

**Daugavpils University
Faculty of Social Sciences
Department of Social Psychology**

**METHODOLOGICAL INSTRUCTIONS FOR ELABORATING
A RESEARCH WORK IN PSYCHOLOGY**

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1. GENERAL INSTRUCTIONS FOR ELABORATION OF RESEARCH WORKS IN PSYCHOLOGY

Methodological instructions for elaborating a research work in psychology at Daugavpils University are based on the following source: Raščevska, M. (ed.) (2010). *Psiholoģijas doktora studiju programmas un doktorantūras skolas vadlīnijas un metodiskie norādījumi zinātniskā darba izstrādei*. Rīga: Latvijas Universitātes Akadēmiskais apgāds.

Elaborating a research work, the focus is not only on its content but also form (including formatting and design) that testifies to the master student's awareness of the research work elaboration traditions supported and developed at the university and requirements set to reach a particular positive outcome valued by several professionals in the respective sphere.

2. ELABORATION OF RESEARCH WORK AND SELECTION OF A TOPIC

The elaboration of a research work is divided into two stages. At the first stage the master student agrees with the research adviser on the schedule of the elaboration of master's thesis and prepares a research project containing information on 1) the topic of the master's thesis, 2) justification of the scientific, social, and practical significance of the topic, 3) research aim, 4) research question/-s or hypothesis, 5) research design and methods (sampling, tools, procedure). The second stage comprises organizing the master's research in accordance with the set research question/-s or hypothesis, research design, plan, and procedure. Students collect data, process, analyse, and interpret the collected data as well as approbate the acquired results at a research conference. The research work is designed and submitted for reviewing. Finally the research work is defended at the Final examination board meeting.

The topic selected for a research work in psychology must be related to the theoretical and practical context of the respective psychology study programme content. Students suggest their own topic for research work or select a topic offered by their research adviser.

3. ETHICS IN PSYCHOLOGY RESEARCH

For the research results to conform to good research work practice, major spheres of researcher's responsibility are to be distinguished:

- 1) researcher's professional competence;
- 2) defending the interests of persons/group involved in the research;
- 3) veracity of the data acquired in the research;
- 4) validity of the research methods applied.

Student, when carrying out research, must take into consideration several principles that form a model of researcher's ethical conduct:

- 1) doing research is a privilege and not a right. Consequently, when drafting the research design and implementing it, one must always respect the interests and needs of a person/group involved in the research, keeping in mind that this person/group is devoting their time to the research;

- 2) the researcher must respect the rights of the persons involved in the research to self-determination (autonomy), respect, anonymity, confidentiality, and privacy. In case of violating respondents' confidentiality and anonymity, serious moral harm is inflicted on them;
- 3) the researcher must always receive respondents' informed agreement to participate in the research (except for self-report survey within which the very process testifies to agreement to participate in the research);
- 4) it must be realized that human is not a means for reaching the researcher's aims, thus refusing to participate in the research or interrupting participation must be treated with understanding, in no way showing one's disappointment (ŠtĚle, ŠtĚlis, 2011).

It must be taken into consideration that in the research practice in the sphere of psychology one may encounter several cases with special risk that require more attention to be attributed to strict observance of moral principles. These are research cases under the following conditions:

- 1) **socially vulnerable groups**: e.g. children and young people, people with learning disorders or cognitive problems, minors;
- 2) **sensitive topics**, e.g. illegal or political actions of the research participants, their experience of violence, exploitation, or victimization, mental health, gender or ethnic status;
- 3) **institutional permit** to access participants, e.g. ethnic or culture groups, soldiers under service or convicts and other subjects of health or social care institutions;
- 4) **deception** or cases when the research is started without the participant's full and informed agreement;
- 5) **access to personal or confidential information**, including genetic or other biological information;
- 6) **causing psychological stress, anxiety, or humiliation**, or research that causes more than minimum pain;
- 7) **intrusive interference**, e.g. intense physical activities that are not characteristic of regular daily life (Pipere & OĚehnoviĉa, 2017).

However, greatest emphasis in the process of elaborating master's thesis ought to be placed on ethical issues related to plagiarism and self-plagiarism. Students must know definitions and kinds of plagiarism, as ignorance does not relieve from responsibility for consequences. None of the kinds of plagiarism as mentioned below is permissible:

1. **Copy paste** plagiarism when a person misappropriates other author's work or its part for one's own (without special transformations).
2. **Plagiarist transformation** when a person translates other author's work, forms text from various works by another author or authors or their fragments, changing sentence constructions, tenses, persons, style (paraphrase) or in any other way transforming other author's/-s' works and appropriating them as one's own.
3. **Self-plagiarism** when the author repeatedly submits a work once submitted as a new original work (without or with insignificant transformations).
4. **Work order/purchase** (Šteinerte, 2007, 14-16).

4. ELABORATION AND DESIGN OF RESEARCH WORK

4.1. Work structure, content, amount

Structure of research work conforms to the requirements and includes certain parts; cf. Structure of term paper and bachelor thesis structure in Table 1.

Research work chapters	Term paper I	Term paper II	Bachelor thesis	Master's thesis
<i>Title page</i>	+	+	+	+
<i>Annotation in Latvian</i>			+	+
<i>Annotation in English</i>			+	+
<i>Table of contents</i>	+	+	+	+
<i>Introduction</i>	+	+	+	+
<i>Theoretical part</i>	+	+	+	+
<i>Empirical part</i>		+	+	+
<i>Discussion</i>	+	+	+	+
<i>Conclusions</i>	+	+	+	+
<i>List of literature</i>	+	+	+	+
<i>Appendices</i>		+	+	+
<i>Closing page</i>			+	+

TITLE PAGE

Title page indicates the name of the university (Daugavpils University), name of the faculty/department, kind of the research work (master's thesis), its elaboration place (Daugavpils) and year (e.g. 2019), the author's first name, last name, the research adviser's academic position (if applicable: professor, associate professor, docent, senior research fellow, research fellow), scientific degree (e.g. Dr. psych.), first name and last name. The author ought to pay special attention to names mentioned on the title page, font and font size (*see appendix 1*).

ANNOTATIONS

The aim of annotation is to briefly familiarize other scientists with the research produced. Annotation must be brief and concise, its amount not exceeding 1 page. As English is used for scientific communication, annotation in Latvian is followed by *Summary* in English. Annotation content is usually based on the information included in the Introduction of the work, summary of the Theoretical part, and the conclusion of Discussion. Annotation includes the following information:

- the aim of the research;
- major theories applied in the research and main ideas of prior research that determined setting respective research questions and/or hypotheses;
- main research questions and/or hypotheses;
- method (research participants, instruments, procedure);
- major results, conclusions;
- main aspects of practical application of the research.

All research subjects are to be included in the list of *key-words*, except for correspondence between variables. Key-word list is provided after the summary.

TABLE OF CONTENTS

Table of contents includes all chapter and subchapter titles in the order of their numbering as well as the page number of the beginning of the respective part. Table of contents shows the main parts of the master's thesis in their logical sequence from general to particular. It is not advisable to use more than one level of subchapter subordination. Numbering of chapters and subchapters in the table of contents as well as formulations of titles must be identical with their formulation and numbering in text.

INTRODUCTION

Introduction includes the following essential information on the topic under research:

1. **Justification of the topic selection, topicality, scientific novelty, and practical applicability** (1-2 pages.). **Topicality** is justified by explaining to a reader why it is important to investigate the topic. Topicality is closely related to novelty. To justify **scientific novelty**, brief characteristics of prior research accomplishments in the respective topic is to be provided and innovative aspects of the research are sketched out. Novelty may be related both to testing an unproved hypothesis in science and testing a similar hypothesis but using, e.g. differently functioning variables or testing them in other samples or within other research designs (e.g. replacing a correlative research by experimental one). If a new instrument is adapted within the work, it must also be indicated as novelty. To show the **practical usefulness** of the **expected results** (if any), it must be noted how the results and judgements gained will affect, e.g. public notions of the problem under research or further professional or research work or trend of psychologists or professionals of other spheres.

2. **Basic notions and major theories applied in the work**, especially, if there exist different theoretical positions in these matters. This information is logically introduced in text when explicating aspects of the novelty and significance of the topic. It is advisable to avoid excessive use of references in the Introduction, though major authors whose research will be discussed in the theoretical part are to be mentioned.

3. **Clearly formulated aim/-s of the research, hypothesis/-es, and/or research questions**. The above mentioned information on the problem under research, its novelty, significance, basic notions and theories is logically followed by clearly formulated information on the research aim, subject, hypothesis/-es, and/or research questions. Research questions subject to the topic of research ought to be formulated as additional questions. *The psychological term system of the research work title, research aim, and research hypotheses or questions must be coordinated and consequent.*

Research subject is any basic variable, correlation between them (in a correlative research), or their psychometrical indicators (e.g. scale reliability) yielding in the research concrete information in accordance with the research hypothesis or question.

4. **Research method**. In a research work usually several hypotheses and research questions are tested, variables and designs (samples, measurements, procedure) whereof may differ. Therefore the author must demonstrate understanding of the application of experimental (or quasi-experimental designs with group equation or co-variative variable control) or non-experimental designs in case of certain hypotheses and whether these non-experimental designs will be realized within a quantitative or qualitative research. *Introduction* must provide brief information on the research method characterizing it from several aspects: a) *research design*; b) *participants in the research*; c) *measurements*; d) *procedure*; e) *methods of data processing and analysis*. It is insufficient to confine to a phrase that for testing hypothesis an experiment will be organized, research methods are to be characterized with most important information included in the empirical part of the research work titled "Method".

• **Participants (or samples) of the research**. The number of samples used in the research must be pointed out, mentioning the number, age, gender and other significant socio-demographical indicators of participants in each sample. It must be noted if samples are equated according to socio-demographical indicators. If a sample includes persons with broader age range, the mean age (M) and its standard deviation (SD) are to be indicated for each sample.

• **Measurements**. Data collection tools are to be indicated with precision – full and abridged names of surveys or tests, their authors, sources of publication, and the variable they will be applied to investigate. In the case of using tests/surveys adapted in Latvia, first the authors of their original versions are indicated, then their adapters. If the research envisages elaborating a new original survey, it must be stated for the investigation of what variable it will be used. If data are collected by means of observation or interview, the kind of interview is to be mentioned (e.g. semi-structured) and the

phenomenon it will describe. This information must make it clear for a reader what kind of data collection method will be applied for the particular variable.

- **Procedure.** Brief characteristics is to be provided of the conditions of making measurements, their sequence, indicating whether data collection will be individual or in group, whether there will be a time limit. In the case of experimental research, brief characteristic is given of independent variables that will be manipulated and whether there will be any control of conditions. It must be indicated in detail how the experimental and control group sample was made. The principle of incidental sampling method or other method application is to be pointed out as well.

- **Methods of data processing and analysis.** The software of data processing must be indicated (e.g. *SPSS programme 22.0 version*) and main statistical methods, e.g. *MANOVA, regression analysis, factor analysis*.

Prior information provides a sufficient notion to a reader as to the research under execution and problems to be solved. However, it is advisable to inform a reader in what way the research aims will be reached. This is characterized by research objectives.

5. **Research objectives** are similar for the major part of research in psychology, yet they are to be indicated in the research work (a requirement that follows from the regulations of the Cabinet of Ministers No. 1001). Most often they are:

- selecting and analysis of scientific literature on the topic of research,
- elaboration of a research project,
- adaptation of measurement tools (this point does not always apply),
- approbation of research methods in pilot research,
- data collection, processing, and analysis,
- interpretation of results, drawing conclusions,
- summary of the research results and designing the research work.

6. Introduction is concluded by a description of the structure of the scientific work, briefly characterizing the content of chapters and indicating tables, figures, appendices, the number of theoretical literature titles and sources, the number of pages without appendices and with appendices.

In the Introduction it is advisable to highlight in bold all essentially informative words – **topicality, scientific novelty, practical applicability, research aim, research subject, research hypothesis/question, research method, research participants, measurements, procedure, methods of data processing and analysis, research objectives**, etc., for a reader to easily find the respective information. It is permissible in case of necessity to use the personal pronoun “I” in Introduction, while it ought to be avoided further in the work, using instead Passive Voice forms of the verb. Introduction should not exceed 3-5 pages.

THEORETICAL PART

Theoretical part is aimed at:

- introducing a reader into the research topic, explaining major notions, the problem under investigation,
- summarizing ideas of other researchers on the investigated topic, its problematic (stating what has been studied so far and what remains unclear, why the particular problem needs to be studied),
- justifying the research idea, methodological approach, hypotheses (or research questions) planned to be tested.

In the theoretical part the author familiarizes readers with the research topic, providing a structured, logical, analytical review of the scientific literature and characterizing the problem of the scientific research.

Theoretical part comprises theoretical explication of hypotheses or research questions set for research based on prior studies and scientific arguments. The author shows the way s/he has arrived at the suggested research hypotheses or questions and how these assumptions logically follow the knowledge and other arguments already reflected in literature (in deductive research). It is important that the theoretical part would manifest not only the author's ability to select theoretical works that correspond with the problematic under investigation but also ability of analyzing them and expressing independent judgements.

Theoretical part is divided into chapters, the content and titles whereof is usually determined by the kind of psychology notions applied in the research and their relations. Chapters in the theoretical part sequentially familiarize a reader with major notions under study and their relatedness, both from the position of prior research and aims of the research to be made. Elaborating chapters it is important to include only the most essential information. It is advisable to start writing the theoretical part when several preconditions are fulfilled:

- good notion and understanding of the research topic is acquired by studying the literature of the respective sphere,
- maximum of literature on the respective topic has been examined,
- variables to be investigated, research hypotheses or questions, research design and data collection methods are specified,
- pilot research data are acquired and their initial analysis has been accomplished in order to project the expected results and verify the reliability of data.

EMPIRICAL PART

Method

Three aspects characterizing *method* are of importance: research participants, way of data acquisition, procedure. In case of using complex data processing methods, additional subchapter is added – *Methods of data processing and analysis*. In case of experimental research this part may be started by a general characteristics of research design followed by an explication of particular aspects in accordance with the suggested structure.

Research participants

Precise description is to be provided of the way respondents were selected, their agreement acquired, whether they participate on voluntary basis or are paid for it, method of drawing the sample. For each sample there is to be provided its participant *number, age, and gender classification* and other significant socio-demographical indicators. The advisable amount for one sample in quantitative research is no less than 50 respondents. If there are several samples with participants' age fluctuating in the range of at least some years, it is advisable to indicate the mean age of participants in each sample and standard deviation. The number of participants in separate experimental groups or clinical groups may be less than 50 persons if respective experimental manipulations are complicated or respondents are not easily available. Participants' *age* and *gender* are to be always indicated, whereas indication of other demographical parameters depends on the investigated dependent variables and the subject variables used to align groups or produce control of some conditions. For learner samples the following socio-demographical indicators may be of importance: form (grade), native language. For adults: level of education, employment status, marital status. Gender proportions are best indicated in %. If there are numerous socio-demographical indicators, they may be shown in a table. It is always advisable to indicate both the total number of participants and their number in samples. The socio-demographical indicators are to be provided for each group, not for the whole sample. In case of longitudinal research, the number of participants must be indicated at each stage of research,

mentioning the reasons for dropout (if any). If clinical groups selected on the basis of DSM or ICD system criteria are used for research, the exact diagnosis code is to be indicated. If a sample includes respondents replying to surveys produced in *various languages* (e.g. Latvian and Russian), this is permissible only if the research envisages an additional sample and procedure that justifies that questionnaires filled in in various languages do not show significant differences of psychometrical indicators.

Measurements

For producing measurements one may use tests, surveys, special technical devices, observing, interviews, and other procedures. One must indicate with precision the full and abridged name of surveys or tests used in the research, authors, and sources of publication. For surveys and tests adapted in Latvia, one must indicate not only the author of the original test and reference to his/her publication but also authors of adaptation providing a reference to their respective work. If a researcher has envisaged in a scientific work adapting the above-mentioned data collection method, it must be indicated and in section *Procedure* one must provide characteristics of the selected adaptation approach (in line with the international test commission guidelines – *ITC Guidelines for Test Adaptation*) and procedure. Text of the adapted survey together with the original survey (if it is not a licence protected method) is to be included in the appendix of the research work.

Procedure

This section provides characteristics of the sequence of data acquisition. It is advisable to:

- 1) reveal how the experiment was conducted or organized (in case of experimental research design), characterize manipulations with the volume of independent variables, procedure of selecting experimental and control group respondents, reflect the provision of the control of other conditions, describe instructions given to respondents during the experiment. If the research is not experimental, the principles of sampling are to be indicated. It is important to indicate whether respondents received any verbal instructions before doing surveys/tests, whether their motivation of participating in the research was monitored;
- 2) explain how data were collected – in groups, individually, in direct contact with respondents, using e-environment or otherwise. It must be indicated whether data were collected by professionals or, e.g. students or other assistants;
- 3) in case of making several variable measurements with the same respondents, the sequence of collecting data is to be indicated.

Methods of data processing and analysis

Brief characteristics of statistical methods of data processing is provided naming them and indicating the software applied for their processing (e.g. SPSS 22.00 version). In qualitative research, methods of data analysis are characterized in detail.

Results

The description of the research results is to contain full and laconic information on the data acquired and data analysis produced. The information must be sufficient for the produced analysis to be able to replicate in another sample. The description of the results includes the descriptive and concluding statistics whereupon the author bases his/her conclusions and refers to in discussion. Experimental research includes the information on the manipulation efficiency check. Any other resulting data that are not directly related to the research conclusions are to be provided in appendices. The description of results includes both the information that confirms the research hypotheses and that which contradicts

the initially predicted results. Usually the section *Results* does not provide initial research data. This section does not interpret the results acquired.

After reading the description of the results, a reader must obtain a complete notion of the answers to the empirical research questions or hypotheses that were tested (also the reliability of the surveys or tests applied, if calculated in the research), so that a reader may make on their basis his/her own conclusions irrespectively of the author's interpretation and conclusions.

The description of the research results is structured in accordance with the research questions or hypotheses. Results that provide an answer to each research question are described sequentially and separately, starting from more general information and proceeding with more specific analyses. Usually the description of the results starts with descriptive statistics indicators followed by statistical analysis and respective concluding statistics indicators. If any derived indexes or other numerical indicators are used for data analysis, it is explained at the beginning of the result description how these indicators are calculated (if this is not stated in section *Method*). Also, if needed, information on the efficiency of experimental manipulations is provided at the beginning of the result description. If the author has adapted for the needs of the research one or several surveys, the section of results needs to be started by characterizing the psychometrical indicators of these surveys.

DISCUSSION

Discussion is aimed at assessing and interpreting the acquired results in relation to each research hypothesis or question and show the application of the newly gained knowledge. The author provides all-rounded interpretation of the results, reveals their significance that follows both from the empirical results and those theoretical positions that relate to the ideas of the empirical part of the research. There is no need in the discussion to repeatedly provide statistical indicators and their significance levels. Discussion is usually started by the recuperation of the main ideas of *Results* section pointing out which hypotheses were confirmed and which were not, what answers were acquired to the research questions. The author accounts for the acquired results by replying to several questions:

- what is the connection of the research results to prior research (noting ideas of particular research works providing references to their publications), whether they match or differ, or supplement prior research, in what way; in case of contradicting prior conclusions, what could be the reasons for it,
- what these results prove, what could be accounting for it in the context of psychology theories,
- what is the scientific significance and novelty of the results,
- what are the strengths and weaknesses of the research, what are options for further research (a new hypothesis may be suggested),
- what are the main conclusions taking into consideration the context of the result interpretation,
- what is the practical applicability of the conclusions reached.

Discussion is to be written in a way similar to the theoretical part – there is no longer a need to stress that the arithmetical mean of one group was statistically significantly higher than that of any other group. Discussion needs not be saturated with statistical notions; they are used to justify the conclusion.

CONCLUSIONS

This section provides a brief emphasis on the following:

- why was it important to investigate the respective problem,
- what are the main conclusions following from the research results, whether they extend the scope of the prior ideas in the sphere, which of them are more essential in the context of the research work,

- was the research novelty reached owing to the methods of analysis, e.g. the research design and mode of analysis in the research have been more complicated than in prior research and provide a wider or deeper insight into the phenomenon under study,
- whether sufficiently good research validity and reliability are achieved, can the achieved results be transferred to the real environment (in case of laboratory experiments).

LIST OF LITERATURE

List of literature is aimed at providing a full bibliographical survey of those sources of literature that are referred to in the research work, so that a reader may find them if needed. *List of literature* contains all literature referred to in the research work text including e-resources and anonymous authors' texts used.

Research works contain references to various kinds of works:

- scientific journals,
- monographs,
- books with editor,
- book chapters with a common editor (or editors) and authors of chapters,
- publications by various institutions,
- electronic publications or e-resources,
- unpublished works,
- works that are submitted or accepted for publication,
- works the author whereof is unknown,
- newspaper articles,
- works by ancient classics with the precise year of publication not known,
- personal correspondence or conversation,
- publication cited from another publication,
- publications in foreign languages.

List of literature must provide all sources of literature referred to in any chapter of the research work. Sources are listed in the order of Latin alphabet letters by their authors' last names. Sources in different languages are provided in a unified alphabetical list. Sources that are not written in Latin alphabet (e.g. in Russian) are transcribed with Latin letters providing a translation of the title into Latvian in square brackets. Translation is not provided only for sources in English. The design of the list of literature must comply with APA reference style (see <http://owl.english.purdue.edu/owl/resource/560/01/>)

APPENDICES

Appendices are aimed at providing additional information for a reader to gain better understanding of the argumentation and results of the research work. Usually appendices contain: 1) additional illustrating tables or figures/pictures; 2) fragments of originally produced tests or surveys; 3) samples of collected data (e.g. children's drawings); 4) intertables of qualitative data analysis.

CLOSING PAGE

On this page the research work is signed by the research adviser recommending the work for defence. Before submitting the thesis to reviewing, the author must sign his/her work attesting that the work is original research produced by the author (*see Appendix 2*).

In order to demonstrate the amount of the master's thesis and the number of sources of literature used, these indicators are shown in Table 2 in a context with lower and higher level works.

Table 2. Approximate amount of term paper, bachelor thesis, master's thesis, and doctoral thesis (without appendices) and the minimum number of sources of literature used.

Form of work	Amount (pages)	Minimum number of sources of literature
<i>Term paper I</i>	20-30	30
<i>Term paper II</i>	30-40	40
<i>Bachelor thesis</i>	50-60	60
<i>Master's thesis</i>	60-70	70
<i>Doctoral thesis</i>	100-150	150

Table 3 shows the suggested amount of pages in sections for term paper, bachelor and master's theses.

Table 3. The suggested amount of sections for term paper, bachelor and master's theses (pages)

Sections of research work	Term paper I	Term paper II	Bachelor thesis	Master's thesis
<i>Title page</i>	1	1	1	1
<i>Annotation in Latvian</i>			1	1
<i>Annotation in English</i>			1	1
<i>Introduction</i>	1-2	2-3	2-3	3-5
<i>Theoretical part</i>	15-25	+	20-30	30-40
<i>Empirical part</i>		+	20-30	30-40
<i>Discussion</i>	1	+	2-3	3-5
<i>Conclusions</i>	1	1	1	1-2

4.2. Technical design of the work

Master's thesis is typed using *Times New Roman* font, font size 12, spacing 1.5 on A4 format sheets leaving margins 3 cm (left), 2 cm (top, bottom), 1.5 cm (right). Titles are centred or aligned left depending on the title subordination degree.

Pages are numbered starting with the first page of *Introduction* and ending with the last page of *List of literature*. Titles are printed in bold type using font size 12. Before the title, one line is left empty. If the title is followed by the next subordinated title, no line is left empty. If the title is followed by text, another empty line is left. No empty line is left before or after unnumbered title. In titles full stop appears after each numbering figure, whereas after the title there is no full stop. First level titles are centred (with one figure numbering, e.g. 2).

Very often some factors are listed in the work. They are either numbered (e.g. 1, 2, 3, or 1), 2), etc.) or marked by letters (A, B, C, or a), b), etc.). Listed units may be marked by signs (–, •, □). It is advisable to keep to a unified system of marking throughout the work.

Each new paragraph is indented. Indentation is of 5-letter length. Each logically complete thought ought to be structured in a paragraph. Text without paragraphs is considered to be erroneous as it aggravates reading. Paragraph is not formed by one sentence. Spacing between paragraphs is

similar to that between lines. An empty line is left only before and after a table title and before or after a figure title.

4.3. Kinds of literature and drafting the literature review

Before drafting the review of theoretical literature, it is advisable to use specialized online databases, dictionaries, and encyclopaedias to compile a list of key words. For further search of sources useful online databases are *ScienceDirect*, *PsychArticles*, *PsychInfo*, *EBSCO*, *Sage Online*, bibliographical editions, e.g. *The Social Science Citation Index*. Major information sources are research articles in psychology journals, scientific paper collections, monographs, thematic encyclopaedias (entries with their authors indicated), handbooks (e.g. *Handbook of Social Psychology*, *Handbook of Organisational Psychology*, *Handbook of Clinical Psychology*, etc.). As *PsychArticles* database is not complete, search for information should be started with *ScienceDirect* database. Though it does not supply full articles from journals, they may be obtained in another way, for instance ordering at DU library or searching other databases.

Literature review is not just a summary of other researchers' findings; it is drafted by analyzing, synthesizing, and critically assessing theoretical information on the problem under research. Analysis in this case means selection of essential information. It is not advisable to draft the literature review as a range of fragmented summaries of articles found on the respective topic. One should not try to compile in the theoretical part reviews of all publications dedicated to the research topic, concrete variables and their relatedness. It is advisable to refer to the primary source, authors who were the first to take up investigating the problem, major publications (the significance of the source is often determined by the frequency of its citation) and latest publications. If similar research has been produced in Latvia, it is advisable to refer to it as well. In the theoretical part it is advisable to mention all publications used in the work. In *Discussion* it is not advisable to list authors that are not previously mentioned in the theoretical part (except for qualitative research where result interpretation may not be directly related to the theoretical justification).

When writing the theoretical part it is important to demonstrate skills of synthesizing ideas from other research closely related to the topic as well as demonstrate connection between individual research works and the problem under study. Synthesis makes it possible to formulate the research hypothesis or questions more successfully. Research questions or hypothesis are to follow logically from the analysis of scientific literature. Critical assessment of the regarded research is of a great importance, revealing its strong and weak points. One must by all means avoid personal criticism of authors (their beliefs, views, etc.); criticism is to be directed exclusively against theoretical or methodological failings. Hypotheses or research questions may be formulated also at the end of separate theoretical part sections. Though all hypotheses and research questions are provided in the introduction of the research work, they need to follow logically from and be mentioned in the context of the theoretical part or at the end of the summary of the theoretical part. One must avoid using pronouns "I" and "we". Individual abbreviations are to be maximally avoided as well, except for various abbreviations of statistical indicators and others accepted by *Publication Manual of APA*, e.g. names of generally recognized test scales. If the name is not widely known, then the abbreviation is first given beside the full name, e.g. scale of empathy (henceforth – E). Statistical indicators need not be deciphered if using abbreviations accepted by *APA*. For instance, one writes: ... *statistically significant correlation $r=0.5$ was acquired in the research.*

4.4. Design of references and the list of literature

References in text

In text only those authors may be mentioned that have been read by the author. In some cases, e.g. when the primary source is not available, indirect references may be used: “This phenomenon was described by Külpe in the early 20th century (cited from Korman 1976, 56)”. In the list of literature in this case Korman is given and not Külpe.

References point to the primary sources of other authors' ideas. It is not advisable to add a reference only at the end of a long paragraph; it must follow either straight after the author's name mentioned in text or the important idea or information provided in text. If ideas or information are found in many authors' works, it is not necessary to refer to all of them; it is sufficient to provide some of the more significant ones mentioning them as example. If the article or articles are analyzed in detail in several sentences, references are provided at the beginning, in the first sentence continuing the explication of the idea, without repeating the reference. Ideas that are no longer related to the previously mentioned publication are provided in a new paragraph.

Authors' names in text are written in Latvian, in references providing the name in the original language in brackets. Proper names in other languages are rendered in Latvian according to their pronunciation in the original. There are some exceptions, e.g. *Freids* (according to pronunciation in German it should be *Froids*) that are rendered according to the tradition.

Generally accepted principle of referencing is the following: providing the name of the author (authors) and the year of the publication of the work, e.g. (Myers, 2005) or (Craik & Craik, 1997). The author's first name or initials are not provided in reference. After citation, page number where it appears in the publication is indicated as well, e.g. (Myers, 2005, 24).

If the publication is in Latvian, reference may be written also thus: Kalniņa (2007) pētījumā tika noskaidrots..., i.e., the author's name is not provided in reference, just the year of the publication. If the work is in another language, in text the author's name is spelt according to norms of rendering proper names from other languages but in brackets providing the spelling in the original language (if Latin alphabet letter are used), e.g. Kreika (*Craik* 2008) uzskati par atmiņu... .

Referring simultaneously to several authors, it is often necessary to distribute these references according to their significance. For instance, instead of writing: “Motivation of achievements is a widely researched topic (Atkinson, 1957; Hanin, 1985; McClelland, 1961; Orlov, 1993; Saulīte, 1999)”, it should be: “First authors to address studies of achievement motivation were Atkinsons and Makklelands (Atkinson, 1957; McClelland, 1961). Later on it was researched in Russia (Hanin, 1985; Orlov, 1993) and Latvia (Saulīte, 1999)”.

Citations are used for confirmation of the scientific work author's idea but only when the formulation of the cited author is very important and cannot be reported. Citations must not occupy more than a fourth of the total amount of the chapter. Citations must not be taken out from the total context of the work cited, as it is not ethical. Length of a citation is not to exceed 400 words; the total length of citations from one publication must not exceed 800 words. If a citation is longer than 40 words, it must be separated from text in a new paragraph with indentation from the left. It is not permitted to copy an author's text without indicating it as a citation by inverted commas but only providing a reference at the end of the text.

List of literature used

Authors mentioned in text must appear in the list of literature used and vice versa – each entry from the list of literature must be indicated in text (with some exceptions). The author must make sure that each source appears in both places and whether the reference in text and in the list of literature is identical in spelling and as to the year of publication.

In case of citing several works by one author, they are arranged in the sequence of their publishing, first indicating older publications, then more recent. If the author produced some works with co-authors, first works without co-authors are indicated, then with co-authors in the alphabetical

sequence of their names. If the author has two works published in the same year, additional marking with letters is used (Craik, 2003a, 2003b). If two sequential authors have identical last name but different first names, they are listed in the alphabetical order of their names. In this case, the initial of the first name of these authors is provided in references in text as well.

One of the tasks of the list of literature used is providing readers of the research work an opportunity of finding and using the sources; therefore the list of literature must be precise and complete. Each entry includes the following:

- the author's last name and initial of first name,
- the year of publishing the work,
- the work title,
- publishing data – place of publishing, publisher, resp., all information needed to specify the source and find it in library,
- for scientific journals – series (number) and pages.

The best way to secure precise and complete information is carefully checking each reference comparing it with the original publication.

More information on various kinds of references in text (one, several authors' works, institutional research, etc.) and designing literature sources in APA style is provided in APA guidelines and other sources (APA, 2016; Raševska, 2010; Mārtinsone & Pipere, 2016).

4.5. Design of tables and pictures

Tables

Tables show information in a concentrated way; therefore they are good means of describing complex information and results of analysis. However, too numerous tables aggravate the perception of text, thus it must be considered thoroughly which information is reflected in tables and which in text or diagrams. Usually tables include information that is too complex to describe in text. Data are not reflected in a table if the number of rows and columns in a table is no more than 2. In this case data are better described in text. Any table included in the research work must be referred to in text. Table follows *after the reference*, not before it. It is pointless to provide tables with information that is not a basis for analysis or conclusions. Data that are not directly related to the research questions, hypotheses, and conclusions, as well as very detailed and complicated information are better included in appendices. In master's thesis (unlike APA standard requirements), *tables are designed* in a compact way, *single-spaced*. Each table must have a title so that it can be perceived outside the context of the work, i.e., it must include the name of the independent variable or dependent variable stating what statistical indicators are reflected in the table. Columns are designed according to states of the independent variable (e.g. age groups). Each independent variable state (e.g. age group) is provided the necessary statistical indicators, e.g. *n*, *M*, *SD*, *Cronbach alpha*. Upper case *N* is used only to signify the total sample amount, whereas lower case *n* – to signify the amount of sub-samples. It is advisable to use for marking statistical indicators symbols stated in APA standard.

Information in tables is not to repeat the information provided in text. Text may indicate some numbers from the table, their differences or correspondences, but the whole information provided in the table should not be repeatedly described in full. A correctly constructed table is obvious, as the title of the table, its columns and rows as well as notes include all necessary information for a reader to understand the table without searching for additional explanation in text.

Several principles in drafting tables must be observed:

- tables have separate numbering throughout the whole research work,
- tables must have a comprehensive title,

- table together with its title must not exceed 1 page; if a table is longer, one should consider drafting two tables instead,
- it is advisable to design tables by using *Word* form *Table*,
- table contains as many columns as the page width permits observing left and right margins; if a table is wider, two separate tables must be designed,
- font size in a table is the same as in text – 12, but spacing between lines – 1,
- tables use shadowing for rows, to mark the beginning and end of the table, column titles, or separate horizontal sections if several of them appear in a table,
- columns and rows are given clear and understandable titles: names of variables or abridged symbols of statistical data. Titles may be typed also in italics (but not in bold). Columns or rows are not to be highlighted,
- column titles are centred, whereas row titles are left aligned,
- numbers in tables are indicated with two figures after the comma except for integer numbers. Unlike English, in Latvian decimal numbers are written with a comma and before the comma zero is used. If data are lacking in a cell, it is filled with a double dash "--",
- in a table there cannot be blank cells of either column or row titles or data cells, except correlation matrix cells symmetrical in relation to diagonal,
- if full names of statistical indicators are typed in the table, this applies to all indicators, or else for all indicators their abridged names or symbols are used; observing a unified style is advisable.

Both columns and rows must be justified in one line not to cause difficulty or misunderstanding for a reader in perceiving information. If a table contains numerous rows, it is useful to leave a blank row after every four or five rows – this will make the perception of information easier. Various kind of information is reflected in tables by APA standard forms. If possible, tables are advisable to create in portrait orientation, for the reader not to have to turn the text when reading the result description. If table splitting cannot be avoided making several separate tables, on every next page the respective column (or row) titles are to be repeated.

Notes at the bottom of table are typed as follows:

- first – information that refers to the whole table,
- followed by information that refers to separate parts of the table,
- finally – explanation of levels of statistic significance.

Composition of each table is determined by the information the author needs to reflect and attract reader's attention. However, making tables, general table formatting principles are to be observed described in APA handbook from subchapter 3.62 to 3.74.

Figures

Another way of simpler presentation of information in the result description is using graphical figures. Information provided in figures is less precise but more viewer friendly than in tables. Figures are especially suited to depicting interaction between variables as well as non-linear correspondences.

Basic principles for making figures are similar to those of making tables. Figure must add to the information provided in text instead of duplicating it. Figure must be self-evident – its title, explanations, and notes must provide sufficient information to perceive it without searching for additional information in text. Text may provide additional information to that in the figure, e.g. indicating levels of statistical significance that are usually not depicted in diagrams, or values of statistical criteria. Figures admissible for master's thesis must be black and white, not in colour. If there are many figures, the same colouring is to be used for reflecting a particular variable. Figures are made in a unified visual style, without excessive details. Quantitative information both on the horizontal and vertical axis is arranged in growing sequence (except for cases of using nominal scale). Within the figure, the size of letters and numbers may not vary; it must remain equal, no less than 10.

Both x and y axes must be titled and graphic representations must have inscriptions. Figure is referred to in text in brackets, e.g. (see Figure 1).

Title of the figure is *placed under the figure*. Figures may be supplemented with information of statistical significance, for instance, using abbreviation *ns* that indicates that between groups there is no statistically significant differences, or including probability, e.g. $p < 0,05$ to indicate that this difference was observed.

5. ASSESSMENT OF RESEARCH WORK

The reviewer of the research work assesses the work in totality and each of its parts separately, yet the authors need to be aware of the cases when the assessment of the master's thesis may be lowered:

1. Errors in design:

- 1.1. misprints and omitted lines or longer fragments in text,
- 1.2. missing titles of figures and tables or other design errors, figures and tables are not integrated (explained) in text,
- 1.3. a missing essential section of the work,
- 1.4. errors in the use of references to the literature used and their design (e.g. the source used in references in text is not added to the list of literature),
- 1.5. errors in the design of the list of literature: the design of the list does not comply with the requirements,
- 1.6. missing titles of chapters and/or subchapters in the table of contents.

2. Errors in the theoretical part:

- 2.1. factual errors in reflecting of the studied research works,
- 2.2. missing analysis of significant sources of literature closely related to the topic under research and published in editions accessible to the student,
- 2.3. missing summary of the analysis at the end of the theoretical part,
- 2.4. the title of the work does not reflect its content or reflects it partially,
- 2.5. the theoretical part of the work is fragmented, chapters do not make a homogeneous text oriented at setting research question/-s and/or hypothesis/-es,
- 2.6. formulations of the aims, subject, objectives, etc. of the work lack precision and logic.

3. Errors in the empirical part:

- 3.1. the research uses methods inappropriate for the problem under investigation,
- 3.2. the author uses methods without references to their author,
- 3.3. the work does not contain a detailed account for the procedure of the research: it is impossible to reproduce the procedure according to the description provided,
- 3.4. missing interpretation of the results acquired, conclusions are presented as a simple statement of results,
- 3.5. the author avoids comparing the results acquired in the research to those by other scientists whose ideas are analyzed in the theoretical part of the work.

4. Ethical aspects of scientific research:

- 4.1. the author has ignored the ethical norms, violating without justification the anonymity, confidentiality, etc. of research participants,
- 4.2. the work reveals features of plagiarism or self-plagiarism,

4.3. the author formulates practical suggestions that may harm the psychological wellbeing of research participants,

4.5. the author formulates recommendations/suggestions offering solutions that are beyond his/her professional competence, e.g. “award a prize”, “implement”, “liquidate”, etc.

Literature sources:

General APA Guidelines

https://owl.purdue.edu/owl/research_and_citation/apa_style/apa_formatting_and_style_guide/general_format.html

Lejiņa, L., Šneidere, K. (Red.) (2017). *Metodiskie norādījumi kursa un bakalaura darba izstrādei*. RSU. Rīga.

Mārtinsone, K., Pipere, A. (Red.) (2018). *Zinātniskā rakstīšana un pētījumu rezultātu izplatīšana*. Rīga: RSU izdevniecība.

Mārtinsone, K., Perepjolkina, V., Šneidere, K. (Red.) (2017). *Metodiskie norādījumi maģistra darba izstrādei*. RSU. Rīga.

Pipere, A., & Oļehnoviča, E. (2017). *Zinātniski pētniecisko darbu izstrāde studiju virzienā „Izglītība, pedagogija un sports”*: Metodiskie norādījumi maģistra darbam. DU: Akadēmiskais apgāds “Saule”.

Raščevska, M. (red.) (2010). *Psiholoģijas doktora studiju programmas un doktorantūras skolas vadlīnijas un metodiskie norādījumi zinātniskā darba izstrādei*. Rīga: Latvijas Universitātes Akadēmiskais apgāds.

Šneidere, S. (2017). Plaģiātisma problēma studiju darbos. No *Studiju kvalitāte*. Jēlgava, LLU.

Appendix 1. Title page design

**DAUGAVPILS UNIVERSITY
FACULTY OF SOCIAL SCIENCES
DEPARTMENT OF SOCIAL PSYCHOLOGY**

FIRST NAME, LAST NAME

TITLE OF THESIS

Form

(term paper, bachelor thesis, master's thesis, doctoral thesis)

**Research adviser: research degree, position,
first name and last name**

Daugavpils, year

Appendix 2. Master's/bachelor thesis closing page

The master's/bachelor thesis was elaborated at

Daugavpils University
Faculty of Social Sciences

Hereby, with my signature I attest being the author of the master's/bachelor thesis „_____Title_____”. This thesis has never been submitted to any other board and has not been previously published in full. All information used from other sources is indicated in the thesis. I am informed that in case of copyright and other similar violation conceded in the thesis I may stand punishment in accordance with the legal acts and regulations of the Republic of Latvia.

Author of the thesis.....

(signature, date)

Recommending the thesis for defence:

Research adviser

(signature, date)

The thesis was defended at the meeting of the final examination board on _____ June 2019.

Head of the final examination board

(signature)