LITHUANIAN UNIVERSITY OF HEALTH SCIENCES

International Summer School Practice

Genotyping and Analysis of Genetic and Personality Factors Associated with Internet Gaming Disorder in Lithuania

During the summer research traineeship, the student will investigate the role of genetic and personality factors associated with Internet Gaming Disorder (IGD) and Problematic Internet Use (PIU) in a Lithuanian population sample. The traineeship will begin with a comprehensive review of scientific literature on the genetic and psychological mechanisms underlying problematic internet use and gaming-related behaviors. The student will receive training in psychometric assessment methodologies, study protocols, ethical aspects of human research, and laboratory procedures applied in molecular genetic studies.

Prior to the implementation of research procedures, the trainee will become familiar with the study design, participant recruitment process, and administration of standardized psychological assessment instruments, including the Nine-Item Problematic Internet Use Questionnaire (PIUQ-9), the Motives for Online Gaming Questionnaire (MOGQ), the Barratt Impulsiveness Scale (BIS-11), and other relevant measures used in the project. The student will also be trained in biological sample handling and saliva collection procedures for genetic analyses.

The trainee will participate in laboratory work involving DNA extraction from saliva samples using standardized protocols, assessment of DNA quantity and quality, and preparation of samples for downstream analyses. The student will perform genotyping of selected single nucleotide polymorphisms (SNPs) using TaqMan® SNP Genotyping Assays on the QuantStudio™ 3 Real-Time PCR System. In addition, the trainee will learn to use QuantStudio Design and Analysis Software for genotype calling, SNP data quality control, and interpretation of genotyping results.

The student will contribute to database preparation, data management, and statistical analyses. Descriptive statistics will be calculated for psychological and behavioral measures, including PIUQ-9, MOGQ, and BIS-11 scores. Reliability analyses (Cronbach's alpha) will be performed to assess the internal consistency of study instruments. Correlation and regression analyses will be conducted to examine associations between personality traits, internet-related behaviors, and demographic variables. The trainee will also participate in genetic association analyses investigating relationships between SNPs and psychological phenotypes, including impulsivity, gaming-related motives, and problematic internet use. Statistical analyses will be conducted using SPSS software.

At the end of the traineeship, the student will summarize the obtained results, contribute to the interpretation of findings, and gain practical experience in molecular genetics, psychometric assessment, and statistical analysis applied in behavioral and psychiatric research.