NO TIME FOR SELF-DEVELOPMENT: MODERATING EFFECTS OF INDIVIDUAL DIFFERENCES

Thivia Mogan (Old Dominion University), Karin A. Orvis (U.S. Army Research Institute & Old Dominion University), & Debra A. Major (Old Dominion University)

Introduction

Attrition is a serious problem among computer science (CS) and engineering (ENGN) students (NSF, 2008).

- One solution: Heightening students’ sense of professional identity with their field during college.
- Engaging in self-development (SD) is one way to build professional identity. However, little is known about the factors that might hinder CS and ENGN students from engaging in SD.

Self-development (SD) is voluntary professional development, and may consist of activities such as attending a conference, participating in professional organizations, or networking (Noe & Wilk, 1993).

Social Cognitive Career Theory (SCCT) posits that students’ academic/career goals and actions are largely shaped by past or anticipated barriers (Lent et al., 2000).

Recent qualitative research suggests that CS and ENGN students face strong time barriers, given their rigorous curriculum, making SD participation less likely (Holland et al., 2011).

SCCT also posits that the impact barriers have on individuals’ career-related decisions is dependent on how they assess and respond to these barriers.

Individual Differences of Focus

- Self-efficacy for development and learning goal orientation have been found to positively impact SD quantity (Garafano & Salas, 2005).
- Coping efficacy has been frequently identified by SCCT as being linked to effectively handling barriers to career development (Lent et al., 2000).
- As such, these three individual differences are expected to be influential on an individual’s ability to overcome the time barriers faced during SD.

Research Hypotheses

H1: Time barriers is negatively linked to SD quantity.

H2-H4: There will be an interaction between time barriers and the individual differences such that the negative relationship between time barriers and SD quantity will be weaker as:

- H2: Self-efficacy increases.
- H3: Coping efficacy increases.
- H4: Learning goal orientation increases.

H5-H7: SD quantity is positively related to:

- H5: Major satisfaction.
- H6: Affective commitment to one’s major.
- H7: Continuance commitment to one’s major.

Method

- Participants were 196 CS and ENGN students from 2 southeastern universities ($M_{age} = 20.49$; 32% female), recruited via their intro major courses.
- Participants completed two surveys:
  - Survey 1, at the start of the Fall semester, assessed time barriers, the individual differences, and demographics.
  - Survey 2, at the end of Fall semester, assessed SD quantity, satisfaction with major, and commitment to major.

Results

- H1 – Supported. Time barriers was negatively linked to SD quantity ($\beta$ = -.14, $\Delta R^2 = .02$).
- H2 – Interaction detected, although not in hypothesized direction. The negative link between time barriers and SD quantity was stronger as self-efficacy for development increased ($\beta$ = -.15, $\Delta R^2 = .03$, see Figure 1).
- H3 – Interaction detected, although not in hypothesized direction. This interaction was consistent with the self-efficacy for development interaction ($\beta$ = -.12, $\Delta R^2 = .01$ $p = .07$).
- H4 – Not supported.
- H5-H7 – Supported. SD quantity was positively linked to major satisfaction ($\beta$ = .24, $R^2 = .06$), affective commitment ($\beta$ = .24, $R^2 = .06$), and continuance commitment ($\beta$ = .18, $R^2 = .03$)

Discussion

- SD participation was found to help anchor students to their CS/ENGN major.
- Self-efficacy for development and coping efficacy were found to be critical to students’ overcoming a low to moderate amount of time constraints and completing a higher quantity of SD.
- As self-efficacy is malleable, universities can develop targeted programs to heighten students’ self-efficacy levels to enhance student SD.
- Advisors and professors could encourage students to SD and highlight its value so that students are more confident in their ability to pursue SD despite time barriers experienced.