

Project Summary

A diverse and highly qualified team including experts in biostatistics, social and behavioral science, software engineering, minority recruitment, and educational technology propose to develop, implement, evaluate and disseminate a short course entitled "A Master Course on Power for Multilevel and Longitudinal Health Behavior Studies." The short course will provide training for behavioral and social scientists. The course covers innovative, research-based power and sample size methods, and software for multilevel and longitudinal studies. The research education proposal contains a detailed plan for recruiting course participants from groups historically underrepresented in biomedical research.

The power and sample size methods and software taught in the course can be used for any health-related application. The short course will use behavioral and social science examples in cancer, cardiovascular disease, oral health, alcohol and drug addiction, health disparities, comparative effectiveness, and clinical and translational studies.

The proposed study includes four specific aims: (1) Develop a master course on power and sample size choice for multilevel and longitudinal designs in behavioral and social science research; (2) Implement the short course for a diverse audience of behavioral and social scientists; (3) Evaluate the course to ensure it well serves its diverse participants; and (4) Disseminate the course to a wide audience by sharing training materials and open-source software freely on our existing website, developing a webinar version of the course, and offering the course free of charge on COURSERA as a Massive Open Online Course.

Better power analysis will ensure that studies are the right size to achieve good results, while minimizing the exposure of research participants to harm. In turn, better design for biomedical studies will improve the health of Americans.