

How to present your paper in correct APA style

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This document provides a brief overview of how to prepare a journal article or research paper following the guidelines detailed in the 6th edition (2009) of the Publication Manual of the American Psychological Association.

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It is provided as supplementary material to accompany the book: Pallant, J.F. *SPSS Survival Manual: a step by step guide to data analysis using SPSS*. Crows Nest, NSW: Allen & Unwin.

See www.allenandunwin.com/spss for further details.

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APA Style

These guidelines for presenting a report in APA style are adapted from the 6th edition of the Publication Manual of the American Psychological Association published in 2009.

American Psychological Association (2009). *Publication manual of the American Psychological Association* (6th ed.). Washington, DC: Author.

I refer to this throughout the rest of this document as the Publication Manual.

The Publication Manual is updated periodically, so check that you have the latest edition. Please note that there have been a number of substantial changes to APA style in this latest 6th edition. This means that earlier editions that may be still available in university libraries are now out of date. You can also check the website for the APA Publication Manual at www.apastyle.org to make sure that you keep up to date.

If you are studying psychology this is the set of conventions that you must follow. Many other disciplines have also adopted this style. The Publication Manual sets out the way in which your report should be structured, the headings, format, abbreviations, punctuation, references, table and figure formats and so on. Although many of these conventions may seem 'picky', it is important that you adhere to them exactly if you have been asked to comply with APA style for your report. You may be penalised if you don't.

The Publication Manual details the exact presentation required if you intend to submit your work to a psychology journal for publication. This is formatted in a way that makes it easier for the publisher to typeset the material for publication. Some universities require you to submit all work in this format (check with your instructor or supervisor).

There are situations, however, where you are not submitting the material for publication; instead you are 'publishing' the material in its final form yourself. An example of this is a thesis. Some flexibility in the content and format is allowed in this situation. You should find out the requirements for your particular situation (e.g., assignment, thesis).

The Publication Manual is a very detailed book which many undergraduate students find a bit confusing and intimidating to use. To help with this I have summarized some of the basic points in the sections to follow. It is still important however that you are familiar with the Manual itself and are able to consult it when necessary.

Note. Throughout the following sections I have presented the instructions for APA style in Times Roman font while the examples are presented in Arial font.

General presentation of the report

The Publication Manual recommends that the report be double spaced throughout, with margins of 2.54 cm (1 inch) all around. Use good quality paper, and only print on one side of the paper.

Do not 'right justify or fully justify' your report (that is, don't use a uniform right margin, as you see in published books). Set your word processor to 'left justify'.

Normally the font used is Times New Roman, set in 12 points.

The start of each paragraph is indented 5-7 spaces (use the tab button), except for the abstract.

Each page must be numbered at the top right-hand side of the page in the header section.

Headings

The Publication Manual gives clear guidelines concerning the format to be used for the different levels of headings. These are illustrated below:

<i>Heading number</i>	<i>Example</i>
1	Centered, Bold, Uppercase and Lowercase Heading
2	Flush Left, Bold, Uppercase and Lowercase Heading
3	Indented, bold, lowercase paragraph heading ending in a period.
4	<i>Indented, bold, italics, lowercase paragraph heading ending with a period.</i>
5	<i>Indented, italics, lowercase paragraph ending with a period.</i>

For many research reports only three levels of headings are required. In this case, the Publication Manual (2007, p. 62) suggests using heading level 1, 2 and 3, as illustrated below.

Method *{heading 1}*

Participants *{heading 2}*

Materials *{heading 2}*

Measures of control. *{heading 3}*

Measures of personality. *{heading 3}*

Procedure *{heading 2}*

Results *{heading 1}*

Discussion *{heading 1}*

References *{heading 1}*

The other levels of headings will need to be used if additional headings are used throughout the introduction or if you need to divide your results or discussion sections into subsections.

Abbreviations and punctuation

The Publication Manual provides very clear guidelines concerning the abbreviations and punctuation to be used throughout your report. You should check these carefully.

Examples of commonly used abbreviations:

e.g.,	for example
etc.	and so forth
i.e.,	that is
vs.	versus
et al.,	used when you have multiple authors and you have already provided the full citation
min	minute
hr	hour
kg	kilogram

Do not abbreviate the words: day, week, month, year.

Do not add an 's' to make abbreviations of units of measurement (e.g., 12 cm not 12 cms).

Examples of statistical abbreviations:

<i>N</i>	number of subjects in the total sample
<i>n</i>	number of subjects in each group or subset of the sample
<i>M</i>	mean
<i>SD</i>	standard deviation
<i>ns</i>	not significant
<i>p</i>	probability
<i>df</i>	degrees of freedom
<i>Mdn</i>	median
<i>f</i>	frequency
<i>r</i>	Pearson product-moment correlation coefficient
<i>t</i>	value of the t-test statistic
ES	effect size
EFA	Exploratory factor analysis
CI	Confidence interval
ANOVA	Analysis of variance

Note that some of these abbreviations need to be presented in italics (as displayed above).

See page 116-123 in the Publication Manual for other abbreviations to be used for statistical terms.

Numbers

Numbers below 10 should be presented as words:

The sample contained five students

Numbers 10 and above are presented as numerals:

The sample consisted of 25 students....

You must however present any number that begins a sentence in words:

Twenty-five percent of the sample

Where numbers represent statistical or mathematical function or percentages they can be presented as numbers:

Approximately 5% of the sample.....

Common fractions however are presented in words:

two thirds of the group agreed with the statement....

Numbers are used when referring to time, ages or points on the scale:

3-year-olds

a score of 1 on the 5-point scale represents no agreement

Decimal places

The number of decimal places to be used to report the results of statistical analyses depends on the particular situation. The rule is a few as possible, while still maintaining sufficient information.

Most information can be presented effectively with only two decimal places (e.g., correlation coefficients, proportions, values of t, F and chi square).

When presenting p values you should report the exact value that is output from the computer program - this will usually be to three decimal places ($p=.051$).

The only exception to this rule is when the program indicates $p=.000$. This should always be presented as $p < .001$.

A zero should be used in front of the decimal place for numbers that are less than 1, but the value could exceed 1 (e.g., Cohen's $d = 0.50$).

When the value being calculated cannot exceed 1 (e.g, correlations, proportions, probability values) no zero should precede the decimal point (e.g, $r(120) = .56$, $p = .001$).

Main sections of the report

The report is made up of a number of distinct sections including the title page, abstract, introduction, method, results, discussion, references and appendix. The content and format of each of these sections is covered in the Publication Manual on pp. 21-40.

The key points relating to each section of the report are presented below. For an example of each of these sections, see the sample report provided on the website www.allenandunwin.com/spss.

Title Page

Title

The title of your report should clearly and concisely capture the essence of your study (in no more than 12 words). This is not easy to do! Drop any words that are not useful (e.g., 'a study of . . .'). Don't include any abbreviations in the title.

The title is centred and placed in the top half of the page. It should be typed in uppercase and lowercase, with the first letter of the main words capitalised.

Example:

Perceived Control of Internal States and Wellbeing

Running head

The title page also includes a 'running head'. This is an abbreviated title which will appear on each page of the report if it is published (see page 229 of the Publication Manual).

It should be all capitals and no more than 50 characters (letters, spaces, punctuation) in length. It is presented flush left on the title page and all subsequent pages.

Example:

PERCEIVED CONTROL AND WELLBEING

You don't need to type the running head on every page yourself: use the 'header and footer' function of your word processor. Page numbers should be shown on the top right hand side of each page as part of the header. For an example of this see the top of each page in this document.

Author's Name

Underneath the title type your name (usually your first name, initial and then surname). Do not include titles (e.g., Dr). Centre your name under the title.

Institutional Affiliation

Below your name put the name of your university or organisation.

Author Note

This section is usually only included for actual journal articles. It is not necessary for student assignments or theses.

In this section provide details of any acknowledgements, conflict of interest, and contact details for readers. For details of the format, layout etc., see p.24 of the 6th edition of the Publication Manual.

Abstract

The abstract provides a brief summary of the main elements of your report. It should describe the question that was addressed, the sample used, experimental method, an overview of the main findings, and the conclusions and implications of the study. To help you get an idea of what is required in the abstract have a look through journals published in your topic area. Collect examples of good concise abstracts to use as role models. See p.27 of the Publication Manual for more details.

The abstract is presented on a page of its own (page 2), using the heading 'Abstract', which is centred. The first line is not indented but starts flush with the left margin.

The word limits for an abstract varies across journals (typically 150 to 250 words). Check the guidelines before submitting.

Introduction

The introduction indicates the problem that is to be addressed and reviews the relevant literature in the topic area (using citations as appropriate). In the closing section of the introduction, the purpose or rationale of the study is presented and the specific hypotheses stated. See p.27-28 of the Publication Manual for more details.

The introduction is presented on a new page (page 3). Unlike the other sections of the report, it is not labelled 'Introduction'. Instead the full title of the report is presented at the top, centred, with all main words starting with a capital letter.

All paragraphs are indented 5-7 spaces (use the tab button).

Throughout the introduction, you must acknowledge the sources of all the information that you provide (references). Depending on the circumstances, there are a number of different ways this can be done.

When you need to quote multiple references they should be listed in alphabetical order, separated by semi-colons. When two authors are involved in the one reference, their names are separated by '&'.

Many studies have explored the role of control perceptions in a variety of physical illness such as cancer, AIDS, cardiac disease and arthritis (Helgeson, Jenkins & Pargament, 1988; Taylor, 1983).

When the authors' names are provided in the sentence text (rather than in brackets) the names are separated by 'and', rather than '&', as in the previous example.

Thompson and Spacapan (1991) distinguish three main categories of perceived control.

For direct quotes you must provide the page number.

According to Taylor (1986) psychological control is 'the sense that one can anticipate or predict the events that occur in one's environment and that one can influence or modify them' (p. 329).

When you have a reference that has three or more authors and you have already referred to this reference, you may condense the reference using et al. for all subsequent uses of this reference. The full reference, giving all authors' names, must be provided in the reference section at the end of the report.

...in the series of studies conducted by Chapman, Skinner and Baltes (1990). Research by Chapman et al., suggests that competence beliefs are more strongly related to cognitive performance.

Method

The method section is not presented on a new page, but flows on from the end of the introduction. The format and position of the heading will depend on which levels of headings you have chosen to use in your paper.

The method describes exactly how your study was conducted, with sufficient detail that another researcher could repeat the study. The method is divided into a number of subsections (these will vary depending on the type of study that you conducted, and the information needed to describe your study).

Participants

This section contains a brief description of the subjects or respondents included in your study. For studies involving humans you should report the major demographic characteristics of the sample (age, sex, race, education level etc.) giving both numbers and percentages of subjects in each category (e.g., males, females), and mean and standard deviations for continuous variables. Give the total number of subjects and the number of cases in each experimental condition. Also indicate any 'drop-outs' or subjects that did not complete participation in the study.

Sampling

Provide details of how you selected participants, the type of sampling method used, and what percentage of those invited actually agreed to participate.

You should mention the intended size of your sample, and whether the actual sample differed from this. Provide details of how the intended sample size was determined (e.g., power calculations).

Provide details of the settings or locations where the data were collected and any ethics approvals obtained.

Research design

Provide details of the research design used in the study. Describe in detail how participants were assigned to experimental groups (e.g., random assignment). You should provide sufficient detail to allow someone else to replicate your study.

Apparatus or materials

In a study involving a laboratory experiment here you would describe the equipment used under the heading 'Apparatus'. You also describe the tools to measure the dependent variable.

If a survey or questionnaire design was used, you will need to describe the scales or questionnaires used under the heading 'Materials'. Details of the reliability and validity of the scales would be reported, along with the Cronbach alpha values obtained in the current study.

For full details of the requirements of Method section see p.29 of the Publication Manual.

Results

In the results section you would describe your data, the statistics used and the results of the descriptive and inferential techniques used. This section should be brief and to the point, but provide sufficient detail that the reader can understand what was done. It needs to be well structured, perhaps following the order of the hypotheses that were specified in the introduction.

Remind the reader of each hypothesis, describe the statistical analysis used and report the results. Don't attempt to explain the results (except where it is necessary to perform an additional analysis to explore the outcome further). The interpretation of results should be saved for the discussion section.

When reporting the results of statistical analyses you need to include the name of the test (e.g., independent samples t-test), the value obtained, the degrees of freedom, the probability level, the effect size and the direction of the effect (e.g., were males higher or lower than females). Where appropriate, you may also need to report the mean, standard deviation and number of subjects for each group.

Statistical abbreviations (e.g., *r*, *t*, *M*, *SD*) should be presented in italics as shown in the examples below:

Example of correlation results:

The strongest Pearson product-moment correlation coefficient for the PCOISS was with the Perceived Stress scale: $r(425) = -.58, p < .001$.

Example of ANOVA results:

Analysis of variance showed a statistically significant difference at the $p < .05$ level in LOT scores for the three age groups: $F(2, 432) = 4.6, p = .01$. Post-hoc comparisons using the Tukey HSD test indicated that the mean score for Group 1 ($M = 21.36, SD = 4.55$) was significantly different from Group 3 ($M = 22.96, SD = 4.49$).

Example of t-test results:

A paired samples t-test showed a statistically significant decrease in FOST scores from Time 1 ($M = 40.17, SD = 5.16$) to Time 2 ($M = 37.5, SD = 5.15$), $t(29) = 5.39, p < .001$ (two-tailed). The mean decrease in FOST scores was 2.27 with a 95% confidence interval ranging from 1.66 to 3.68. The eta squared statistic (.50) indicated a large effect size.

Sometimes the results of analyses can be presented more clearly in table or graph format, rather than described in a paragraph. Don't go overboard with graphs though, save these for dramatic effect (e.g., when presenting significant ANOVA interactions).

All tables and figures must be referred to in the text and sufficient explanations provided to ensure that the reader can understand what is presented.

There are some quite strict guidelines for the formatting of tables and figures. The basics are covered in the next section, however I recommend that you consult the Publication Manual (see pp. 125-161).

When submitting an article manuscript for publication the tables and figures are presented at the end of the manuscript following the references.

For a thesis, however, the tables are incorporated in the main body of the report. You should check with your lecturer or supervisor concerning the specific requirements for your report.

Tables and figures

For more information on APA requirements for tables and figures see the Publication Manual (see pp. 125-161).

Tables

When using tables you do not use vertical lines in the table, each table must be numbered consecutively, and a clear concise title provided.

The main words in the title are capitalised.

The table title always appears above the table that it refers to. The actual title is italicized and presented on a different line to the table number.

Both the table number and title start on the left margin.

Where necessary provide a note at the bottom of the table to explain material in the table (e.g., abbreviations used).

General notes are provided first following the word *Note*. in italics, and then specific notes can be added using the superscripts ^{a b c} and so on.

Probability values are presented below the notes starting with an asterisk (e.g., * $p < .01$.)

For example:

Table 1

Pearson Product-Moment Correlations of the PCOISS and Mastery Scale with Measures of Wellbeing

Scale	PCOISS ^a	Mastery scale ^b
Satisfaction with Life scale	.37 **	.44 ***
Positive Affect scale	.55 ***	.43 ***
Negative Affect scale	-.57 ***	-.46 ***
Perceived Stress scale	-.58 ***	-.61 ***

Note. PCOISS=Perceived Control of Internal States Scale.

^a *n* = 425. ^b *n* = 410.

** *p* < .01. *** *p* < .001.

Figures

Figures are numbered consecutively (Figure 1, Figure 2) but separately from tables. The figure caption is presented *below* the figure that it refers to.

In the figure caption, the word 'Figure' and the number of the figure is italicized, however the title is not (see example below).

Unlike tables, the main words in the caption are not capitalised (only the first word). The figure caption finishes with a full stop. Full instructions for the display of figures are available in the Publication Manual (p.150-161).

For example:

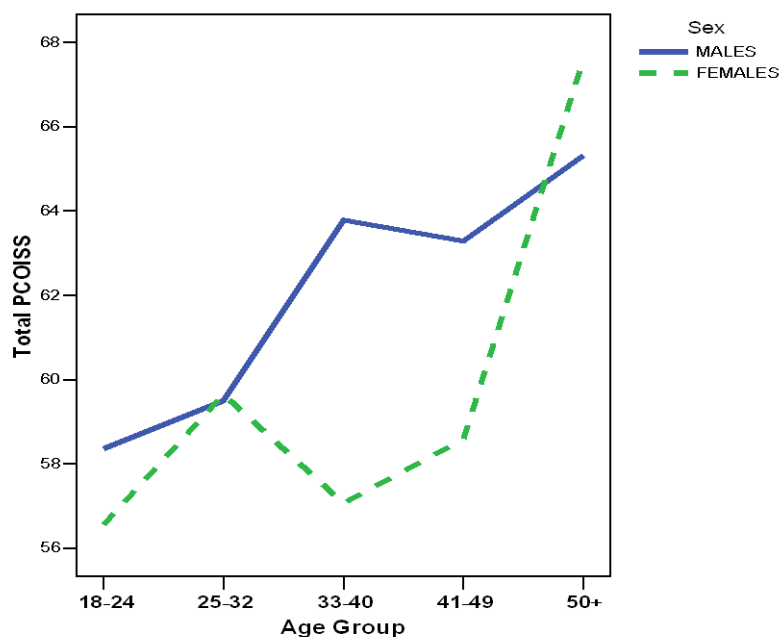


Figure 1. Comparison of PCOISS scores for males and females across five age groups.

Discussion

In the discussion section you should attempt to integrate or pull together all the various sections of your report. This involves a summary of the main findings of the study, followed by your interpretation of these results in light of your literature review presented in the introduction. According to the Publication Manual (2009), in this section you 'examine, interpret, and qualify the results, and draw inferences and conclusions from them' (p. 35).

At the start of the Discussion section indicate whether your original hypotheses were supported or not.

You should compare your results with previous research and suggest reasons for any differences found. Highlight any sources of potential bias or confounding variables, any issues relating to the measurement of your variables, or the effectiveness of any experimental manipulation.

Limitations or weaknesses of your study should be identified and discussed. In particular you should consider the generalisability of your findings to other groups and contexts and any factors relating to your sample or study design that may impact on this.

You should consider the broader implications (theoretical, clinical and practical) of your findings and make suggestions for future research.

References

The references section starts on a new page and provides details of the literature that was referred to in your report. Do not include other background material that you may have read but did not refer to specifically in your literature review.

The references are presented in alphabetical order by author. Multiple entries by the same author are ordered according to the year of publication, with the earliest listed first. References that have the same first author but different second authors are presented alphabetically by the surname of the second author. For more details on these conventions, see the Publication Manual, p. 181.

Each reference is presented on a new line, using a 'hanging indent' (as shown in the examples presented below). A quick way to get a hanging indent: in Microsoft Word highlight the reference or place your cursor at the start, hold the Ctrl key down and press the T key on the keyboard. To undo a hanging indent hold both the Ctrl key and the Shift key down and press the T key until the text returns to the left margin.

The very strict guidelines for the format used to present the different types of material (journal articles, books, chapters) are detailed in the Publication Manual on pp. 169-224. I have provided examples of some of the more commonly used reference types below.

Note. One of the main changes in the 6th edition involves the inclusion of DOI numbers for journal articles. These are 'digital object identifiers' that are assigned to journal articles and other online material to uniquely identify each publication. This information is provided on the first page of most journal articles.

If this information is available (some journal articles, particularly older ones don't have one) you need to include this information in your reference list as shown in the example provided below.

Examples of different types of references:

Journal article

- **one author** Lee, S.A. (2009). Measuring Individual Differences in Trait Sympathy: Instrument Construction and Validation. *Journal of Personality Assessment*, 91, 568-583. doi:10.1080/00223890903228620
- **more than one author** Watson, D., Clark, L., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54, 1063–1070. doi:10.1037/0022-3514.54.6.1063

Book

- **one author** Smithson, M. (2000). *Statistics with confidence*. London: Sage.
- **more than one author** Thoresen, C. E., & Mahoney, M. J. (1974). *Behavioral self-control*. New York: Holt, Rinehart & Winston.
- **later editions** Goodwin, C. J. (1998). *Research in psychology: Methods and design* (2nd ed.). New York: John Wiley.
- **edited book** Robinson, J. P., Shaver, P. R., & Wrightsman, L. S. (Eds.). (1991). *Measures of personality and social psychological attitudes*. Hillsdale, NJ: Academic Press.
- **chapter in an edited book** Thompson, S. C., Cheek, P. R., & Graham, M. A. (1988). The other side of perceived control: Disadvantages and negative effects. In S. Spacapan & S. Oskamp (Eds.), *The social psychology of health* (pp. 69–93). Newbury Park, CA: Sage.

Footnotes

Footnotes are only used if you need to add extra information concerning a particular point you have made in the main body of the article.

These should be numbered and presented in the order they appear in the manuscript using a superscript number ¹

The list of the footnotes can be presented on a separate page at the end of the paper after the references.

1. The PCOISS was developed as part of a multidimensional, multidomain inventory. Copies of this inventory can be obtained from the author.

Appendix

If you have additional material that the reader might like to refer to, but is not central to your report, this can be provided in the appendix. This could include the items of a scale used in the questionnaire, the results of additional analyses conducted, or an example of responses to an open-ended question.

If you need to use a number of appendices (a common situation when presenting a thesis), these are labelled using a letter, rather than a number (Appendix A, Appendix B, and so on).

Each appendix must be given a title (e.g., Appendix A: Details of PCOISS scale items).

Order of presentation

If you are submitting your research paper to a journal, or if you are required to adhere strictly to APA style, the following order should be used to present the various parts of your report:

- title page (separate page)
- abstract (separate page)
- introduction (separate page)
- method
- results
- discussion
- references (start on new page)
- author identification notes (not usually needed for research report);
- footnotes (only if necessary)
- tables (put each on new page), with titles attached
- figures (put each on new page), with captions attached
- appendices (start each on new page with a separate title)

This order is often relaxed, particularly when preparing a thesis, so check with your supervisor or lecturer.

Preparing a thesis

When preparing a thesis, a number of modifications to the APA style are required, although many of the conventions still apply. The main differences are highlighted below; however you should discuss this with your supervisor to find out the exact requirements of your department and university.

Additional preliminary pages are usually required for a thesis. These include acknowledgments, table of contents, list of tables and figures.

Some other differences are listed below:

- The abstract for a thesis is usually longer than that of a research article.
- The different sections of the thesis (introduction, method, results etc.) are usually presented as separate chapters, each commencing on a new page. In a thesis the introduction is labelled (unlike an article).
- The tables and figures are usually presented as part of the results section, integrated with the text, as you would see in a published journal article or book.
- Different heading styles are permissible, particularly where they aid presentation and readability. This includes the use of different fonts, italics, bold etc. that are not usually part of strict APA style.
- Single spacing can be used where necessary in a thesis to improve presentation. This includes titles, headings, quotations, tables and references (however, keep the double spacing between references).