words to memorise, you would not be expected to explain that they were seated at a desk (as opposed to standing, or seated at a table) unless you were specifically studying the effects of furniture on memory. It will take time to learn what details are relevant and what are irrelevant, especially since they will vary from experiment to experiment.

The method section consists of the sub-sections below. Not all of these will always be necessary.

4.1 Design

(a sub-section of the method)
'Design' refers to the overall structure of the experiment. Experiments generally involve comparisons of the ways in which a number of different tasks are performed. The design section of the report indicates which tasks (alternatively, Conditions) have been given to which participants and why. It is here that the inherent structure of the experiment is reported. Normally this includes the independent and dependent variables: what you manipulate and what you measure respectively.

4.2 Participants

(a sub-section of the method)
This sub-section should state how many participants (people or non-human animals) took part in the study, how they were selected and any other characteristics that are important. As a general rule (when humans are used), it is standard to include the age range and the number of males and females represented. If you only study undergraduate students, you may not be able to generalise to the elderly; if most of your participants are females, then you may not be able to generalise to males. These details may seem trivial but can be important and where possible they should be reported.

4.3 Apparatus (in this case, because you are using so few materials and little apparatus you should combine these into one section, "Apparatus/Materials".

(a sub-section of the method)
Some experiments just involve pencil, paper, stop-watch, etc. and so an apparatus section is often not needed. This section is only required when more complex or specialised equipment was used (e.g. a computer running special software, darts, a target, special glasses, etc). Many common pieces of apparatus are just named, with perhaps the addition of the manufacturer's name to distinguish between a few commonly used types: Skinner boxes, digital time meters, etc. are of this type. Other non-standard materials or pieces of equipment are described in detail. The amount of detail should be enough for an informed reader to be able to recreate all the important aspects of the apparatus. Diagrams can reduce the amount of description necessary.

4.4 Materials

(a sub-section of the method)
In most psychological experiments, the details of the experimental materials are of key importance. Words, tests, questionnaires, etc. are materials, and this section should describe the general criteria for how you selected the particular items which you used. For example, if using words as your stimuli for a memory test you should tell the reader about any features of their selection, such as word length, word frequency (in the English Language), word class (nouns, verbs) and meaning (concrete, abstract), etc. If the experiment involves use of a published questionnaire for which reliability data are available, you should refer to them; for example: 'Alpha coefficients for the Big Personality Scale are reported to be satisfactory in student populations (e.g. Bloggs, 1999).' If the experiment involves presenting visual or auditory patterns, give an account of their structure and how they were created.
This section will almost always be necessary and often you will have to tell your readers exactly which items were used. It may be appropriate to include an appendix at the end of the report giving a complete list of the items used.

4.5 Procedure

(a sub-section of the method)
This sub-section should contain a careful description of how the experiment was conducted. There should be a clear statement of those aspects that were common for everyone and those which differed for different participants. Some or all of the following will need to be mentioned:

1. The way in which any apparatus is set out with respect to the experimenter and the participant, to include things like distances, how much the subject can see or hear, etc.
2. How much time a participant is given, how long any rest periods were, how many trials (practice attempts) were allowed, etc.
3. What the participant was asked to do. Be explicit about what information was given, so that it is clear what the participant understood the task to be. There should be sufficient detail for the reader to judge whether the experimenter made his or her intentions clear.

To keep this section to a manageable size it is important to exclude details which can be appropriately included under 'Materials' or 'Apparatus'. This means that you must give some thought to the order in which the subsections are to be presented.

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5. Results

This section should start with a clear, concise summary of the data you collected (i.e. summary statistics such as average scores on the dependent variables, and estimates of their variability, across different levels of the independent variables).

It must be clear to the reader how the raw data were scored or transformed into the form in which they will be analysed. Tables and graphs **ARE** the best way to summarise the results, unless the data are very simple. Tables and graphs **MUST** be used should be labeled and referred to in the text - the reader should not need to guess why a graph or table is included. Once the data have been summarised, the results section should give an account of the statistical analyses that have been carried out.

Thus, the results section should include:

1. Numerical results: e.g. mean scores or some other measure of variability.

   You should use a table or figure to display your results, so make sure that the axes of graphs and columns in tables are all labelled. The figure or table should also have a title, for example, 'Reaction time in milliseconds as a function of practice for conditions of A and B'. You should specify the unit of measurement somewhere in a table or graph.
2. Results of data expressed in one or two sentences of plain English.

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6. Discussion.

This is the section in which you interpret the results of the experiment and discuss their meaning. It is important that your discussion relates the results to the issues raised in the **introduction**, since this presents the reasons for conducting the study and the results should provide more details about these issues.

The discussion is in many ways the most important part of the report. Since the readers have just finished the detailed results section, they might have lost sight of the grand plan. Therefore, it is useful to include in the discussion a concise restatement of the principal findings before they are actually discussed. The discussion then proceeds by relating the purposes of the experiment to the results actually obtained. Unanticipated outcomes need special consideration.

In the discussion make it clear which conclusions are fully justified by the data and which are simply impressions about the significance of odd kinks in the data whose reliability may in fact be uncertain. It is important to bring out exactly what contribution the study has made to the general problem under

consideration.

The results may not have led to clear cut answers to the questions raised initially, so your discussion might have to suggest further experiments which can now be seen to be necessary for answering the initial question.

You might also discuss any limitations of the experiment that have come to light, but which were not predicted in advance. These may also give rise to suggestions for further experiments.

Always be explicit as to what questions and problems your research raised, and how you would answer/solve them. Finish with a paragraph in which you state your conclusions from the experiment. It goes without saying that further research is needed.

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7. References

You will inevitably refer to other people's work in your introduction and discussion. You should here give the location of your sources of information.

All the references must then be listed at the end of the report (under the heading REFERENCES), alphabetically by author and chronologically when several works by the same author appear. There are several acceptable formats for references. The format recommended by the American Psychological Association (APA) is probably the most common.

For journal references: Sturge A. (1953). Operant conditioning and anxiety reduction in three species of insects. *Journal of the Experimental Control of Behaviour*, 4, 189-196.

Jones, W. A., & Smith, G. F. (1975). Recognition of syllables in noise. *Journal of Listening Performance*, 12, 687-694.

For book references:
Sweeney, A. (1960). *Backwaters of behavioural research*. London: Maudley and Carter.
