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Assistant Professor

I. General Research Interest

- A. Upper extremity recovery in stroke
 - a. Arm/hand use behavior in the daily environment
 - b. Critical factors (e.g., self-efficacy) that affect arm/hand use behavior post-stroke
- B. Neural mechanism associated with stroke rehabilitation recovery
- C. Tele-rehabilitation
 - a. Wearable sensors (e.g., accelerometers)
 - b. mHealth technology (e.g., Ecological Moment Assessment, text messages, apps)

II. Current Research Projects

- A. A home-based, mHealth-assisted piano therapy to improve upper extremity performance in stroke survivors: a feasibility study (GSU internal grant funded).
- B. Dose-response relationship of active music therapy in individuals with stroke: a systematic review and meta-analysis
- D. The challenges of using accelerometers in the measurement of daily upper-extremity use after stroke: a systematic review
- F. Using mHealth technology in post-stroke upper extremity rehabilitation: a systematic review

III. Research Skills

- A. Assessments of motor, daily activity, cognitive, psychosocial functions
 - Fugy-Meyer Assessment, Action Research Arm Test, Wolf Motor Functional Test, Montreal Cognitive Assessment, Stroke Impact Scale etc.
- B. Accelerometry behavioral data analysis
 - filtering, binning, summing, converting, calculating etc.
- C. Home-based study implementation
 - assessments and intervention
- D. Research project management and recruitment
- E. Quantitative research methodologies
- F. Statistical analyses (STATA, SPSS software)
 - hierarchical linear regression
- G. Basic programming (MATLAB)