Dissertation Defense

INCREASING ADOLESCENT INTEREST IN COMPUTING THROUGH THE USE OF SOCIAL COGNITIVE CAREER THEORY

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ABSTRACT:
While empirical research efforts are sufficient to provide evidence of the role of most constructs in the Social Cognitive Career Theory (SCCT), this dissertation shifts the research focus and finds serious shortcomings in defining the construct of computer technology learning experiences design. The purpose of this dissertation is to investigate whether, and to what extent, the proposed SCCT-enhanced framework can increase self-efficacy and interest of pre-college and college students in computer-based technology through the newly proposed “Learning Experiences” construct; in particular, whether it can reduce the age and gender gaps. As a result of a comprehensive literature review, the dissertation connects learning, instructional design and career development theories in a holistic fashion identifying and synthesizing gaps with corresponding interventions concerning learning experiences. Subsequently, the study carries out an evolutionary re-design of SCCT in multiple iterations with the incorporation of theoretical findings until a revised SCCT framework is proposed utilizing interventions used in best practices. Accordingly, eight hypotheses are formulated to answer all research questions. A multi-phase experiment of four rounds is designed to study the impact of the revised “learning experiences” on self-efficacy, outcome expectations and technology interest. The data collection process is cumulative in nature with numerous refinements that lead to a scale which is confidently replicated for future research and theory evolution with few refinements. Next, an extensive statistical analysis is conducted to test all hypotheses. All hypothesized relationships between SCCT constructs and technology interest are substantiated, proving the effectiveness of the refined learning model. It is concluded that the redefined “learning experiences” construct has three key dimensions with social integration as the most powerful predictor. It is also inferred that, while the new combined Interventions appear to be more powerful predictors of pre-college and college student interest in computer technology than variables derived from SCCT traditional sources, using the new model has a limited impact on reducing the gender gap; it can be attributed to a time-factor in experimental design.

BIO:
Osama Eljabiri is a doctoral candidate in Information Systems at the New Jersey Institute of Technology. He presently holds a position of Senior University Lecturer and Director of the CCS Capstone Program at New Jersey Institute of Technology. His current work focuses on developing new interventions to boost interest of adolescent female students in computing and technology using the Social Cognitive Career Theory (SCCT). Other interests include strategic software engineering, best practices in project management, business process re-engineering, enterprise architecture, social entrepreneurship and education engineering. His dissertation is about investigating whether, and to what extent a newly proposed expanded-SCCT framework can increase self-efficacy and interest of adolescent students in computing.
and technology through re-defining the
“Learning Experiences” construct; in particular, whether it can reduce the gender gap.

COMMITTEE MEMBERS

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