

## **Self-Efficacy of Generational College Students in Educational Doctoral Programs in Texas**

**Stephanie Yuma**

Texas A&M University-Kingsville  
Department of Art, Communication and Theater  
700 University Blvd., MSC178, Kingsville, TX 78363  
USA

**Lori Kupczynski**

Texas A&M University-Kingsville  
Department of Educational Leadership and Counseling  
700 University Blvd., MSC223, Kingsville, TX 78363  
USA

**Marie-Anne Mundy**

Texas A&M University-Kingsville  
Department of Educational Leadership and Counseling  
700 University Blvd., MSC223, Kingsville, TX 78363  
USA

**Albert Ruiz**

Texas A&M University-Kingsville  
Office of the Dean  
700 University Blvd., MSC195, Kingsville, TX 78363  
USA

### **Abstract**

*Higher education institutions are faced with pressure to graduate more doctoral students, but universities are faced with an increasing population of doctoral students who identify themselves as first-generation; however, there is not much known about this specific population as well as other generational students (i.e., second and other generation) at the doctoral level. This study focuses on exploring student self-efficacy levels in terms of academic self-efficacy, research self-efficacy, and social self-efficacy. This study is a quantitative, survey design that explored the relationship between the generational status of education doctoral students and their levels of self-efficacy while also offering generalizations that will benefit these students, administrators, and higher education institutions. Analysis of the data concludes that the generational status of a doctoral student does not determine their self-efficacy.*

**Keywords:** doctoral students; generational college students; self-efficacy; doctoral programs; educational doctoral programs

### **1. Introduction**

The pursuit of graduate school shares large overlap with the pursuit of a student's future career path, and self-efficacy beliefs also have an impact on a student's future endeavors (Tate, Williams, & Harden, 2014). Universities are under pressure to graduate more doctoral students, and yet data show an increasing number of doctoral students are not completing their program of study (Varney, 2010). In addition, research also shows an increase in first-generation doctoral students; however, not much is known about this population at the graduate level.

Despite the challenges faced by undergraduate first-generation students, current research indicates an increasing number of first-generation students are continuing their education and completing doctoral degrees; data from 2010 show that 32.1% of all doctoral recipients were classified as first-generation students (National Science Foundation & National Center for Science and Engineering Statistics, 2012). In order for higher education institutions to graduate more doctoral students from their programs, it is important to understand the needs of doctoral students and determine if those needs are different depending on generational status (Varney, 2010). Not only is there a lack of research on doctoral students, but there is also a lack of research on their self-perceptions. Research shows that self-efficacy is a determinant of a student's persistence and motivation and therefore there is a need for research regarding doctoral students' perception of self-efficacy in regards to academic, research, and social self-efficacy.

## **2. Literature Review**

Generational status has long been an area of interest primarily among researchers whose focus is on undergraduate students, who have focused on first-generation undergraduates and their disadvantages compared to other generations. Previous studies have indicated many differences between first-generation, second-generation, and other generational students on a variety of academic and non-academic outcomes (Hertel, 2002; Aspelmeier, Love, McGill, Elliott, & Pierce, 2012). Particular focus in the past has been on the level of difficulty in terms of college adjustment, familial support, values, and attrition rates (Hertel, 2002).

More specifically, first-generation students are entering higher education institutions at a rapid rate and account for almost half of the doctoral student population. Yet, it is important to note that these first-generation students are navigating the map of higher education with no parental experience or background, little to no family support, and many other barriers that are specific to students who are the first in their family to attend college. The goal of degree completion for first-generation doctoral students is a motivating factor, but can also be altered by their levels of self-efficacy. By understanding a student's level of academic, social, and research self-efficacy, they can become better prepared for the challenges they will face throughout their program.

### **2.1 Generational Status Comparisons**

Maldonado (2006) notes that of the factors that influence educational attainment, family background is one of the most influential; a parent's educational levels is probably one of the best predictors of the academic success of their child(ren). Students whose parents are not college educated may not receive sufficient familial support for attending college in comparison to students whose parents graduated from college (Hertel, 2002). Several studies exist between first and continuing generational students on a variety of academic and non-academic outcomes and most existing research focuses on undergraduate students. "Studies of generational status comparing first-generation and continuing generation college students are funded upon the assumption that these students are qualitatively different from their peers with respect to their pre-college characteristics, their experiences during college, and their academic outcomes such as lower GPA, worse college adjustment, and higher dropout rates" (Aspelmeier et al., 2012, p. 756).

Generally speaking, most research has primarily been focused on the difference between first-generation students and second-generation students or continuing-generation students. First-generation students may receive less support from their parents for college attendance and also have different beliefs, values, and ideals than other generation students (Hertel, 2002). While, on the other hand, parents who have had the privilege of attending college are able to pass along knowledge about college culture to their children (Hertel, 2002). By the same token, college-educated parents are more likely than less educated parents to expect that their children attend college and perhaps even go further than they did (Hertel, 2002).

In terms of social adjustment, Hertel (2002) found that there were big differences between first-generation students and second-generation students. First-generation students tended to live off campus more than other generation students did, and they also found that their friends were not from their college settings. In contrast, second-generation students typically lived on campus and emphasized that their social life was typically made up of family, other college friends, and developing their own independence. In essence, non-college friends were not able to provide adequate and sorely needed social support that the first-generation students need (Hertel, 2002). Developing friendships with other individuals on campus may help students to feel more connected, knowledgeable, and supported than developing friendships with individuals off-campus that do not have the same values and goals.

## **2.2 First Generation Doctoral Students**

While many individuals seek to attain higher levels of education, it is important to note the barriers and challenges that some populations might face in order to understand and continue to make certain that higher education is accessible and feasible for all. It has been said that graduate school is challenging for all students; however, literature suggests that there are specific challenges particular to first-generation student populations (Gardner, 2013). In addition, it has been predicted that the percentage of first-generation students in college will continue to increase throughout the next decade, and yet, 76% of first-generation students do not pursue graduate studies (Giancola, Munz, & Trares, 2008; Seay, Lifton, Wuensch, Bradshaw, & McDowelle, 2008). This high percentage highlights the importance for higher education institutions to find ways to support all students.

First-generation students are defined as being from families where neither parent has completed a college degree or beyond (Pascarella et al., 2004). This population is typically classified as an at-risk student population in higher education (Gardner & Holley, 2011). Generally speaking, first-generation students are underprepared for higher education, both academically and psychologically, so not only do they take longer to complete their undergraduate studies, but they are also known for having low degree aspirations when compared with their peers (Pelco, Ball, & Lockeman, 2014; Gardner & Holley, 2011). While much of the literature on first-generation students focuses on students at the undergraduate level, it is important to focus on those that are in the doctoral level as well, especially because more and more doctoral recipients are reporting that they belong to the first-generation student population (Gardner & Holley, 2011).

First-generation students struggle throughout their education especially in finding the means to attend graduate school. First-generation students are a population that most times, lacks structural and sociopolitical supports that are necessary to prepare for entry to and success in, not just undergraduate studies, but also graduate studies (Gallardo, 2009; Mamiseishvili, 2010; Owens, Lacey, Rawls, Holbert-Quince, 2010; Parks-Yancy, 2012). The challenges these students face stem from being first in their family to pursue graduate studies, meaning, they do not have family members that understand the process, or that can assist them with the process. These students are entering a new realm of education and have no experience or experts to follow – they are learning as they go, and they are less likely than other students to aspire to enroll in and complete a graduate program (Gardner & Holley, 2011).

DeFreitas and Rinn (2013) conducted a study to examine the verbal and math self-concepts of first-generation students and whether or not these self-concepts could help explain academic performance. This research indicated that first-generation students who scored high on verbal and math self-concepts tests were also likely to have higher academic achievement. Therefore, universities can use this information to put interventions in place that can be utilized to focus on these issues (DeFreitas & Rinn, 2013). Emphasizing the importance of verbal and math self-concepts early on, perhaps even prior to beginning college, can be very beneficial for first-generation students and their future in college. “Postsecondary institutions should provide a range of programs to help these students face their challenges and weaknesses” (Petty, 2014, p. 262). Since previous research shows that first-generation students are more at risk as they transition into college, these interventions can prove to be successful in the retention and success of first-generation college students (Engle, 2007).

Olive (2014) interviewed several first-generation Hispanic students in regards to their desire for higher education and what their influences for commitment were. She found that there were several factors that first-generation Hispanic students mentioned as part of their desire to further their education. Some of these factors included lack of family role models for higher education countered by encouragement from other respected individuals, resilience, persistence, and self-efficacy in achieving education goals in spite of challenges and barriers, the opportunity to achieve distinction, comfort, and career satisfaction, and the ability to encourage and influence others (Olive, 2014). It is important to understand these factors so that one can truly understand the first-generation student population and the differences that they might face in comparison to their peers. Chen (2005) used data from the National Center for Education Statistics that was collected from 12<sup>th</sup>-graders who enrolled in postsecondary education between the years of 1999 and 2000, and who have complete postsecondary transcripts available. Data collected showed that first-generation students did not perform as well as their peers who had college graduated parents. In addition, these students had lower first-year undergraduate grade point averages and continued to have low performance scores throughout their undergraduate career (Chen, 2005). The downward spiral for these students continued to show that they are more likely than other students to withdraw or have to retake courses they have already attempted (Chen, 2005).

Overall, the results from this study showed many repetitive concerns when looking at the population of first-generation students. “Compared with students whose parents attended college, first-generation students consistently remained at a disadvantage after entering postsecondary education” (Chen, 2005). As a result of the many unfortunate disadvantages that this student population faces compared to other students, first-generation students were more likely to not complete a bachelor’s degree (Chen, 2005). This research shows that particular attention is needed for this population of students in order to ensure their success in postsecondary education endeavors. There is a positive relationship between a student’s success and the educational background of their parents, so assistance and positive role models are needed to make sure these students are successful.

Graduate students, traditionally, are a population of individuals that come from families that not only have undergraduate degrees, but also advanced degrees (National Science Foundation, 2010). This means that the majority of doctoral students are not first-generation students; they use their family’s history and knowledge to inform their decisions for graduate school. Most first-generation doctoral students come from a low income family background with parents who have less experience and knowledge to help them with graduate school experiences and decisions (Hoffer, Welch, Webber, Williams, Lisek, Hess, & Guzman-Barron, 2002).

While there is an immense amount of research on undergraduate first-generation students, there is still so much to be learned about first-generation doctoral students especially since the percentage of first-generation doctoral students who persist to and complete a doctoral program is significant, with 32.1% of all doctoral recipients in 2010 being first-generation (Gardner, 2013). For first-generation doctoral students, getting to graduate school is only half of the battle. Without models from home, these students struggle to understand the guidelines and procedures of graduate education (Hoffer et al., 2002). These are students who most likely attend community colleges at some point, and most times, their undergraduate work was finished at a university that did not have any doctoral programs (Hoffer et al., 2002).

While it might be easy to say that a stigma is attached to first-generation students, it is important for educational leaders to understand the challenges that these students face to better prepare them and assist them in being successful throughout their educational journey. Educators and administrators in higher education must remember that their attitudes have a great impact on the future success of first-generation students (Macias, 2013). With our universities facing more pressure to graduate doctoral students because of the critical need for educational leaders, it is imperative that leaders and institutions reach out to this growing population of first-generation doctoral students (Varney, 2010),

## **2.3 Self-Efficacy**

The theory of self-efficacy derives from the conceptual framework of social cognitive theory in which individuals develop their self-efficacy beliefs from four major sources of information: enactive performance accomplishments, vicarious experiences, verbal persuasion and emotional and physiological states (Phan & Ngu, 2014).

### **2.3.1 Academic Self-Efficacy**

Academic self-efficacy is a personal judgment of one’s capabilities to organize and execute the necessary courses of action to attain designated types of educational performances (Zimmerman, 1995). Academic self-efficacy makes a major contribution to the prediction of quality learning and achievement outcomes in student learning (Phan & Ngu, 2014; Pajares, 1996; Schunk, 1995). Understanding a student’s level of academic self-efficacy is directly linked to their academic expectations and performance (Jackson, 2002). Students who begin an academic program with confidence in their ability to do well usually perform better than students with less confidence (Chemers, Hu, & Garcia, 2001).

### **2.3.2 Research Self-Efficacy**

A vital component of a doctoral program is the research skills that the student must learn in order to conduct quality work as a student researcher (Hines, 2008). This research component of a doctoral program is often the reason why many students do not complete the degree and graduate; it is one of the most pivotal components of doctoral programs (Hines, 2008). Writing a dissertation measures doctoral candidates’ ability to perform self-directed scholarly research (Hines, 2008). In fact, as many as 50% of doctoral students are non-completers, and are considered so because they have not finished the research portion of the program that leads to the dissertation; they are commonly referred to as “All But Dissertation” (ABD; Bowen & Rudenstine, 1992).

The reasons for which students inherit this ABD status vary and can include unexpected life events, financial hardships, and other personal or family variables (Varney, 2010). Another reason might clearly be that the student does not believe they have the ability or the skills to complete the research needed to write a successful dissertation; this is referred to as a student's research self-efficacy.

### **2.3.3 Social Self-Efficacy**

Social self-efficacy is defined as the confidence level one has in their ability to engage in the social interactional tasks deemed necessary to initiate and maintain interpersonal relationships (Anderson & Betz, 2001). This has also been referred to as socialization, and the feeling one has towards their membership in a given society, group, or organization (Gardner, 2010). This type of self-efficacy is a very important aspect of graduate students because it has been reported to relate to academic performance in college students as well as career decisions and, if unsuccessful, can contribute to departure from a degree program (Anderson & Betz, 2001; Garner, 2010). Social self-efficacy looks at the effectiveness of social behavior as well as psychological adjustment and mental health (Erozkan, 2014). As far as psychological problems, social self-efficacy expectations have been closely related to social anxiety and depression in students (Anderson & Betz, 2001).

## **3. Methodology**

A quantitative study was conducted to understand the relationship between a student's generational status and academic self-efficacy, social self-efficacy, research self-efficacy, and overall self-efficacy. In addition, this research also focused on the predictor variables of gender, age, and race to determine if they predict student self-efficacy. A survey design was used to focus generational college students in educational doctoral programs and their self-efficacy sets including: academic, research, social and total self-efficacy. The population in this study included students who were enrolled and active in an educational doctoral program in Texas universities during the summer and fall semesters of 2015. The researcher sought out permission from professors to survey doctoral students enrolled in Summer/Fall 2015 classes at five Texas universities, four of which were classified as being Hispanic Serving Institutions (HSIs). The recruitment of participants was a convenience sampling that entailed the student researcher contacting professors at various higher education institutions in Texas asking them to distribute surveys during one of their doctoral class meeting times. The survey was given to students that were in attendance in these doctoral classes. Surveys were distributed to doctoral students throughout five universities in the state of Texas, and there was no set limit on the size of the sample. There are 46 accredited, public universities in the state of Texas (Texas Higher Education Coordinating Board, 2015).

### **3.1 Instrumentation**

The instrumentation that was utilized for this research was a paper-based survey created in 2004 by researcher Eric Williams. The Graduate Education Self-Efficacy Scale (GESES) is a 57-item instrument that was developed to elicit data from participants about their perceived levels of academic, research, and social self-efficacy.

The instrument is divided into four sections: demographic information, academic self-efficacy, social self-efficacy, and research self-efficacy. The first section includes items regarding participants' age, gender, race, and GPA. The next three sections are based on a 10-point Likert type scale in which respondents were asked to rate the strength of their beliefs in their ability to complete certain tasks. These last three sections were designed to measure participants' perceived level of academic, social, and research self-efficacy. The scale ranges from 1 (Not at all confident) to 10 (Completely confident). A correlation was conducted to point out the direction of the relationship of generational status and self-efficacy levels. A multiple linear regression was conducted as well as a multivariate analysis of variance (MANOVA).

## **4. Results**

### **4.1 Descriptive Statistics**

The survey was given to 125 doctoral students with 125 of them providing consent to participate in the survey. The sample (N=125) included 43 males and 82 females. As shown in Table 1, the ethnic/gender composition of the population consisted of 53 Caucasians, 51 Hispanics, and 20 others. The age composition of the sample population consisted of 27 students between the ages of 18-27, 30 students between the ages of 28-31, and 67 students who classified as being age 32 or higher.

As shown in table 2, most respondents classified themselves as being first-generation students (N=58). In addition, remaining respondents split almost down the middle in terms of who classified as being second-generation (N=31) and other generational status (N=35).

#### 4.2 Inferential Statistics

A correlation was conducted to determine if there was a relationship between generational students and the set of self-efficacy among doctoral students. The independent variable was the students' generational status. The dependent variable was the set of self-efficacy, which included academic self-efficacy, research self-efficacy, social self-efficacy, and total self-efficacy. The results suggest that there is no relationship between a students' generational status and their self-efficacy levels in all areas (i.e., research, academic, social, and total).

A multiple linear regression was conducted to determine if there is a significant relationship among the predictor variables of gender, age, and race, and the criterion variables of total self-efficacy among the doctoral students. The combination of variables, (i.e., race, sex, and age) significantly predict self-efficacy,  $F(3,112) = 4.30, p < .01$ . The effect size as measured by the adjusted R squared value at .08 was medium, meaning that 8% of the variance in self-efficacy of doctoral students was due to the combination of race, sex, and age.

The multiple linear regression data also showed the following: self-efficacy =  $409.67 + 16.48(\text{age}) - 23.77(\text{gender}) - .94(\text{race})$ ; according to the standardized coefficient beta, the age variable gives most weight in determining self-efficacy, followed by gender. In addition, in terms of gender, the data show that females have a lower self-efficacy score than their male counterparts. As Table 3 represents, of the three predictor variables of age ( $p = .01$ ), sex ( $p = .02$ ), and race ( $p = .89$ ), only age and sex were significant.

A multivariate analysis of variance (MANOVA) was conducted to assess if there were differences between the generational status of the student and on their total self-efficacy. Wilks'  $\Lambda$  was used for the multivariate statistic and no significant differences between the variables,  $p = .528$ , Wilks'  $\Lambda = .96$ ,  $F(6, 224) = .86, p = .53$ , partial  $\eta^2 = .02$ . This indicates a small effect size of 2% which means that only 2% of the variance in self-efficacy is accounted for by generational status. There is no statistical difference among FG, SG, and other generation doctoral students on academic self-efficacy, social self-efficacy, research self-efficacy, and total self-efficacy among doctoral students in the state of Texas as measured by the GESES.

#### 5. Summary, Conclusions, Recommendations

The purpose of the current study was to determine whether or not there was a significant relationship between the generational status of a college student and their self-efficacy (i.e., academic, research, social, and total). Self-efficacy has long been an important factor that has provided important information on undergraduate students in terms of their confidence levels in regards to academic, research, and social issues. Data were collected on generational doctoral students to determine if there is a relationship between their generational status and their perceptions of their own self-efficacy levels in terms of academic self-efficacy, research self-efficacy, social self-efficacy, and total self-efficacy. Examining the results is important for universities in order to have a better understanding of the population of doctoral students today, and how they can better serve them to create successful doctoral program completers.

##### 5.1 Discussion and Conclusions

Based on the analysis of the data, it can be concluded that the generational status of a doctoral student does not determine their self-efficacy in terms of academic, research, social and total self-efficacy. This takes a different viewpoint from most of the existing literature that point to first-generation students being classified as students at risk in comparison to their non-first-generation peers (Gardner & Holley, 2011; Wang & Castaneda-Sound, 2008). Part of the difference can also be connected to the fact that most of the existing literature on generational status has been conducted at the undergraduate level and not at the graduate level much less focusing on doctoral students. However, a shift in focus is needed to address the needs of all doctoral students because statistics show as many as 50% of doctoral students are non-completers or "All But Dissertation-ers" (Varney, 2010).

In the current study, 46.4% of survey respondents identified as being first-generation, 24.8% second-generation and 28.0% as other generation students; yet no significant correlations were found between these generational groups and self-efficacy. Since self-efficacy theory proposes that a person's degree of self-efficacy in a particular area of behavior will influence the level of persistence and performance in that individual, it is important to dig deeper into what shapes these students' self-perceptions (Wang & Castaneda-Sound, 2008; Zimmerman, 2000).

There were significant relationships when the predictor variables of age, gender, and race were combined towards the criterion variable of self-efficacy. This suggests that universities may want to provide support and additional services that are tailored to these specific demographics and increase their self-efficacy levels to be successful in their doctoral program. In addition, data show that females have a lower self-efficacy score than their male counterparts. It can be concluded from the data that no significant differences exist among first-generation, second-generation, and other generation doctoral students on academic, research, social and total self-efficacy. While this finding is surprising because existing research points to first-generation students having to face more barriers and challenges, it is important to note that this can be the case for undergraduate first-generation students. The fact that there is no difference among the generational sets at the doctoral level is not surprising because all these students have been a part of the higher education system for at least six years now.

This research only scratches the surface in understanding generational status and self-efficacy levels of doctoral students in educational programs in Texas. Further research needs to be conducted to determine more detailed information about generational status at the doctoral level as well as self-efficacy levels of these doctoral students, so that more students successfully complete their programs and graduate. Additionally, research that is more detailed could uncover in-depth information about generational status as what role it might play, if any, at the doctoral level.

Considering the importance of this research, more in-depth study on doctoral students is needed. Results of further studies may offer a better understanding of the specific population of modern doctoral students today and what resources they need to successfully complete their doctoral programs. Much of the research to date on generational status focuses on the differences between first and continuing generation students at the undergraduate level. The current study provides additional research pertaining to generational status and self-efficacy levels through collected quantitative data from a population of doctoral students from five universities in Texas who were enrolled in educational doctoral programs.

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**Table 1: Demographic Information about Participants**

Variable	Frequency	Percentage
Gender		
Male	43	34.4%
Female	82	65.6%
Age		
18-27	27	21.6%
28-31	30	24.0%
32 and up	67	53.6%
Ethnicity		
White	53	42.4%
Hispanic	51	40.8%
Other	20	16.0%

**Table 2: Generational Classification of Respondents**

Variable	Frequency	Percentage
Generational Status		
First-Generation	58	46.4%
Second-Generation	31	24.8%
Other Generation	35	28.0%

**Table 3: Multiple Regression Analysis Summary for Age, Gender, and Race Predicting a Student's Total Self-Efficacy**

Variable	B	SEB	$\beta$	<i>p</i>
<i>Total Self-Efficacy</i>				
<i>Predictor Variable</i>				
1. Age	16.48	6.19	.24	.009
2. Gender	-23.77	10.35	-.21	.023
3. Race	-.94	6.97	-.01	.892