

Identification	Subject	Research and statistics in (clinical) psychology, CPSY 532, 3KU (6 AKTS)
	Department	Psychology
	Program (Undergraduate, Graduate)	Master
	Term	Fall Semester 2026
	Instructor	Melike Yavuz, Assoc. Prof.
	Email:	melike.yavuz@khazar.org
	Phone	-
	Classroom/hours	Neftchilar Campus
	Consulting hours	After class sessions (around 10 minutes)
Prerequisites	-	
Language	English	
Compulsory/Elective	Mandatory	
Textbooks and course materials	Main textbook 1. Gordis, L. (2014). Epidemiology (5th ed.). Elsevier Saunders 2. Brink, H., van der Walt, C., & van Rensburg, G. (2006). Fundamentals of research methodology for health care professionals. Juta Academic. 3. Daniel, W. W. (2013). Biostatistics: A foundation for analysis in the health sciences (10th ed.). Wiley. 4. Kothari, C. R. (2004). Research methodology: Methods & techniques. New Age International Publishers. Additional readings 1. Kumar, R. (2011). Research methodology: A step-by-step guide for beginners. Sage Publications. 2. Rosner, B. (2015). Fundamentals of biostatistics (8th ed.). Cengage Learning. 3. Silverman, D. (2017). Doing qualitative research: A practical handbook (5th ed.). Sage Publications.	
Course description	This course provides a comprehensive introduction to research methodology and statistical analysis in clinical psychology and related health sciences. The course covers the major stages of the research process, including identifying research problems, conducting literature reviews, formulating hypotheses, identifying and operationalizing variables, selecting appropriate research designs, and collecting and analyzing data. Students examine major quantitative and qualitative research designs, including descriptive, cross-sectional, case-control, cohort, randomized controlled, and qualitative studies, with particular attention to their applications in clinical and psychological research. The course also introduces fundamental concepts of biostatistics, including measures of central tendency and dispersion, hypothesis testing, parametric and non-parametric methods, Chi-square tests, independent-samples t-tests, Mann–Whitney U tests, ANOVA, and Kruskal–Wallis tests. Emphasis is placed on selecting appropriate research and statistical methods, critically evaluating empirical studies, interpreting statistical findings, and communicating research results clearly and accurately. Through lectures, discussions, practical exercises, case analysis, article review, and student presentations, students develop foundational skills for conducting, evaluating, and communicating evidence-based research in clinical psychology.	
Course objectives	1. Provide students with a comprehensive understanding of the scientific research process and major principles of research methodology in clinical psychology.	

	2. Develop students' ability to identify research problems, conduct literature reviews, formulate research questions and hypotheses, and identify relevant variables. 3. Familiarize students with major quantitative and qualitative research designs, including descriptive, cross-sectional, case-control, cohort, randomized controlled, and qualitative studies. 4. Develop students' ability to select appropriate methods of data collection and research design according to the research question and study objectives. 5. Introduce fundamental concepts of biostatistics and develop students' ability to summarize, analyze, and interpret research data. 6. Develop students' ability to select and apply appropriate parametric and non-parametric statistical tests, including Chi-square, t-tests, Mann–Whitney U, ANOVA, and Kruskal–Wallis tests. 7. Strengthen students' ability to critically evaluate research articles, interpret statistical findings, and communicate research results in academic and professional contexts. 8. Promote ethical, critical, and evidence-based approaches to conducting and evaluating research in clinical psychology.	
Learning Outcomes	1. Explain the main stages, principles, and processes of scientific research in clinical psychology. 2. Identify and formulate research problems, research questions, hypotheses, variables, and relevant constructs. 3. Conduct and critically evaluate a literature review using appropriate academic sources. 4. Distinguish between major research designs, including descriptive, cross-sectional, case-control, cohort, randomized controlled, and qualitative studies, and explain their appropriate applications. 5. Select appropriate research designs and data collection methods based on specific research questions and study objectives. 6. Explain and calculate basic descriptive statistical measures, including measures of central tendency and dispersion, and interpret their meaning in research data. 7. Select and apply appropriate statistical tests, including Chi-square, independent-samples t-test, Mann–Whitney U, ANOVA, and Kruskal–Wallis tests, based on the characteristics of the research question and data. 8. Distinguish between parametric and non-parametric statistical methods and justify the selection of an appropriate statistical test. 9. Interpret statistical results and critically evaluate the validity, relevance, and limitations of findings reported in clinical and psychological research. 10. Critically analyze academic research articles and communicate research methodology, statistical findings, and conclusions clearly in written and oral formats. 11. Demonstrate awareness of ethical principles and responsible practices in the design, analysis, interpretation, and communication of psychological research.	
Teaching methods	Lectures	+
	Group discussion	+
	Practical exercise	+
	Case study analyzing	+

Evaluation Criteria	Methods	Date/deadlines	Percentage (%)
	Midterm	Week 8	30
	Activity	During semester	5
	Critical review of an article	During semester	10
	Student presentations	During semester	10
	Attendance	4 absences in class are the limit.	5
	Final exam	Week 16	40
	Total		100
Class Policy	1. Class Activity – 5% Assessed based on student engagement during lessons (online or offline). Marking Criteria: 5 points: Actively contributes in nearly every class, participates in discussions, asks/answers questions. 3–4 points: Participates in most classes, occasional input. 1–2 points: Rarely contributes or passive participation. 0 points: No visible engagement. Student Expectations: Stay active and attentive during lessons; take part in class discussions and group work; show consistent effort throughout the semester. 2. Critical Review of an Article – 10% Based on questions related to an academic or thematic article. Marking Criteria: 9–10 points: Provides in-depth analysis, answers all questions clearly with references to the article. 7–8 points: Good understanding, answers most questions well, some interpretation. 5–6 points: Adequate response, may lack depth or clarity. 3–4 points: Limited analysis, superficial responses. 0–2 points: Incomplete or off-topic answers. Student Expectations: Read and analyze the article carefully; answer all related questions; demonstrate understanding and critical engagement with the content. 3. Student Presentation – 10% Individual project to be presented in class. Marking Criteria: 9–10 points: Well-researched, clear structure, confident delivery, engages the audience, visual aids used effectively. 7–8 points: Good presentation with minor issues in clarity or delivery. 5–6 points: Basic presentation, lacks structure or detail. 3–4 points: Weak delivery or limited content. 0–2 points: Poor or no presentation. Student Expectations: Choose a relevant topic; prepare slides or materials; present ideas clearly and confidently; stick to the time limit and answer questions from peers or instructor. 4. Attendance – 5% Maximum of 4 absences allowed (online or offline).		

	Marking Criteria: 5 points: 0–1 absence; 4 points: 2 absences; 3 points: 3 absences; 2 points: 4 absences; 0 points: more than 4 absences. Student Expectations: Attend classes regularly (online or in person) and notify the instructor in case of justified absence. Rules of educational policy and behavior Attendance and criteria for being late for a lesson: It is important for students to attend all classes. If a student is unable to attend classes for a valid reason (illness, family status, etc.), he/she must report the matter to the faculty dean. Students who do not take more than 20% of the total subject matter hours are not allowed to take the exam. Criteria for practical issues: Identifying projects for individual presentation and presenting them to the group with presentations based on innovation and topic-based research. Students will be actively involved in the questionnaire and questioning methodology so that they can self-assess and gain insight into each subject's new teaching and learning skills. Criteria for assessing activity: Disrupting the classroom and using unethical phrases during class, engaging in inappropriate and unauthorized discussions, using cell phones, hearing aids and radio, and engaging in other activities not related to the course are regarded as factors affecting activity. Active participation in discussions is expected. AI Ethics and Responsible Use of AI AI tools may be used for learning support, brainstorming, language improvement, and clarification of concepts when permitted. Students remain responsible for the accuracy, originality, and integrity of their work. AI-generated information and references must be verified using reliable academic sources. Students must not use AI to fabricate information or references, or during assessments where its use is not authorized. Confidential or identifiable clinical or personal information must not be entered into AI systems. Where required, AI use must be appropriately acknowledged.
--	--

Tentative Schedule

Week	Topics	Textbook/Assignments
1	Introduction to the Course Research and Research Process	Research Methodology: Methods & Techniques – Kothari, C. R., 2004. New Age International Publishers. Chapter 1: Research Methodology: An Introduction
2	The Research Problem Literature Review	Fundamentals of Research Methodology for Health Care Professionals – Hilla Brink (rev. by Christa van der Walt & Gisela van Rensburg). Chapter 5: Selecting or Identifying Research Problems; Chapter 6: The Literature Review
3	Concept of Variable in Research Hypothesis and Constructing Hypothesis	Research Methodology: A Step by Step Guide for Beginners – Ranjit Kumar. Chapter 5: Identifying Variables; Chapter 6: Constructing Hypotheses
4	Data Collection Types of Research Studies	Research Methodology: A Step by Step Guide for Beginners – Ranjit Kumar. Chapter 8: Selecting a

		Study Design; Chapter 9: Selecting a Method of Data Collection
5	Descriptive studies Cross-sectional Studies	Epidemiology – Leon Gordis. Chapter 10: Case-Control and other study designs
6	Case-control studies	Epidemiology – Leon Gordis. Chapter 10: Case-Control and other study designs
7	Cohort Studies	Epidemiology – Leon Gordis. Chapter 9: Cohort Studies
8	Midterm Exam	
9	Randomised Controlled Studies	Epidemiology – Leon Gordis. Chapter 8: Randomised Controlled Trials
10	Qualitative Studies	Doing Qualitative Research: A Practical Handbook – David Silverman.
11	Introduction to Biostatistics Measures of Central Tendency Measures of Dispersion	Biostatistics: A Foundation for Analysis in the Health Sciences – Wayne W. Daniel. Chapter 3: Summarizing Data: Measures of Central Tendency
12	Parametric & Non-Parametric Tests Chi-square Test	Fundamentals of Biostatistics – Bernard Rosner. Chapter 10: Parametric vs Nonparametric Methods; Chapter 12: Chi-Square Tests
13	Student t-test – Mann Whitney U Test	Biostatistics: A Foundation for Analysis in the Health Sciences – Wayne W. Daniel. Chapter 9: t Tests; Chapter 11: Nonparametric Tests (Mann-Whitney U)
14	ANOVA – Kruskal Wallis Test	Fundamentals of Biostatistics – Bernard Rosner. Chapter 13: Analysis of Variance (ANOVA); Chapter 14: Nonparametric Methods (Kruskal-Wallis)
15	Presentation	
16	Final Exam	