METHODS OF PSYCHOLOGICAL RESEARCH, DATA ANALYSIS AND INTERPRETATION

Credit points	**6 CP**		
The Abstract of the course	The course gives students the opportunity to gain knowledge about the basic principles of constructing and conducting qualitative and quantitative research in psychology, deepens knowledge of the theory of planning and conducting an experiment, introduces an implicit research methodology. Students gain knowledge about modern methods of collecting and analyzing qualitative data (texts and images) in psychology (observation, interviews, focus group, thematic analysis, Grounded Theory method, phenomenological analysis, narrative and discourse analysis). It forms the ability to develop independent research using various adequate designs and methods for processing research data (studying the relationship between variables measured on different scales; ANOVA, multiple regression, factor analysis, reliability analysis and elements of power analysis), the ability to present research results in accordance with the rules of the American Psychological Association (APA), including writing a scientific article. As part of the course, students work with SPSS and MS Excel software. The mastering of this course makes it possible to design and write a master's thesis.		
Aim of the study course	To form an understanding of modern problems and principles of the methodology of qualitative and quantitative research, as well as develop skills and competencies in the design of various research procedures for their adequate application and statistical analysis of data and their interpretation.		
Objectives of the course	• To form knowledge of the basic principles and problems of the methodology of quantitative and qualitative psychological research; • To gain a clear perception of about the main implicit measures and theirvarious procedures; • To develop the ability to formulate research aims, hypotheses or research questions, choose a research design, and apply modern statistical methods, computer programs for data processing; • To develop skills in formulating research results and writing a scientificreport in accordance with the requirements of APA; • To develop research skills, creativity, critical attitude, the ability to make objective and scientific judgments and to carry out an adequate self-evaluation; • To provide students with training for independent research as part of theelaboration of Master's theses; • To contribute to the development of the personality of the futureresearcher.		
Study course results	**Knowledge**	**Skills**	**Competences**
	• Knowledge of modern theoretical and applied achievements in the field of methodology of psychological research, serve as the basis for original thinking and / or research; • A critical understanding of issues related to the solution of scientific problems of the	• Skills for solving specific problems that are necessary for research or innovation in order to recreate new knowledge and procedures and integrate knowledge from various fields; • Ability to formulate a scientific problem, goals and objectives of the study; put forward a hypothesis or research questions; • Ability to design the various types of research; • Ability to draw conclusions about the validity and reliability of	• Ability to integrate and analyze scientific knowledge from different fields of psychology; • Understanding of scientific methods and their creative application in various developing areas ofpsychology; • Respect for ethics in conducting research; • Consideration of the

	methodology of psychological research and related areas; • Knowledge of the methodologyof qualitative and quantitative psychological research; • Knowledge of the procedure for the development and design of experimental research methods; • Knowledge of implicit measures and procedures for their construction; • Knowledge of modern statistical tests, computer programs used in psychological research. • Knowledge of the APA psychologist's code of ethics. • Knowledge of how to write scientific reports on the requirements of APA.	research methods, to adapt the selected methodology; • Ability to select adequate designs for experimental research; • Ability to make a top-guide interviewand focus groups; • Ability to conduct interviews and focus groups using projective techniques; • Ability to interpret texts and images using modern methods of qualitative analysis; • Ability to choose adequate statistical methods for data analysis; • Ability to describe the results of statistical data processing and their interpretation; • Ability to present scientific research in the form of an article or a scientific report in accordance with the requirements of the APA; • Ability to • conduct research in accordance with the APA code of ethics; • Ability to present and defend the resultsof your research.	impact of research results on the environment and society; • Taking responsibility for • their professional decisions and actions during the study; • Use of innovative approaches in the development of ideas for psychological research; • Ability to use special terminology fro m psychology and statistics; • The ability to work with information from various sources, as well as compile scientific reports in the APAformat; • Ability to self-development; Ability to evaluate the accumulated experience andknowledge;

Study course content	**Topics**	
	Methods of psychological research, data analysis and interpretation (1st part)	
	1	Macro and micro level of psychological research,types of research: fundamental, applied, qualitative quantitative
	2	Quantitative research methods. Experiment. Experimental designs: intersubjective, intrasubjective and their varieties. Validity: constructive, internal, external, operational.
	3	Implicit and explicit methods. Implicit Associative Test, Subliminal Evaluation Priming, varieties of implicit procedures. Implicit measures. Implicit studies of attitudes.
	4	Qualitative methodology and research methods inpsychology. Classification of methods for collecting and analyzing qualitative data. Interviews and focus groups. Methods of thematic analysis, phenomenological analysis, "Grounded Theory", narrative and discourse analysis.
	5	Methods and techniques of qualitative research in psychology. Projection principle. Classification ofprojective techniques. Projective techniques in interviews and focus groups. Interpretation of projective data. Visual analysis methods.
	Methods of psychological research, data analysis and interpretation (2nd part)	
	6	Populations and samples. Measuring scales, their power. Variables Standardized data. STENs.Descriptive statistics and their calculation using SPSS as an example of a study of gender differences in aggressiveness in adolescents. Box

		charts and averages.
	7	Random variables. Normal distribution. Distributions of Chi-square, Student, Fisher-Snedecor. Confidence Intervals. Statisticalhypotheses. Errors of the first and second kind. Significance level. Criterion. Critical points. p-value. Power of criterion
	8	Checking the normality of data distribution. Tests of Kolmogorov-Smirnov, Shapiro-Wilks, D'Agostino-Pearson. A histogram with a normal curve. Mann-Whitney test and t-test. Effect sizes for them, interpretation, confidence intervals. The concept of meta-analysis.
	9	A study of the relationship between variables measured on different scales. Correlation coefficients. False correlation. Nonlinear relationship.
	10	Frequency analysis: Chi-square and Fisher angular transform tests. The sizes of the r, φ, V- Cramer effects, the contingency coefficient C - interpretation, h, interpretation, and confidence intervals for them.
	Methods of psychological research, data analysis and interpretation (3rd part)	
	11	One-factor and multi-factor ANOVA. Post-Hoctests of LSD and Scheffe. The problem of increasing errors of the first kind. Effect size η2,partial η2, interpretation and confidence intervals.
	12	Simple and multiple regression analysis. Betacoefficient. The sizes of the effects R2 and f2 -interpretation and confidence intervals.
	13	Reliability analysis: Cronbach's alpha.
	14	Factor analysis.
Form of assessment:	Exam	
Obligatory literature:		

1. Mārtinsone, K., Pipere. A. & Kameradēs, D. (2016). Pētniecība teorija un prakse. Rīga: RaKa.
2. Mārtinsone, K., & Pipere, A. (2019). Zinātniskā rakstīšana un pētījumu rezultātu izplatīšana. Otrais, papildinātais izdevums. Rīga: RSU.
3. Elsiņa I., Martinsone B., Mihailovs I. J. (2022). Psihologa profesionālās darbības ētika: Teorētiskais pamats un praktiskās vadlīnijas. Rīga: SIA "Drukatava".
4. Raščevska, M. (2005). Psiholoģisko testu un aptauju konstruēšana un adaptācija. Rīga: RaKa.
5.
6. Denzin, N. K., & Lincoln, Y. S. (Eds.). (2005). The Sage handbook of qualitative research (3rd ed.). Thousand Oaks, CA, Sage Publications Ltd.
7. Goodwin, K.A. & Goodwin C.J. (2016). Research in psychology: Methods and design (7th Edition). Wiley.
1. Blumenau, N.F. (2023). Methodology of psychological research. Data analysis and interpretation. Lectures. BSA, "Moodle".

Further reading list:

1. Kroplijs, A., & Raščevska, M. (2010). *Kvalitatīvās pētniecības metodes sociālajās znātnēs*.Rīga: RaKa.
2. Kristapsone, S. (2020). *Statistiskās analīzes metodes pētījumā*. Rīga. Turība.
3. Mārtinsone, K., Pipere, A. (zin.red.). (2011). *Ievads pētniecībā: stratēģijas, dizaini, metodes*. Rīga: RaKa.
4. Coolican, H. (2014). *Research methods and statistics in psychology. Sixth edition*. Hodder & Stoughton.
5. Cronk, B.C. (2018). *How to use SPSS. A step-by-step guide to analysis and interpretation* (10th edition). Taylor & Francis. https://www.pdfdrive.com/how-to-use-spss-a-step-by- step-guide-to-analysis-and-interpretation-d184800120.html
6. Field, A. (2016). *Discovering Statistics Using IBM SPSS Statistics (5th Edition)*. Sage. https://www.pdfdrive.com/discovering-statistics-using-ibm-spss-statistics- e195143502.html
7. Howitt, D., & Cramer, D. (2020). *Research methods in psychology. 6-th ed*. Pearson.
8. Leavy, P. (2017). *Research design. Quantitative, qualitative, mixed methods, arts-based,and community-based participatory research approaches*. The Guilford Press. https://www.pdfdrive.com/research-design-quantitative-qualitative-mixed-methods-arts- based-and-community-based-participatory-research-approaches-d187661181.html
9. Plotka, I., Igonin, D., & Blumenau, N. (2016). Implicit Attitudes and Measurements: Effect of Context. *International Business: Innovations, Psychology and Economics*, *7*(2(12)), 7- 150.
10. Price, P.C. (2012). Psychology research methods. Core skills and concepts v.1.0. https://2012books.lardbucket.org/pdfs/psychology-research-methods-core-skills-and- concepts.pdf
11. Shaughnessy, J.J., Zechmeister, E.B., & Zechmeister, J.S. (2015). *Research methods inpsychology* (9th edition). McGraw-Hill. https://steladhima.files.wordpress.com/2014/03/john-j-shaughnessy-eugene-b-zechmeister-jeanne-s-zechmeister-research-methods-in-psychology-2012.pdf
12. Wagner, W.E. (2015). *Using IBM SPSS statistics for research methods and social science statistics* (5th edition). Sage. https://www.pdfdrive.com/discovering-statistics-using-ibm- spss-statistics-e195143502.html
13. Willing, C. (2013). *Introducing qualitative research in psychology* (3d edition). McGraw- Hill Education, Open University Press.

Other sources of information (electronic journals):

1. BSA bibliotēkas elektroniskā datu bāze(www.bsa.edu.lv):
2. EBSCO (ENG): http://search.ebscohost.com
3. SCOPUS (ENG): http://www.scopus.com
4. ScienceDirect (ENG) http:// www.sciencedirect.com
5. Latvijas Nacionālās Bibliotēkas datu bāzeshttp://www.lnb.lv.
6. Psychological Science. Research, theory, & Application in Psychology and RelatedSciences. www.psychologycalscience.org
7. Methodology European Journal of Research Methods for the Behavioural and SocialSciences. www.hogrefe.com/journals/methodology

Changes and additions to the program and literature list are possible during the study process