UNIVERSITY OF
WATERLOO

Job Title:	Data Analyst
Department:	School of Public Health Sciences
Reports To:	Principal Investigator
Jobs Reporting:	None
Salary Grade:	USG 8
Effective Date:	November 2022

Primary Purpose

To assist in completing statistical analyses associated with MY LIFE (Multimorbidity in Children and Youth Across the Life Course) and Statistics Canada (e.g., Canadian Health Survey of Children and Youth (CHSCY), Mental Health and Access to Care Survey (MHACS)) study data and contribute to or lead the writing of peer reviewed publications and research reports resulting from these data. To help in coordinating future research studies.

Key Accountabilities

Data Analysis
• Conducts relevant analyses for internal/external collaborators and stakeholders involving sophisticated statistical methods (e.g., multi-level modeling, longitudinal analysis, structural equation modelling and factor analysis) for peer reviewed publications and reports
• Uses various statistical packages (e.g., SAS, STATA, SPSS, MPlus)
• Synthesizes longitudinal quantitative data for ongoing research study with several data collection points to inform knowledge-based products
• Reviews graduate student statistics code and output for research papers/reports
Development and Management of Datasets
• Ensures that data are accurate, consistent, properly maintained and shared in compliance with relevant privacy protection, confidentiality, and other ethical principles
• Identifies and addresses data integrity/reliability issues and uses data cleaning processes to achieve required data quality standards
• Works with large datasets to perform data mining and complete statistical analyses
• Transforms, synthesizes, and cleans data: identifies opportunities to reduce duplication and errors and to ensure consistency in data; identifies data integrity issues and proposes data cleaning processes to develop clear and consistent data quality standards
Survey Data Processing
• Implements quality control processes for datasets, via cleaning and processing data – e.g., validate data entry; check data against survey documentation; check for out-of-range and extreme data values; ensure that variable names are correct, create derived variables
• Implements standard operating procedures to create, organize, store, document, extract/export, convert, merge and manipulate large and small data files
• Creates and regularly updates dataset throughout the year, as new data are available.
• Cleans, reviews and identifies missing or incomplete data in real time
Project Coordination
• Preparing and supporting research ethics applications
• Participant recruitment, tracking, and follow-up in research studies

- Preparing surveys and data collection via telephone, mail, or online with participants

Knowledge Translation and Communication
- Contributes to or leads the writing of peer-reviewed scientific publications
- Prepares reports for Investigators, staff, external data users and stakeholders, including funders
- Perform literature reviews to support the submission of manuscripts for publication
- Format manuscripts according to journal/publisher guidelines

Consultation, Leadership and Student Mentorship
- Advises investigators, staff and graduate students regarding data management and analysis
- Responds to questions of a statistical nature from internal and external stakeholders
- Consults with Principal Investigator and collaborators on analysis plans and database management

Other Duties
- Works with Principal Investigator in organizing, drafting, and applying for research grants
- Other research-related duties to support the program of the Principal Investigator

All employees of the University are expected to follow University and departmental health and safety policy, procedures and work practices at all times. Employees are also responsible for the completion of all health and safety training, as assigned. Employees with staff supervision and/or management responsibilities will ensure that assigned staff abide by the above, and actively identify, assess and correct health and safety hazards, as required.

Required Qualifications

Education
- Master's degree in biostatistics or related discipline with significant biostatistics focus (e.g., mathematics, epidemiology)

Experience
- 1 - 3 years' experience performing longitudinal and multi-level regression analyses.
- Demonstrated experience writing for peer-reviewed scientific publications is required
- Previous data management, manipulation, interpretation and analysis experience is an asset
- Demonstrated experience working with large and complex datasets

Knowledge/Skills/Abilities
- Advanced proficiency in statistical analysis software such as SAS and/or R, including longitudinal and multi-level modeling
- Ability to work independently and as part of a team; ability to take initiative and be proactive
- Advanced proficiency in Microsoft Office, especially Excel, as well as Microsoft Teams
- Strong organizational skills and ability to meet deadlines
- Ability to perform data management and formatting for standard statistical software
- Strong verbal and written communication skills with statisticians and non-statisticians
- Ability to apply, identify, and use, a combination of quantitative research methods
- Ability to work on multiple analytical projects concurrently
- Initiative to acquire new skills and remain current with new developments as required

Nature and Scope
- **Contacts:** Oral and written communication with Principal Investigator, his graduate students, other research staff, and research participants
- **Level of Responsibility:** Responsible for the accuracy of data submitted externally to peer-reviewed publications (support will be provided when needed by Principal Investigator and other research staff)
- **Decision-Making Authority:** Responsible and accountable for establishing the priorities of projects as assigned

- **Physical and Sensory Demands**: Minimal exposure to disagreeable conditions typical of an office position exposed to stress and pressure associated with those responsibilities
- **Working Environment:** Office-based academic environment