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FACTORS AFFECTING ACADEMIC SELF-EFFICACY AND ACADEMIC SELF-HANDICAPPING BEHAVIORS IN DOCTORAL STUDENTS

Anique Falconer*	Keiser University, Fort Lauderdale, FL, USA	falconeranique@gmail.com
Boris Djokic	Keiser University, Fort Lauderdale, FL, USA	boris.djokic@gmail.com

* Corresponding Author

ABSTRACT

Aim/Purpose	The purpose of this study was to determine to which degree age, race, and Socioeconomic Status (SES) influence academic self-efficacy and academic self-handicapping behaviors in doctoral.
Background	Across all disciplines, more than 50% of students who begin a doctoral program do not persist to graduation. Although the issue of student retention and psychological factors have been proffered, much attention has not been placed on this relationship. Past researchers have focused primarily on academic-related, student-related, institutional, and financial factors.
Methodology	A quantitative study was conducted, using the exploratory factor analysis. One-hundred and sixty-five participants, of legal age, who had completed at least one semester of a doctoral program, were involved in this current study.
Contribution	The findings from this study increase the empirical evidence reported on the scarce literature on student retention and psychological factors in doctoral students.
Findings	The factor analysis test did not show a statistically significance between the dependent variables -academic self-efficacy and academic self-handicapping- and any of the independent variables – gender, race, age, and socioeconomic status.
Recommendations for Practitioners	Higher education leaders should make a proactive effort to understand the issue of student retention from a psychological perspective and make implementations to reduce these problems for doctoral students.

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Recommendations for Researchers	Future researchers should explore in-depth psychological variables that contribute to the high attrition rates in doctoral students.
Impact on Society	A better understanding of the factors affecting the cognitive strategies and self-constructs of doctoral students could provide those working in academia with a better understanding of the problem and increase awareness at a societal level.
Future Research	It is recommended that future research be carried using a mixed methods approach to offset the limitations found in the quantitative strand and gain thick, rich data from the qualitative strand.
Keywords	doctoral students, student retention, academic self-efficacy, academic self-handicapping

INTRODUCTION / BACKGROUND

Across all disciplines, more than 50% of students who begin a doctoral program do not persist to graduation (Gardner & Gopaul, 2012; Ivankova & Stick, 2007; Jiranek, 2010; Kim & Otts, 2010). This phenomenon is problematic because doctoral graduates contribute to research, education, and professional practice (Bair & Hawthorn, 1999). A need exists to investigate doctoral student attrition because the research is lacking on many levels. To support success in doctoral programs, researchers must examine a subfield of psychology- motivation and learning-as a factor of student retention.

Historically, theorists have proposed that a relationship exist between motivational processes and academic success and failure (Schunk, 1991). One type of motivational process refers to self-efficacy, which are a person's beliefs that he or she could achieve certain tasks (Bandura, 1986, 1997). In essence, the central axiom of self-efficacy is belief systems. In an educational capacity, self-efficacy refers to a student's beliefs that he or she could complete successfully academic tasks (Bandura, 1997). Academic self-efficacy is crucial to understanding attrition because these self-efficacy beliefs influence effort, persistence, and resilience (Bandura, 1997; Schunk, 1991) – all characteristics needed to complete successfully a doctoral program.

During an academic journey, students often receive threats to their self-esteem, which often surface after a negative experience, such as failing an examination or receiving negative feedback from their instructor. These negative experiences, in turn, leads to negative self-efficacy beliefs. Often times, students will use self-handicapping as a strategy to regulate any self-esteem threats (Zuckerman, Kieffer, & Knee, 1998). Self-handicapping refers to self-destructive behaviors that people use as an excuse for potential failure at completing a task. For instance, a student using self-handicapping may procrastinate; withdraw effort, or claim illness or anxiety before taking an examination.

Although a relationship exists between self-efficacy, self-handicapping, and academic persistence, researchers have not evaluated these variables in doctoral students. Moreover, the few researchers who have examined self-handicapping and academic achievement in undergraduates reported findings with much heterogeneity (Schwinger, Wirthwein, Lemmer, & Steinmayr, 2014). As a result, the purpose of this study is to examine doctoral student's persistence by investigating the factors that influences academic self-efficacy and self-handicapping behaviors.

DOCTORAL STUDENTS DEMOGRAPHICS

Researchers on doctoral students demographic have indicated a significant change over the past five decades (Offerman, 2011). For instance, Gardner (2009) provided a clear profile of earlier doctoral students who were predominantly affluent, Protestant, Caucasian, males. The current doctoral student population is more diverse and includes more women and minorities (Offerman, 2011). The shift in demographics of doctoral students does not pertain only to race and gender, but also to students' enrollment status, age, and purpose for pursing a terminal degree. In the past, traditional doctoral students had a median age of 22, studied full-time, and pursued a terminal degree to become

scholars (Gardner, 2009; LaPidus, 1997). Todays' non-traditional doctoral students have a median age of 33, study part-time, and their career goals extend beyond academia and into different sectors (Offerman, 2011).

Typically, age serves as a surrogate variable for adult learners who have familial obligations, work responsibilities, and life circumstances that infers with their academic persistence. In addition to age, researchers have investigated other demographic variables, such as gender, race and socioeconomic status, as predictors of attrition rates. The literature, however, does not provide much information regarding the aforementioned demographic variables and its effect on self-efficacy and academic self-handicapping behaviors in doctoral students.

FACTORS AFFECTING ACADEMIC SELF-EFFICACY IN DOCTORAL STUDENTS

The concept of self-efficacy derives from Bandura's (1986) Social Cognitive Theory (SCT), which holds that learning occurs in a social environment with the interaction of people, the environment, and behaviors. The SCT comprised of self-observation, self-evaluation, self-reaction, and self-efficacy but the latter will serve as the primary variable of investigation. As mentioned previously, self-efficacy refers to a person's judgement about their capabilities to perform certain tasks. However, self-efficacy extends beyond an individual's ability to execute tasks; it involves their cognitive processes, behavior choice, motivation, and social cognitive maturation (Bandura, 1986). Researchers who have examined the construct of self-efficacy within doctoral students have indicated that doctoral students who learn to think and act autonomously develop a better sense of self-efficacy (Overall, Deane, & Peterson, 2011).

GENDER DIFFERENCES

Researchers have extensively studied gender differences in academic self-efficacy, but findings have been inconsistent. For instance, Pastorelli et al. (2001) found that women exhibited higher academic self-efficacy than males, whereas, Huang (2013) found than men exhibited an overall higher self-efficacy than females. However, gender differences in academic self-efficacy tends to be subject-specific (Huang, 2013), with males exhibiting higher self-efficacy in Science, Technology, Engineering, and Mathematics (STEM), and females having higher self-efficacy in language arts (Khemka, 2014).

Dever and Kim (2016) suggested that gender differences in academic self-efficacy might extend beyond K-12 education, yet researchers tend to target the younger population. MacPhee, Farro, and Canetto (2013) conducted a longitudinal study that examined academic self-efficacy of female minorities from low economic status enrolled in a STEM program. Findings of the study suggested that women had lower academic self-efficacy than men prior to the STEM program but their academic self-efficacy were equivalent by the time of graduation (MacPhee, Farro, & Canetto, 2013). These findings suggest that mediating programs, such as mentoring, could close the gender gap of academic self-efficacy. It is however important to note that although MacPhee, Farro, and Canetto's (2013) indicated gender differences in academic self-efficacy among the adult population, results could have been skewed because of the lack of confidence instilled in minority women from lower social status and the societal expectations that males perform better in STEM programs. Studies including females from varying backgrounds and academic disciplines could yield different outcomes.

AGE, RACE, AND SOCIOECONOMIC STATUS

Studies suggest that age moderates gender differences in academic self-efficacy. For instance, Huang (2013) proposed that gender differences in academic self-efficacy begins in adolescence and increases with age. The literature, however, does not provide information on the rate of how academic self-efficacy increases. Race also plays an essential role in academic self-efficacy and researchers have in-

vestigated whether self-efficacy is a contributing factor to the racial educational gap. Previous literature has suggested that minorities have lower self-efficacy than their White American counterparts do (Huang, 2013).

Socioeconomic Status (SES) appears to be an important component of academic self-efficacy. Merritt and Buboltz (2015) opined that demographic variables influence the beliefs of students concerning his or her abilities to perform in certain situations. Although there are few studies on the relationship between academic self-efficacy and SES, research has suggested a positive correlation between academic self-efficacy and SES variables such as parents' educational attainment and parents' occupation (Chen, 2011; Li, 2003). Other researchers have argued that lower SES students lack a sense of belongingness within the university's culture and within the academic fields (Johnson., Richeson, & Finkel, 2011; Wiederkehr, Darnon, Chazal, Guimond, & Martinot, 2015). The sense of mismatch experienced by low SES students stems from negative stereotypes leading to lower self-esteem and intelligence (Kudrna, Furnham, & Swami, 2010; Twenge & Campbell, 2002). Although it is clear that gender, race, and SES affect academic self-efficacy, it is uncertain how these factors affect academic self-efficacy in doctoral students.

FACTORS AFFECTING SELF-HANDICAPPING IN DOCTORAL STUDENTS

The previous section identified age, race, and socioeconomic status as factors influencing academic self-efficacy. It is proposed that these same factors could influence academic self-handicapping behaviors in doctoral students. Theorists and researchers suggested that individuals who experience low self-competence and fear of failing would often utilize self-handicapping behaviors because they are prone to success depression (Berglas & Jones, 1978; Seligman, 1975). Although a student may have succeeded in the past, he or she may still use self-handicapping behaviors because the reward did not reveal information about competence or the reward did not follow a pattern.

GENDER DIFFERENCES

There are gender differences in self-handicapping behaviors, which result from the level of ego involved. For instance, historically, studies suggested that men were more likely to self-handicap with intellectual-related tasks, while women self-handicapped with social-related tasks (Harris, Snyder, Higgins, & Schrag, 1986). However, the vast majority of literature suggests that men, more than women, tend to self-handicap under various situations (Berglas & Jones, 1978; Harris, Snyder, Higgins, & Schrag, 1986). An explanation for men's frequent use of self-handicapping behaviors relates to evidence that men reported higher self-esteem than women did (Bleidorn et al., 2016). Therefore, self-handicapping behaviors would protect men's self-esteem and prevent negative evaluations if he failed at academic tasks (Sultan & Kanwal, 2014). Another reason is that women may not self-handicap in masculine-dominated fields such as science, technology, engineering, and mathematics because society expects women to perform poorly in the STEM fields (MacPhee, Farro, & Canetto, 2013). Thus, women would self-handicap in more stereotypical areas where society would expect women to succeed (Swim & Sanna, 1996).

AGE, RACE, AND SOCIOECONOMIC STATUS

The empirical evidence for justifying age differences in academic self-handicapping is scarce; the literature points only to Leondari and Gonida's (2007) study, which suggested stronger self-handicapping behaviors in elementary and junior high school, when compared to senior high school students. Similar in concept, Park and Brown (2014) conducted a study, which evaluated students and workers' perception of self-handicapping behaviors. The results indicated that college students have more tolerance for those who self-handicapped, but workers had less tolerance for self-handicapping and workers often avoid socializing with those who self-handicapped. Based on this finding, it is

proposed that since adults have less tolerance for self-handicapping behaviors, they are less likely to engage in this counterintuitive strategy. Therefore, academic self-handicapping behavior may diminish with age.

Lucas and Lovaglia (2005) posited that African Americans and other minority groups self-handicapped less than European Americans because of the idea that European American are the most valued racial group in the United States. Therefore, society expects that European Americans to succeed in academic situations, and these high expectations, perpetuate self-handicapping behaviors.

It is necessary to explore student's family structure (i.e. SES) to determine how their familial experiences affect their behaviors. Numerous studies have suggested that a relationship exists between SES and academic self-handicapping behaviors. For instance, (a) students from mothers who have low educational levels, (b) students from single family parents, (c) students from larger families, and (d) last-born in the family show higher levels of self-handicapping behaviors (Dinnel, Hopkins, & Thompson, 2002; Fahey, Keilthy, & Polek, 2012; Litvinova, Balarabe, & Mohammed, 2015; Strickland, 2001).

FACTORS ASSOCIATED WITH DOCTOR STUDENT ATTRITION AND RETENTION

The issue of doctoral student attrition and retention is multifaceted, and the problems associated with understanding the complexities of doctoral attrition dates back to over 30 years. Tinto (1993) opined that less research is conducted on doctoral students because research is not guided by a comprehensive model or theory, which is employed when studying undergraduate students. The following factors are usually considered when investigating the problem of student retention: (1) academic factors, (2) personal factors, (3) institutional support systems, financial factors.

Lovitts (2001) found personal factors such as marriage, pregnancy, and divorce were the primary causes of doctoral student attrition; 70% of students who dropped out of school cited personal reasons.

Today's doctoral students are often non-traditional students who lack the opportunity to engage in student life activities (Offerman, 2011). However, researchers have found that students who feel integrated into the academic communicate tend to persist, and often seek support systems at their institutions (Gardner, 2008; Tinto, 1993).

Financial factors are also commonly cited as affecting student retention in higher education (Strayhorn, 2010). Doctoral students who receive some form of financial aid such as research/teach assistantships, and fellowships, are more likely to complete their doctoral programs than those who fund for their programs independently.

SUMMARY

High attrition rates exit in doctoral students and investigating the learning and motivation sub-field of psychology could shed more light on the phenomenon considering the fact that many researchers have failed to investigate this issue from a psychological perspective. Doctoral students are adult learners with work, familial, and personal obligations, which often affect their ability to study full-time and engage in school-related activities. Two factors worth investigation are academic self- efficacy and academic self-handicapping behaviors. Other variables affecting academic self- efficacy and academic self-handicapping behaviors include age, race, and socioeconomic status. The next section will include details on the methodology of the study.

METHODOLOGY

A quantitative study was conducted, using the exploratory factor analysis. This method was employed because of the numeric data involved. The research design and data collection methods were limitations inherent to the current study. Using a mixed-methods approach would have offset the limitations found in the quantitative approach. For instance, quantitative studies do not capture the emotions and facial expressions of the respondents. These subtleties are essential in understanding how participants think and feel. This concept is especially true for studies, such as the current, where researchers are focusing on psychological factors. Future researchers should take this limitation into consideration.

SAMPLE

The quantitative method was selected to quantify the problem by use of the numerical data involved, and allow readers to generalize the results to a larger population. Specifically, the factor analysis was selected to determine which factor contributed most to the responses students expressed. One-hundred and sixty-five participants, of legal age, who had completed at least one semester of a doctoral program, were involved in this current study. Participants' ages lied within the age groups of 18-24 and 65-73 with an average age group of 35 to 44. Participants of the study were members of one of the following races: Asian/Pacific Islander, Black/ African American, Hispanic, White/Caucasian, and Multiple Ethnicities. Participants were coded by education, income, and, occupation and placed into one of the following socioeconomic status categories: low, middle, and high.

RESEARCH QUESTIONS

The quantitative research questions in the current study were as follows:

What are the factors affecting self-efficacy and academic self-handicapping behaviors in doctoral students?

Sub-questions included:

1. To what extend do age, race, and socioeconomic status influence academic self-efficacy in doctoral students?
2. To what extend do age, race, and socioeconomic status influence academic self-handicapping behaviors in doctoral students?

INSTRUMENTATION

The key variables in this current study were measured by a self-reported questionnaire, Self-handicapping Scale (SHS), and the General Self-Efficacy Scale (GSE). These scales were linked using a single questionnaire. The first part of the survey instrument included demographic characteristics of educational category (i.e. doctoral graduate, doctoral student/candidate, or doctoral drop), gender, ethnicity, age, and parents' occupation. The rest of the questionnaire assessed academic self-handicapping, and self-efficacy behaviors.

The internal reliability for GSE had a Cronbach's alphas between .76 and .90, confirming a high reliability (Schwarzer & Jerusalem, 1995). The GSE instrument has been validity by correlating the instrument to situations that should change affect, and positive affect has been found to be related to emotion, optimism, work satisfaction (Schwarzer & Jerusalem, 1995).

The SHS has been validated through multiple studies, and it has been proven in its ability to predict self-handicapping behaviors (Higgins, 1990). The SHS indicated satisfactory internal consistency and stability; Cronbach's alpha, r (503) =.79 and test-retest, r (90) = .74 (Higgins, 1990).

PROCEDURE

The convenience sampling method was used for this study because this form of sampling is convenient, and suits the purpose of the study (Gall, Gall, & Borg, 2003). The researcher obtained permission from the affiliated Institutional Review Board prior to conducting the research. The recruitment procedure involved sharing survey links from Survey Monkey® via LinkedIn® with individuals who had completed at least one semester of a doctoral program. The invitations to participate in the survey included detailed information regarding the study and the associated risks. After selecting the survey link, participants were the prompted to accept the informed consent. The participants were not remunerated for their participation in the research. Participants electing not to participate in the study were directed to another page and they receive a note of appreciation for their time. Participants' responses were coded to protect their identity and questions were worded so that personally identifiable information would not be revealed. Responses were stored on a password-protected computer, which was only accessible to the researchers.

DATA ANALYSIS

The data analysis involved numeric evaluation of the dependent and independent variables to determine grouping factors. The Statistical Package for Social Sciences® (SPSS) was used to compute the Factor Analysis Statistical Test.

RESULTS

ACADEMIC SELF-EFFICACY RESULTS

The factor analysis test did not show a statistically significance between the dependent variable (academic self-efficacy) and any of the independent variables – gender, race, age, and socioeconomic status.

The results are indicated below in Table 1.

Table 1. Tests of Between-Subjects Effects

Dependent Variable: Academic Self- Efficacy								
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**	**Noncent. Parameter**	**Observed Power[b]**
Corrected Model	18.538[a]	87	.213	1.064	.391	.546	92.611	.960
Intercept	112013.093	1	112013.093	559602.965	.000	1.000	559602.965	1.000
gender	.035	1	.035	.175	.677	.002	.175	.070
race	.787	4	.197	.984	.422	.049	3.934	.297
age	.707	5	.141	.707	.620	.044	3.534	.242
SES	1.256	6	.209	1.046	.403	.075	6.274	.389
gender * race	.437	3	.146	.728	.538	.028	2.185	.198
gender * age	.448	3	.149	.746	.528	.028	2.237	.202
gender * SES	.909	6	.152	.757	.606	.056	4.542	.283

Dependent Variable: Academic Self- Efficacy								
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**	**Noncent. Parameter**	**Observed Power[b]**
race * age	.566	4	.141	.707	.590	.035	2.827	.219
race * SES	4.712	14	.337	1.682	.077	.234	23.542	.850
age * SES	1.240	15	.083	.413	.971	.074	6.194	.236
gender * race * age	.038	2	.019	.095	.909	.002	.190	.064
gender * race * SES	.399	2	.199	.996	.374	.025	1.992	.218
gender * age * SES	1.552	4	.388	1.938	.113	.091	7.751	.559
race * age * SES	.787	5	.157	.787	.563	.049	3.933	.268
gender * race * age * SES	.000	0	.	.	.	.000	.000	.
Error	15.413	77	.200					
Total	385631.926	165						
Corrected Total	33.950	164						
a. R Squared = .546 (Adjusted R Squared = .033)								
b. Computed using alpha = .05								

ACADEMIC SELF-HANDICAPPING RESULTS

Similarly, to the previous results, the factor analysis test did not show a statistically significance between the dependent variable (academic self-handicapping) and any of the independent variables – gender, race, age, and socioeconomic status.

The results are indicated below in Table 2.

Table 2. Tests of Between-Subjects Effects

Dependent Variable: Academic Self- Handicapping								
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**	**Noncent. Parameter**	**Observed Power[b]**
Corrected Model	26.411[a]	87	.304	.899	.685	.504	78.248	.907
Intercept	103251.464	1	103251.464	305900.679	.000	1.000	305900.679	1.000
gender	.124	1	.124	.367	.547	.005	.367	.092

Dependent Variable: Academic Self- Handicapping								
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**	**Partial Eta Squared**	**Noncent. Parameter**	**Observed Power[b]**
race	.201	4	.050	.149	.963	.008	.595	.080
age	2.477	5	.495	1.467	.210	.087	7.337	.490
SES	1.522	6	.254	.751	.610	.055	4.509	.281
gender * race	.085	3	.028	.084	.969	.003	.252	.064
gender * age	.880	3	.293	.869	.461	.033	2.608	.231
gender * SES	2.256	6	.376	1.114	.362	.080	6.685	.414
race * age	.689	4	.172	.511	.728	.026	2.042	.166
race * SES	3.287	14	.235	.696	.772	.112	9.738	.396
age * SES	4.557	15	.304	.900	.567	.149	13.500	.534
gender * race * age	2.325	2	1.163	3.444	***.037***	.082	6.889	.630
gender * race * SES	1.802	2	.901	2.669	.076	.065	5.338	.515
gender * age * SES	4.246	4	1.062	3.145	***.019***	.140	12.581	.796
race * age * SES	.783	5	.157	.464	.802	.029	2.320	.167
gender * race * age * SES	.000	0	.	.	.	.000	.000	.
Error	25.990	77	.338					
Total	355724.000	165						
Corrected Total	52.401	164						
a. R Squared = .504 (Adjusted R Squared = -.056)								
b. Computed using alpha = .05								

Summary of Findings

The results did not indicate that age, race, and Socioeconomic Status (SES) influenced academic self-efficacy and academic self-handicapping behaviors in doctoral students. The standard p-value was used to determine the statistical significance of the findings. A p-value less than .005, in the social sciences, is recognized as statistically significant. Furthermore, the results are accurate due to the large sample size.

DISCUSSION

Higher education leaders struggle to retain doctoral students, and although the issue of student retention and psychological factors have been proffered, much attention has not been placed on this relationship. The purposes of the current study were to determine whether age, race, and Socioeconomic Status (SES) influence academic self-efficacy in doctoral students, and determine whether age, race, and SES influence academic self-handicapping behaviors in doctoral students. The results did not indicate a statistical significance for both research questions.

The results from this current study revealed there was not a statistically significance between academic self-efficacy and gender, race, age, and socioeconomic status. There was also not a statistical significance between academic self-handicapping behaviors and gender, race, age, and socioeconomic status.

The results of this current study were not supported by the literature. The discrepancies between the present study and previous studies resulted from the differences in the study populations. Past researchers on the topics of self-efficacy and self-handicapping behaviors have focused exclusively on the undergraduate population, but the present study included doctoral students. Doctoral students tend to be older and their psychological behaviors differ from their undergraduate counterparts (Falconer, 2017); therefore, the past results could not have been generalized to the current population.

The results from the study could be applied more generally to doctoral students cross-culturally to understand psychological concepts and variables, which influence their retention. Results could also be used to develop cognitive awareness; leading to better understanding of the issue from a psychological perspective. New research should be employed using a mixed methods approach to collect more comprehensive data to have a broader understanding of the issue of student retention in doctoral students.

FUTURE RESEARCH

It is recommended that future research be carried out using a mixed methods approach to offset the limitations found in the quantitative strand. It would also be helpful to capture qualitatively the experiences and perspectives of doctoral students to understand better the phenomenon of student retention and psychology, and gain rich, thick data. More methodological work is needed to know how students perceive the research variables (age, race, and SES) affecting their academic self-handicapping and self-efficacy behaviors.

CONCLUSION

The purpose of this study was to determine to which degree age, race, and Socioeconomic Status (SES) influence academic self-efficacy and academic self-handicapping behaviors in doctoral. The results from this study contributes to the literature available on doctoral students. Researchers should continue the investigation of psychological factors in doctoral students using a mixed methods approach to allow the collection and interpretation of a comprehensive data.

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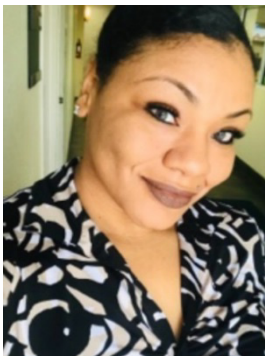
BIOGRAPHIES



Dr. Anique Falconer is an Associate Dean of Academic Affairs at Keiser University. She previously worked as a full-time Psychology Faculty. She has 10 years of progressive experience working in K-12 and higher education. Dr. Falconer earned a Bachelor's and Master's degree in Psychology as well as the Education Specialist and Doctor of Philosophy degrees in Education Leadership. Dr. Falconer is a published author and researcher. Her current research interests include academic persistence and personality types.

Prof. Dr. Borivoje-Boris Djokic, Ph.D. received his PhD. in Statistics from the University of Belgrade, School of Business in 1986. He accepted a full-time teaching position at the University of Miami, Mathematics and Computer Science Department, where he worked until retirement in 2007. He worked in University of Miami School of Medicine as an adjunct professor doing biomedical research for more than 17 years. He continued his career in 2006 at Keiser University as full professor in Graduate School, Department of Business teaching and performing research as methodologist and professor of Research Methods, Statistics, and Quantitative analysis in Business. He continued his research career as well in banking, financing, continuing education and bio-statistics. He is a full professor at Singidunum University in Belgrade since 2013.