The National Academies of
SCIENCES · ENGINEERING · MEDICINE

SEMINAR ON MEASURES AND METRICS OF HUMAN PERFORMANCE

April 20, 2016
Keck Center, Room 103

Measurement is a fundamental component of research and evaluation activities; it is central to our understanding of sociotechnical systems and human performance within those systems. Measures provide answers to questions regarding whether the intervention "works", for whom and to what extent, and provides evidence that is used for decision-making about the effectiveness of a program, system, or intervention. Different measures can relay different stories; therefore, measures need to be carefully aligned with the research/evaluation. Today, there are a myriad of measures available and included in intervention trials that range from biomarkers to performance metrics and subjective evaluations. Furthermore, the era of 'big data' brings the hope that for many (or perhaps any) problem at hand, flexible predictive models applied to large and relevant data sets will yield incremental improvements in desired results and insights over traditional methods. For psychological measurement, good data means engaging in a solid test development process, along with a subsequent psychometric analysis process that leads to reliable data that usefully inform decision making. The current seminar reinforces the theme that 'good data' is as important as big data. The seminar will review: 1) the role of measurement in research/evaluation; 2) criteria for measure selection; 3) the types of measures available; 4) methods for data collection; and 5) the role of measurement in selection, training and retention of workers.

1:00 p.m.	Registration

1:15 p.m.   *Welcome & Introductory Comments*
         Nancy Cooke, BOHSI Chair

1:30 p.m.   *The Role of Measurement in Systems and Human Performance Evaluation*
         Sara Czaja, University of Miami

1:50 p.m.   *Scenario Design: Designing Conditions under which Performance is Evaluated*
         Emilie Roth, Roth Cognitive Engineering

2:10 p.m.   *Good Measurement: What Employee Selection, Training, Performance, Satisfaction and Turnover should have in Common*
         Frederick Oswald, Rice University

2:30 p.m.	*Break*

2:45 p.m.   *Basing Acceptance Criteria on Inferential Statistics versus Qualitative Analyses: Lessons Learned from Medical Device User Interface Design*
         Edmond Israelski, AbbVie

3:05 p.m.   *Measuring Team Performance*
         Nancy Cooke, Arizona State University

3:30 p.m.   **Moderated Panel Discussion**
         Moderator: Nancy Cooke, Arizona State University

5:30 p.m.   **ADJOURN**