

# Plan for the PhD workshop

## Objectives:

- 1) to introduce the concepts of gender and intersectionality and their importance in quantitative health research
- 2) to introduce the main and most current analytic approaches for the study of intersectionality
- 3) to identify the best analytic choice(s) applicable to specific research questions

Note: the focus of the workshop is on the concept of intersectionality in general; however, examples will primarily be drawn from research on older adults' health and caregiving/receiving

## Participants:

PhD students in epidemiology, health science, population and public health with an interest in social epidemiology, particularly those whose interest/research includes gender and social inequalities in health. Students from other disciplines such as health economics, health policy, sociology of health/healthcare as well as psychology, social work, geography and related fields who have a working knowledge of health research methodology (basic principles of epidemiology and biostatistics/quantitative methods) may also benefit from this workshop.

## Proposed duration of the workshop:

Two days from 10 am to 5 pm

## Agenda:

### A) Theoretical conceptualization (day 1)

- 1) Relationships between sex/gender and health, the gendered nature of health inequities, how indicators of gender may be biased?
- 2) Social factors and health, how thinking like a social epidemiologist by incorporating social theories into epidemiological methods will shape the conceptualization of health issues and research questions? Which indicators can represent social location factors such as gender?
- 3) Concept of intersectionality: a) a brief history, roots in political science; b) how *intersectional thinking* helps explain health inequalities; c) linking intersectionality to social epidemiology.
- 4) Defining intersectionality within health/epidemiology contexts: does *intersectional thinking* provide a coherent approach to identify factors that define social location? Is *intersectional thinking* helpful in describing aetiologies of diseases?
- 5) More specifically, when we talk about intersectionality between sex and social factors, do we think that the *social factor such as education, race, income*  
**a)** changes the strength and/or direction of the influence of sex on the health outcome (interaction, effect modification);

**b)** further separates individuals within each sex group into smaller groups defined by social status (discriminates, quantifies within sex-group heterogeneities, ....), and therefore assigns individuals into specified social locations;

**c)** is on the causal pathway between sex and health outcomes. For example, do sex stereotypes shape more risky behaviours in males and therefore lower life expectancy?

6) Different analytical approaches that we should adopt to address the ways intersectionality is defined in 5

All participants are required to send a very short outline (one paragraph maximum) of their main research interest to the instruction team by XXXX (2 weeks before the workshop). Workshop instructors will conceptualize their research questions using intersectionality theories and suggest appropriate analytic approaches to test the research questions. The goal is to provide meaningful and engaging examples.

## **B) General analytic approaches (day 2 morning and afternoon)**

After a short recap of the three different ways by which intersectionality can be conceptualized, three analytic methods groupings, aligned with various conceptualizations, will be introduced. Each with examples from analysis of real data. (Data analysis will not be the focus; however, students will be provided with codes required for performing data analysis in a supplemental package).

- 1) Different regression analysis methods with stratification (sex-disaggregation), including multi-level analysis (MLA).
  - The concept of within context similarities (e.g. within neighbourhoods) in terms of health outcomes will be introduced very briefly when teaching MLA
- 2) Recursive models such as regression trees, decomposition analysis
- 3) Path analysis methods such as mediation analysis, structural equation modelling (SEM)
  - The concept of 'latent' factors outcomes will be introduced very briefly when teaching growth models. Will be reviewed one more time during discussion of SEM

## **C) More technical concepts (as future directions)**

Aetiologies of some health outcomes such as chronic diseases of aging are multifaceted and can not be sufficiently explained by a single analytic method. More sophisticated models, mostly by merging different analytic techniques, are developed for such complex relationships.

Two main examples that will be reviewed briefly in this workshop and more technical details will be included in supplemental package:

- a) Growth models: a mixture of latent models and MLA that can address the issues of similarities in the occurrence of an outcome within an individual in longitudinal settings.
- b) Social factors can affect health outcome both as a mediator (on the pathway between sex and the outcome) and as an effect modifier, there are mediation/moderation models to analyze such relationships.

**D) Q & A (students' future direction) time permitting!!**