STUDENT ANXIETY: EFFECTS OF A NEW GRADUATE STUDENT ORIENTATION PROGRAM

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A significant issue for U.S. institutions of higher education is reducing the anxiety of students in order to help increase retention rates and improve academic performance. The purpose of this study was to analyze the anxiety levels of incoming graduate students at a Midwest regional state university to determine if an online student orientation program would assist in lowering those levels. The State-Trait Anxiety Inventory Form Y-1 (STAI) was used to measure anxiety levels before and after an orientation program was administered. The population consisted of graduate students, with data indicating that anxiety levels of entering graduate students were significantly lower after completing the orientation program. The findings have implications for institutions seeking to understand anxiety levels of incoming students.

Keywords: *higher education, graduate education, anxiety, student orientation*

Graduate study in the United States is increasing every year. According to the *Digest of Educational Statistics* (2013), graduate enrollment in the 1970's and 1980's held steady at approximately 1.3 million students; however, "enrollment rose approximately 57% between 1985 and 2004" (p. 277). With the increase in graduate enrollment, professionals in higher education have continued to research what graduate students need and how to assist them during their graduate studies. Researchers, including Poock (2002) and Taub and Komives (1998), have concluded that graduate students are struggling with academic performance and persistence within their programs.

Phillips, Daubman, and Wilmoth (1986) stated that graduate study could indeed be stressful on a person, causing a decline in academic performance derived from fear of failure and extreme anxiety. To add to the stressfulness of actually obtaining a graduate degree, many students have the same fears and anxieties entering into a graduate program as when they entered their undergraduate institution (Poock, 2002). Additionally, incoming graduate students often have a skewed outlook of what to expect and what is expected of them in graduate school (Taub & Komives, 1998).

To help alleviate the questions and concerns of incoming undergraduate and graduate students, colleges and universities have turned to orientation programs to help ease students into their new educational environment. Orientation, as defined by Poock (2002), is "any effort on the part of an institution to help entering students make the transition from their previous environment to the collegiate environment and to enhance their success in [graduate education]" (p. 232). According to Poock (2002), though "participation in graduate orientation programs has the value of increasing students' academic persistence and retention in their programs" (p. 232), high attrition rates can be up to 70% in some disciplines. Researchers feel that significant notice should be dedicated to students entering graduate school and that orientation programs designed to help introduce students into new programs are imperative, yet still missing from graduate programs at universities (Barker, Felstehausen, Couch, & Henry, 1997; Taub & Komives, 1998; Poock, 2002).

STATEMENT OF PROBLEM

A significant issue for U.S. graduate schools is reducing the anxiety of graduate students to increase retention rates and academic performance. Due to the significance of this issue, it is appropriate to investigate the utility of a graduate

orientation program in lowering anxiety levels of incoming graduate students. Depending on how an orientation program is developed, it potentially has the ability to help guide students through the next stage of their academic career and lower stress/anxiety levels of incoming university students. Therefore, the problem statement is, "Does a graduate orientation program assist in lowering anxiety levels of incoming graduate students?"

PURPOSE OF THE STUDY

The purpose of this study was to investigate anxiety among incoming graduate students enrolled at a Midwest regional state university in order to determine if an intervention reduces anxiety. This intervention provides detailed information on academic and social resources to assist students in acclimating to their course of study. The study surveyed incoming graduate students before and after a technology-based orientation program to determine if it reduces anxiety.

RESEARCH QUESTIONS

These specific research questions were deduced from the problem statement:

1. What level of anxiety exists among incoming graduate students attending a Midwest regional state university?

2. What statistical differences exist between anxiety levels of incoming graduate students depending on their gender, age, degree type, and prior experiences?

3. Does an online graduate student orientation program contribute to the significant reduction of anxiety levels among incoming graduate students?

LITERATURE REVIEW

Anxiety Levels and New Student Orientation

As previously stated, researchers are finding evidence that student support programs assist in lowering anxiety. Poock (2002), along with other experts on orientation, stated that orientation programs have been an absent component in graduate education (Barker, Felstehausen, Couch, & Henry, 1997; Taub & Komives, 1998). Further, Love and Miller (2002) concluded that transition programs, such as new student orientation programs, "increase student academic achievement, increase retention rates, increase the likelihood of collegiate involvement, reduce risks of unhealthy behavior, and can generally increase levels of satisfaction" (p. 29).

Purpose of New Student Orientation Programs

There are varying structures and purposes for new student orientation programs. Nadler, Miller, and Casbere (1998) stated that orientation programs help the student gain a sense of what is essential and focal to the campus; Vilsides and Eddy (1993) claimed that one role of a graduate orientation program is to reduce student anxiety; and Perigo and Upcraft (1989) hypothesized that assisting students to succeed and adjust are important goals in new student orientation programs. Additionally, Mann (1998) claimed that orientation programs are considered to be useful retention tactics; Hahs (1998) "recommends that increasing retention requires that the institution provide support services such as orientations…to increase student satisfaction" (Tacke, 2005, p. 13-14); and Barker, Felstehausen, Couch, and Henry (1997) demonstrated through research that students experiencing orientation have associated higher retention as well as higher academic achievement. Rodriquez (2003), in *A Study of Three Approaches to Freshmen Orientation and Student Success as Compared to Non-Orientation Students* noted that "an early study by Kopeck (1971) examined the effects of completing an orientation course on academic performance. The study found students taking an orientation course had higher mean grade point averages than non-orientation participants" (p. 24).

Although new student orientation goals have different meanings and outcomes, the final result of a new student orientation program is consistently the same: increased academic performance, persistence, and retention (Phillips, Daubman, & Wilmoth, 1986).

Graduate Students and New Student Orientation Programs

Although there is limited research on graduate students, anxiety, and new student orientation programs, existing

research provides an idea of how institutions can provide these types of programs. For example, Tacke (2005) maintains that new student orientation programs developed for graduate students can help them become accustomed to the university environment and assist with navigating the institutional processes. Poock (2002) stated that "orientation programs can assist students in their transition to graduate study, whether such programs are coordinated by an academic department or are offered to all new graduate students through a centralized, campus-wide orientation" (p. 236). In addition, Lang (2004) claimed that "a strong orientation for graduate students can be a powerful tool in reducing the fear and apprehension of new students, and has the potential to not only improve retention, but improve the overall educational experience" (p. 50). Additionally, in a research study of older and delayed entry graduate students by Barker et al. (1997), it was found that "the majority of older graduate students…indicated an orientation program would be helpful and that they would participate if one were offered" (p. 66).

Vilsides and Eddy (1993) stated that one role of a graduate orientation program is to reduce student anxiety. Furthermore, multiple researchers, including Boyle and Boice (1998), Buchanan (1989), Issac (1993), Phillips, Daubman, and Wilmoth (1986), and Poock (2002), have concluded that a graduate student's participation in an orientation program increases academic performance, persistence, and retention. With the goals and purpose of new student orientation programs as a guide, research has clearly shown institutions stand to gain from providing graduate students with a new student orientation program.

METHODOLOGY

Population

The study's population consisted of incoming graduate students at a Midwest regional state university. Graduate students, upon receiving their admission materials, had the opportunity to participate in an online graduate orientation, though it was not required. Of the 802 students who received this information, 32 (*n*) completed both a short demographic questionnaire and the pre- and post- test State-Trait Anxiety Inventory Form Y-1 (STAI) self evaluation. Of the 32 participants, 10 (31.25%) were male, while 22 (68.75%) were female. Twenty (20) participants (62.5%) indicated they were under the age of 23; 5 participants (15.62%) indicated that they were between the ages of 24 and 30; and 7 (21.87%) listed themselves as 31 years or older. In addition to the participants' age and gender, information regarding their program type, amount of work experience, and amount of time since the completion of their last degree was collected and analyzed. In regards to program type, 30 participants (93.75%) considered themselves to be degree seeking students, while only 2 (6.25%) considered themselves to be certificate seeking students. While 7 participants (21.87%) indicated that they had less than 1 year of work experience, 8 (25%) revealed 1 – 3 years of experience, 7 (21.87%) had 4 – 6 years of experience, and 3 (9.37%) had 7 – 10 years of work experience. Additionally, 5 participants (15.62%) had over 19 years of work experience, while 2 participants (6.25%) preferred to not respond. In regards to the amount of time since the completion of a prior degree, 20 participants (62.50%) indicated they had completed their degree less than one year before their entrance to graduate studies. Six participants (18.75%) indicated 1 – 2 years, and 6 (18.75%) indicated that over 3 years had passed since the completion of their last degree.

Procedure/Data Collection

Data collection for the study was guided by the regulations set forth by the university's Institutional Review Board. Students received the online orientation program information upon admittance to the institution. For those students who chose to participate, a demographic survey and the STAI Form Y-1 was presented for completion and served as the pre-test. Upon the participants' completion of the online student orientation program, they were directed to the STAI Form Y-1 again, which served as an immediate post-test. The graduate online orientation program was available from April of the spring semester until the 10th day census of the fall semester.

Treatment of Data

The researcher utilized the Statistical Software Program for Windows (SPSS) to analyze the data to determine the anxiety levels of incoming graduate students using the instructions provided in the *Manual for the State Trait Anxiety Inventory* (Spielberger, 1983). The State Trait Anxiety Inventory was originally developed to measure transitory emotional and relatively stable anxiety reactions and is a widely used instrument that measures both state and trait

anxiety by using two self-evaluations (Spielberger, Gorsuch, & Lushene, 1970). Using the statistics obtained through the pre- and post-test process, it was determined if the graduate student orientation program assisted in lowering anxiety levels within each sub population. The researcher calculated mean scores, and used a paired t-test to compare mean scores from sub populations, including gender, age, degree type, years since completion of their last degree, and years of work experience.

RESULTS

Descriptive Statistics for the STAI Form Y-1

STAI Form Y-1 was used to collect anxiety data from participants. For the purpose of this study, only the state anxiety self-evaluation (Form Y-1) was utilized, taking participants 15 minutes to complete. Scores were tabulated using the *Manual for the State Trait Anxiety Inventory* (Spielberg, 1983). Participants' scores ranged from 20 to 80, 20 indicating virtually no state anxiety, and 80 indicating very high state anxiety. Participants' responses were analyzed using a paired t-test, providing statistical summaries of means, standard deviations, and statistical probability of the pre-test and post-test data (see Table 3). Prior to running statistical tests, data were examined for entry accuracy, outliers, missing data, normality of distribution and other assumptions. All values were within acceptable ranges and did not violate any assumptions.

Anxiety Levels of Incoming Students

Research Question One asked, *"What level of anxiety exists among incoming graduate students attending a Midwest regional state university?"* Before completing the orientation program, 72.5% (see Table 1) of participants demonstrated moderate anxiety (scores 31 – 50), while 21.87% showed low anxiety (scores 20 – 30), and 15.62% showed higher amounts of anxiety (scores 51 – 60). There were no participants that revealed extreme high anxiety levels (scores 61 – 80).

Table 1

STAI Form YI Scores Before Orientation Training (N = 32)

Scores	Frequency	%
< 30	7	21.87
31-40	16	50.00
41-50	4	12.50
51-60	5	15.62
61-70	0	0.00
71-80	0	0.00

Differences between Students

Research Question Two asked, *"What statistical differences exist between anxiety levels of incoming graduate students as it relates to their gender, age, degree type, and prior work experiences?"* Male ($n = 10$) and female ($n = 22$) participants showed that there was a significant change in anxiety levels *($t = 1.82$ and 1.78, respectively)* after graduate orientation (see Table 2). Incoming graduate students below the age of 23 ($n = 20$) showed a statistically significant reduction in anxiety levels with a *t* value of 2.05 and probability of 0.027. Further, students between the age of 24 and 30 showed a statistically significant reduction in anxiety levels, with a *t* value of 1.95 and probability of 0.042. Another subpopulation that saw a statistically significant reduction of anxiety levels was participants with 4 – 6 years of work experience ($t = 2.38$, probability 0.028). Some subgroups experienced an increase in anxiety levels after participating in the orientation program. For example, those with 5 – 6 years since the completion of their last degree ($n = 2$, $t = -1.00$, probability 0.250) and 11 or more years since the completion of their last degree ($n = 2$, $t = -1.66$, probability

0.172) also showed a statistically significant rise in anxiety levels.

Table 2

Comparisons of Anxiety Levels before and after Orientation Training by Population (N = 32)

	Pre-test		Post-test		*t*-test	
	Mean	*SD*	Mean	*SD*	*t*	*p*
Gender						
Male	37.10	8.23	34.20	10.20	1.82*	0.048
Female	38.40	10.00	36.40	10.80	1.78*	0.045
Age						
23 and under	38.50	9.74	36.30	11.10	2.05*	0.027
24-30	40.20	8.53	35.00	12.10	1.95*	0.042
31-36	39.00	0.00	36.00	0.00	0.00	0.000
37-42	36.50	14.84	36.00	13.83	0.20	0.437
43-48	30.00	0.00	32.00	0.00	0.00	0.000
49-54	38.30	13.80	40.70	8.96	0.73	0.269
55-59	-----	-----	-----	-----	-----	-----
60+	-----	-----	-----	-----	-----	-----
Degree Type						
Degree Seeking	38.90	9.62	36.50	11.00	2.48*	0.009
Certificate Seeking	31.50	2.12	33.50	2.12	0.00	0.000
Work Experience						
Less than 1 year	38.40	12.50	36.50	14.80	1.44	0.096
1-3 years	37.90	2.12	34.00	6.93	1.70	0.071
4-6 years	43.00	9.87	38.00	11.90	2.38*	0.028
7-10 years	41.30	7.37	41.70	11.00	0.15	0.447
11-14 years	-----	-----	-----	-----	-----	-----
15-18 years	-----	-----	-----	-----	-----	-----
19-22 years	26.00	0.00	23.00	0.00	0.00	0.000
23+ years	-----	-----	-----	-----	-----	-----
Prefer not to respond	36.20	12.00	38.50	8.50	-1.00	0.196
Last Degree Earned						
15-18 years	-----	-----	-----	-----	-----	-----
19-22 years	26.00	0.00	23.00	0.00	0.00	0.000
23+ years	-----	-----	-----	-----	-----	-----
Prefer not to respond	36.20	12.00	38.50	8.50	-1.00	0.196
7-8 years	-----	-----	-----	-----	-----	-----
9-10 years	-----	-----	-----	-----	-----	-----
11+ years	30.50	3.53	35.50	0.71	-1.66	0.172

Note. p < .05

Reduction in Anxiety

Research Question Three asked, *"Does an online graduate orientation program contribute to the significant reduction of anxiety levels among incoming graduate students?"* Participants completed the pre- and post- test self-evaluations, basing their answers on their feelings regarding graduate school. Overall, 32 participants completed both the pre- and post- tests, resulting in a pre-test mean of 38.40 (standard deviation 9.48) and a post-test mean of 36.34 (standard

deviation 10.64). A dependent *t*-test revealed a significant difference between pre-test anxiety scores and post-test anxiety scores as measured by the STAI with incoming graduate students having t (31) = 2.29, p <.05, α = .05 (see Table 3). Therefore, the graduate orientation training significantly reduced anxiety for incoming graduate students attending a Midwest regional state university.

Table 3

Comparisons of Anxiety Levels before and after Orientation Training (N = 32)

	Pre-test		Post-test		t-test	
	Mean	SD	Mean	SD	t	p
Incoming Students	38.4	9.48	36.64	10.64	2.29**	0.029

DISCUSSION

The first research question addressed the anxiety levels of incoming graduate students who chose to participate in the online orientation program. Anxiety in this study was defined as an "unpleasant emotional state, similar to fear, directed toward a somewhat vague source, often in the future" (Lindgren & Byrne, 1971). Scholars have indicated that high levels of anxiety can negatively affect academic performance, retention, and attitude toward their academic program (Elliot & Smith, 2003; Gaudry & Spielberger, 1971; Levitt, 1966; Miller et al., 2001).

In this study, all 32 participants indicated that they felt some sort of anxiety toward graduate school. Although these anxiety levels varied, the affects of anxiety remain the same: depression, insomnia, poor academic performance, high attrition rates, and chronic procrastination (Kahn, 1977; Peurifoy, 1995). None of the 32 participants, however, indicated extremely high levels of anxiety. Extreme levels of anxiety often mask other variables contributing to the anxiety, some of which could be characterized as trait anxiety. Extreme levels of anxiety may, in some cases, require other services to assist in lowering those anxiety levels. The lack of extreme anxiety in any of the participants in this study made it more probable that the online orientation training would contribute to the decline in anxiety levels.

The second research question addressed significant statistical changes observed between particular populations. The question attempted to display the differences in each population, showing that different populations' anxiety levels were lowered at different rates. For example, participants who were male showed a more significant drop in anxiety levels (t 1.82) than females (t 1.78). The most telling statistical difference, however, was among participants who had obtained their last degree less than one year before participating in the online orientation program. These participants showed a t of 2.80, while participants who had obtained their degree more than two years before participation in the program showed little difference or an increased anxiety level. For example, participants who obtained their degree 11 or more years prior to participating had a t of -1.66, indicating that anxiety levels had increased due to their participation in the orientation program. These differences should be observed as an indication that participants in orientation programs perceive information in different ways, and audiences should be researched to ensure that each is receiving the appropriate information in the most effective way.

The third research question was formulated to discover if the online orientation training had significantly lowered anxiety levels of incoming graduate students who chose to participate in the program. Based on 32 participants, comparisons of pre- and post-test scores showed a statistically significant difference in anxiety levels of the overall population. These results are encouraging, as they provide tangible data that a basic, fundamental need based orientation training program has positive effects for students who participate.

RECOMMENDATIONS FOR FUTURE RESEARCH

This study paves the way for future research in the areas of orientation, graduate students, and anxiety. It is recommended that this research study be duplicated at different institutions (small, midsize, large, public, private, and vocational) to discover if anxiety levels are affected by various institutional characteristics. These studies should

aim to have a larger participant population, as it may yield different results compared to a smaller population.

Additional recommendations for study replication include a comparison of ability level (i.e. GRE, GMAT) and anxiety levels; generate a clear definition of when students begin their orientation experience (i.e. as they are admitted or when they participate, etc); and the time frame of completion of their degree (i.e. Law School vs. Master of Science in Technology). Each of these variables may have an effect on anxiety levels, and should be researched thoroughly.

Research should also be expanded to include not only an online orientation program, but also a campus wide graduate orientation and program specific orientations. Further, a longitudinal study should be developed to not only measure anxiety, but to measure retention of graduate students completing different orientation programs compared to those who had not participated. Other studies should also be a combined study of both quantitative and qualitative data to provide a well-rounded study, providing student experiences and statistical data. A qualitative study should actively research what specific portions of the orientation program were most helpful; this information will assist practitioners to further discover the needs of certain populations, and plan accordingly. Additionally, a study focused on differing populations and the mediums, content, and structure of orientation programs will provide an opportunity to discover the learning needs of those populations.

In addition to these research studies focused on the graduate student population, a study of anxiety levels and undergraduate new student orientation programs should also be formed. In their study, Rosenblatt and Christensen (1993) indicated that students new to graduate studies are often as anxious and confused as when they entered their undergraduate institution, and Miller, Miles, and Dyer (2001) explained that undergraduate and graduate studies are both stressful, but for different reasons. Replicating this study for the undergraduate population will not only shed light on what kind of anxiety levels undergraduates are feeling, but if an orientation program assists them in the same way as graduate students.

Finally, a way to further research in this vein of study would be to study the content of online orientation programs versus an on campus orientation program, and discover which medium is more effective in content retention. Currently, there is very little information on specifics of an online orientation, its effects, and usefulness in retaining student populations; researching this information will assist practitioners in determining which medium could work for their population.

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