**Spencer Foundation Full Application (offline DRAFT):**

Note: This document contains content organized by sections as per the online application

Key Program excerpts:

*Our goal for this program is to support rigorous, intellectually ambitious and technically sound research that is relevant to the most pressing questions and compelling opportunities in education. We seek to support scholarship that develops new foundational knowledge that may have a lasting impact on educational discourse.*

*Proposals to the Research Grants on Education program must be for academic research projects that aim to study education. Proposals for activities other than research are not eligible (e.g., program evaluations, professional development, curriculum development, scholarships, capital projects). Additionally, proposals for research studies focused on areas other than education, are not eligible.*

Proposal Personnel**:**

Principal/Co-Principal Investigators (PhD required):

Tara Flanagan, Educational and Counselling Psychology, McGill University

Ellie Fossey, Department of Occupational Therapy, Monash University

Rebecca Gewurtz, School of Rehabilitation Science, McMaster University

Allyson Harrison, Department of Psychology, Queen’s University

Alana Holmes, Northern Ontario Assessment and Resource Centre (NOARC), Cambrian College

Sandra Moll, School of Rehabilitation Science, McMaster University

Behdin Nowrouzi-Kia, Department of Occupational Science and Occupational Therapy, University of Toronto

Jill Stier, Department of Occupational Science and Occupational Therapy, University of Toronto

Julie Suhr, Department of Psychology, Ohio University

Boris Vukovic, School of Industrial Design, Carleton University; Educational and Counselling Psychology, McGill University (PI)

Researchers-Practitioners:

Jessie Gunnell, READ Initiative, Carleton University

Bruce Hamm, Paul Menton Centre, Carleton University

Michelle Morgani, Accessibility Services, University of Toronto

Michael Nicholson, Accessibility Services, University of Toronto

Thomas Perry, Disability Support Services, Monash University

Mei-Ju Shih, Student Accessibility Services, McMaster University

Somei Tam, Paul Menton Centre, Carleton University

Sonia Tanguay, Paul Menton Centre, Carleton University

Proposal Summary

**Proposal Title:**

Assessment of Functional Limitations for Higher Education

**Project Start Date:**

May 1, 2021

**Project End Date:**

Sep 30, 2024

**Duration (in months):**

41

**Please state the central research question(s) this project seeks to explore or answer.**

How can assessment of functional limitations inform a more accessible and inclusive higher education??

**Project summary (200-word limit):**

Between 19-23% of undergraduates in the United States and Canada self-identify with a disability. Assessment of functional limitations has been traditionally used in the clinical contexts of disability identification and interventions. Beyond formally identified disabilities, students experience limitations in functioning due to various health, wellness, or environmental factors.

Understanding the nature of functional limitations experienced by students with and without disabilities in higher education can help transform the design of relevant services and learning environments by addressing the individual, environmental and systemic factors that give rise to the limitations. Anchored in the central research question above, we will:

1. Validate the use of established measures for assessment of functional limitations to identify the *spectrum of barriers* experienced by students with and without disabilities.
2. Create *psychometrically sound* *narratives* from data on functional limitations that speak to the needs of the students in the academic setting.
3. Identify *transferable* *design strategies* for equitable and responsive student services and learning environments informed by the narratives of functional barriers.

The project will bring together a multidisciplinary international team of researchers and practitioners to investigate innovative and transformative use of functional limitations assessments in the service of a more accessible and inclusive higher education.

Proposal Budget

**Budget Tier** (with up to 15% indirect costs): $375,001-$500,000

**Salaries** (e.g. PI/Co-PIs, PostDoc, Grad RA, Undergrad RA, Other staff)

**Benefits** (e.g. for above staff, also Tuition/Fees)

**Other Collaborator** (e.g. independent consultant, advisor)

**Travel** (e.g. Project travel, Conference/Dissemination travel)

**Equipment and Software** (e.g. Computers, software/apps)

**Project Expenses** (e.g. Supplies, Participant stipends/costs, Communication, Transcription)

**Other Expenses** (e.g. categories not covered above)

**Subcontract Budgets** (e.g. independent contracting for specific scope of work)

**Proposal Narrative**

Application guidelines from Spencer Foundation:

* A description of the project, the central research question(s), and the project’s significance.
* A rationale for the project. This includes (a) summary of the relevant literature, the relationship of the proposed research to that literature, and the new knowledge or contribution to the improvement of education expected to result from the proposed research; and (b) a summary of the conceptual framework or theory guiding the project and how the project utilizes or builds on this framework of theory.
* A description of the proposed research methods, description of participants, data collection instruments, and modes of analysis the project will employ. If applicable to the proposed methods, please include (a) information about the proposed sample/case definition and selection procedures; (b) research design, including when appropriate a description of the context of the study; (c) description of key constructs, measures and data sources; (d) procedures for data collection; and (e) procedures for data analysis.
* A short description of plans for dissemination of the research findings. While this may include traditional submissions to academic conferences and publications, we also encourage other forms of dissemination that aim to impact policy, practice, or public discourse. We expect scholars to follow the highest ethical and professional standards of their fields. Please consult our statement of ethics and professional expectations.
* 5000-word limit for the full proposal narrative, submitted as a separate PDF file.

**Proposal Outline**

Note: This outline is for the review by the participating partners and their input on the direction of the full proposal for the Spencer Foundation education grant.

**Description:**

The project is anchored in assessment of functional limitations for postsecondary students with and without disabilities. The **overall objective** of the project is twofold:

1. understand the nature and degree of functional limitations among postsecondary students, and
2. derive research-based implication for the design of student services and learning environments.

The following are the **project assumptions** that underlie the above objectives and define what is and isn’t within its scope:

* This project is primarily focused on understanding the functional limitations of the postsecondary students and identifying categories of critical barriers in higher education, NOT on evaluating the instruments for assessment of functional limitations or evaluating the student programs or services.
* Existing instruments for assessment of functional limitations (e.g. WHODAS and BFIS) can be used as structured methods for data collection on functional limitations among postsecondary students. Validity and reliability of these instruments will be evaluated as relevant to the objectives of the project (e.g. content and construct validity, and internal consistency, but concurrent or predictive validity only if/as relevant in the context of the relationship between categories of critical barriers and relevant student outcomes).
* Other sources of information and data collection methods must be used in addition to the WHODAS and the BFIS to fully understand the nature and degree of functional limitations and identify categories of critical barriers among postsecondary students, e.g. data from historical, demographic, academic, student and expert focus groups.
* Identification of major categories of functional limitations among postsecondary students will not be made strictly on data from any one instrument or data collection method. The use of multiple methods, large samples, statistical techniques (e.g. bootstrapping for outliers/exaggerated responding) and participant and expert input, is assumed to reduce biases or the impact of validity weaknesses inherent in any of the individual methods.
* The project is NOT focused on validity of any one method for assessment of functional limitations in comparison to any other method of assessment of human functioning (e.g. WHODAS vs. objective and/or clinical measures of psychological, cognitive, educational, social, or mental health). However, objective and/or clinical data may be collected at some of the partner sites and may be used for a separate research project with such focus.
* The project is NOT focused on validity of any one method for assessment of functional limitations for use in determining specific academic accommodations (e.g. extra time for exams, computer for exams, etc.). However, the assessment data collected through the current project may be used for a separate research project with such focus.

The **overall research question** is: How can assessment of functional limitations inform a more accessible and inclusive higher education?

The **specific research questions** are:

1. What are the major areas of functional limitations experienced by postsecondary students with and without disabilities?
2. Are functional limitations related to student outcomes and indicators for academic success and wellbeing?
3. What are the implications for student services and learning environments based on our understanding of functional limitations among postsecondary students?

The project is made up of **three phases**:

1. Assessment: Use established instruments and other methods to assess the full spectrum of barriers based on functional limitations experienced by students with and without disabilities.
   1. Collect data on functional limitations from students with and without disabilities:
      1. Administer instruments in the participating Accessibility or Disability Services (ADS).
      2. Recruit participants who are not registered with ADS.
   2. Use established assessment instruments and other methods:
      1. World Health Organization Disability Assessment Schedule 2.0 (WHODAS) and Barkley Functional Impairment Scale (BFIS)
      2. Collect demographic, historical, and academic data for each participating student.
2. Categories of Critical Barriers (CCB): Create psychometrically sound narratives from data on functional limitations to identify categories of critical barriers that represent the needs of the students in the academic setting.
   1. Apply structured analysis of data:
      1. Design an analytic framework and identify a team of analysts that includes students and experts.
      2. Apply analysis to consolidated quantitative and qualitative data from instruments and other methods.
   2. Differentiate CCB as outcome of data analysis.
      1. Identify conceptually and psychometrically distinct categories of functional limitations that are most representative among postsecondary students.
   3. Evaluate CCB against student outcomes.
      1. Use criterion-related methods to compare CCB to established and relevant postsecondary success and wellbeing outcomes/indicators.
3. Implications: Identify guidelines for design of equitable and responsive student services and learning environments informed by the CCB.
   1. Establish a working group of practitioners and researchers to examine CCB in the context of higher education services, standards, and policies.
   2. Develop high-level, systemic and programmatic guidelines for design of student services and learning environments.
   3. Disseminate project findings and design guidelines in the communities of professionals in student and teaching and learning services.

**Rationale:**

1. Summary of literature:
2. Conceptual/theoretical framework:
   * Disability is conceptually defined in reference to functional limitation. Classification systems such as the WHO’s ICF is a framework for defining and assessing health and disability.
   * Chan, Gelman, et al. (2009, p.29): “ICF model integrates all key concepts of the medical, functional, and social models of disability and provides the best potential for use as an integrative conceptual framework of disability.”
   * WHO (2001): “Functioning and disability are viewed as a complex interaction between the health condition of the individual and the contextual factors of the environment as well as personal factors.”
   * This project aims to examine functional limitation in the context of higher education by integrating multiple data sources and contextual considerations to identify Categories of Critical Barriers (CCB) relevant to postsecondary settings.

**Methods:**

1. Sample and recruitment:
   * Participants:
     1. Students self-identifying with a disability registered with ADS.
     2. Students self-identifying with a disability not registered with ADS.
     3. Students who do not self-identify with a disability.
   * Recruitment:
     1. As part of services provided through ADS facilitated by participating practitioners.
     2. General campus-wide calls for participation championed by faculty Co-PIs and collaborators.
2. Research design:
   * \*\*\* technical description of the three phases (see general Description outline above)
3. Measures and data sources:
   * Instruments: WHODAS and BFIS
   * Demographic and historical questionnaire
   * Wellness questionnaire
   * Academic records (e.g. GPA, program status)
4. Data collection procedures:
   * Administration of instruments and questionnaires through ADS.
     1. The timing of the administration may vary across project sites depending on the ADS processes.
     2. Selection of students asked to complete the questionnaires may vary across project sites.
   * Administration of instruments and questionnaires among students not registered with ADS.
     1. The timing of the administration may vary across project sites and can happen at any point during the Assessment phase timeframe.
   * Academic records data will be obtained via relevant university systems.
5. Data analysis procedures:
   * Phase 1: Validity and reliability analyses of instrument data (e.g. FA, IRT/Rasch, Alpha). Descriptive analyses including intersectional demographic, historical, and academic variables.
   * Phase 2: Classification analyses of instrument and questionnaire data (e.g. cluster, latent class, discriminant). Qualitative content analysis by students and experts. Application of the CCB analytic framework on classified/categorized data.
   * Phase 3: Working group analysis of CCB in the context of student services and design of learning environments.

**Dissemination:**

1. Knowledge outcomes:
2. Knowledge translation stakeholders:

**Timeframes:**

May – Oct/21: Project start-up, setup of project sites, staff hiring, onboarding, and training.

Oct/21 – Sep/22: Data collection and consolidation

Sep/22 – Dec/22: Psychometric/stats analysis and validation

Jan/23 – May/23: CCB analytic framework development, analysis of data, identification of CCB

May/23 – Aug/23: All team CCB workshopping and presentations

Sep/23 – Dec/23: Working group setup, development of guidelines, dissemination plan

Jan/24 – Jun/24: Dissemination activities, conferences

Aug/24 – Sep/24: Project wrap-up

Proposal Data

**Disciplinary Perspective (drop-down):**

**Education-assessment/testing/measurement, Education-higher education**

**Methods/Approach (drop-down):**

**Psychometric analysis, Design based implementation research, Partnerships**

**Topic/Subject (drop-down):**

**Higher education, Student development, Teaching and learning/instruction**

**In which region(s) of the world will your research be focused? (multiple choice):**

**North America, Europe, Oceania/Australia**

**In which setting(s) will your research be focused? (multiple choice):**

**Urban**

**Which contexts will be the focus of your research? (multiple choice):**

**Colleges/universities**

**Which populations will be of specific interest to your research? (multiple choice):**

**Administrators, College/University Faculty, Students**

**If you will be studying populations in the United States, which demographic profiles are a specific focus of the research? (multiple choice for race/ethnicity):**

Other

**Please Specify Other Demographics:**

Intersectionality of disability and other demographically underrepresented categories in higher education will be investigated.

**Which additional groups of people will be a focus of the research? (multiple choice):**

Participants with Special Needs

**Participants with Special Needs (select from list):**

Hearing-Impairments/Deaf, Visual-Impairments, Learning Disabilities, Emotional Disabilities, Autism Spectrum Disorders, Other Needs