

Graduate Students as Academic Writers: Writing Anxiety, Self-Efficacy, and Emotional Intelligence

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ABSTRACT

Researchers interested in psychological factors affecting writers in higher-education institutions, or academic writers, are concerned with internal variables affecting writing productivity; however few empirical studies explore these factors with samples of students who are in the process of earning master's or doctoral degrees (i.e., graduate students). In this study, we examined writing anxiety, self-efficacy, and emotional intelligence in a sample of graduate students at a large, research-intensive university in the United States. Using a survey, we collected measures on these variables in addition to demographic information from the participants. We then used the measures to descriptively compare groups of students with similar characteristics and to run three regression models to identify which variables best predicted writing anxiety. Our findings indicate self-efficacy is a statistically significant and large predictor of writing anxiety while emotional intelligence (EI) is not, though descriptive data showed moderate effects between EI and first language (i.e., whether or not a student reported English as a first language). In the presence of self-efficacy, gender remained a significant predictor of writing anxiety, while first language did not. We discuss implications for future research and practice focused on helping graduate student academic writers succeed.

Graduate Students as Academic Writers: Writing Anxiety, Self-Efficacy, and Emotional Intelligence

Based on global trends, only 1.6% of students are expected to complete an advanced research program, such as a doctoral degree (OECD, 2014). The low percentage of advanced degree recipients may be due to many different factors. However, writing is one known barrier for individuals aspiring to a master's or a doctoral degree (from here on referred to as graduate students). For example, nearly 50% of graduate students pursuing doctoral degrees in the United States leave the university without completing their degrees, dropping out during the research proposal or dissertation-writing phases (Cassuto, 2013; Harris, 2011). Belcher (2009a) vividly describes her experience as a master's degree student as follows: "When I started graduate school...my first quarter was tough... I began to suspect that everyone but me knew how to organize their time, do their research, and write successful papers" (p. 186). In a career where academic writing – that is, writing for academic purposes such as classroom assignments, theses, or publications in academic journals – is so central to the evaluation of one's success, understanding why graduate students struggle with writing and finding solutions to low writing productivity would benefit both the students and the institutions supporting them. Although studies have well documented the success of writing support groups at higher institutions in addition to providing frameworks for creating the writing groups (e.g., Boice, 1987; Murray & Newton, 2009; Murray & Thow, 2014), this study takes a different angle. Specifically, this study provides updated research on intrapersonal variables that previous scholars have noted to affect individuals' academic writing such as writing anxiety, self-efficacy, and emotional intelligence (Boice & Johnson, 1984; Shao, Yu, & Ji, 2013; Zimmerman & Badura, 1994). In doing so, we seek to inform current research and practice.

FRAMEWORK

Writing Anxiety

Writing anxiety can be defined as the manifestation of “feelings of tension, worried thoughts, and physical changes like increased blood pressure” (American Psychological Association, n.d.) when a person is confronted with a writing task. Writing anxiety’s negative impact on academic writing has been well document in empirical studies in the United States. For example, writing anxiety was positively correlated with writer’s block amongst university teachers and negatively correlated with their writing productivity (Boice & Johnson, 1984). Writing anxiety also had a negative effect on graduate students’ writing in Bloom’s (1981) case study as well as in Onwuegbuzi’s (1997) quantitative study on graduate students taking research methodology courses. In the latter study, graduate students’ anxiety was directly related to the quality of their writing. In studies with undergraduate students taking writing-intensive classes, students with higher writing anxiety produced writing with lower quality and performed poorer on writing skills tests than students with lower writing anxiety (Daly, 1977; Daly, 1978; Daly & Miller, 1975). More recently, writing anxiety has been found to have a negative relationship on university students’ grades (Martinez, Kock, & Cass, 2011).

Self-Efficacy

Self-efficacy is the perceived level of confidence in performing a given behavior (Bandura, 1997). Self-efficacy in writing can thus be defined as belief in one’s capability (or confidence) to write in a given situation. Self-efficacy is important for academic writing because the activity is self-scheduled and performed alone. It also requires sustained creative effort and must undergo many revisions to reach publishable standards (Zimmerman & Bandura, 1994), thus requiring confidence in one’s self. Self-efficacy is correlated with writing achievement in

school settings, according to several studies. For example, in studies with secondary and university students in the United States, students reporting higher self-efficacy had higher writing achievement (Pajares, 2003; Prat-Sala & Redford, 2012; Zimmerman & Bandura, 1994) and produced writing of higher quality (White & Bruning, 2005) than students who reported lower self-efficacy.

Emotional Intelligence (EI)

Emotional Intelligence (EI) is “the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them, and to use this information to guide one’s thinking and actions” (Salovey & Mayer, 1990, p. 189). According to several scholars, EI is a good predictor of academic performance (Libbrecht, Lievens, Carette, & Cotte, 2014; Perera & DiGiacomo, 2013) and academic achievement (Parker, Summerfeldt, Hogan, & Majeski, 2004). EI also plays a role in students’ successful performance at the university level (Perera & DiGiacomo, 2013). With respect to writing, Shao, et al. (2013) recently found a positive relationship between Chinese university students’ EI and writing achievement in English classes offered by their university in China.

Writing Anxiety, Self-Efficacy, and Emotional Intelligence

Empirical evidence supports the relationship between writing anxiety and self-efficacy among school-aged children, adolescents and university students (Klassen, 2002; Martinez, Kock, & Cass, 2011; Matoti & Shumba, 2011; Pajares, 2007). For example, in a study with a sample of 127 university students in the United States, students reporting lower writing anxiety had higher self-efficacy than students who reported higher writing anxiety (Martinez, Kock, & Cass, 2011). Not surprisingly, in a research synthesis on university business writing, Mascle

(2013) argued the importance of fostering self-efficacy in order to lower students' writing anxiety and increase their writing development.

As EI is the ability to assess, regulate, and utilize emotions, and anxiety is an emotion, it is reasonable to assume that EI impacts anxiety. In the context of writing anxiety, no studies were found examining the relationship between EI and writing anxiety. Students reporting higher EI, however, report lower levels of language learning and communicative anxiety (Shao et al., 2013) and are more effective in managing their anxiety than students with lower EI (Dewaele, Petrides, & Furnham, 2008). We were therefore interested in examining the relationship between EI and writing anxiety in our study.

Research Questions

The graduate students (i.e. master's or doctoral students) in our sample participated in the POWER Writing Services (see the following description) at a large, research-intensive university in the United States. We sought to answer the following questions:

1. What are the characteristics of graduate student writers who utilize the POWER Writing Services at a large, research-intensive university, including their writing anxiety, self-efficacy, and emotional intelligence (EI)?
2. Are there significant differences between the writing anxiety, self-efficacy, and EI of the graduate students in the study in terms of gender, degree level (master's or doctoral), first language (speakers whose first language is English vs. speakers whose first language is not English), international status, and prior exposure to a writing service?
3. How well do self-efficacy and EI predict writing anxiety in this sample of graduate students?

POWER Writing Services

POWER is an acronym for “Promoting Outstanding Writing for Excellence in Research”. Created in 2007 at a large research-intensive university in the southeastern United States, the POWER Writing Services provide emotional and instrumental support for graduate students who wish to improve their academic writing and learn how to write more productively. As part of the services, students can sign up for a POWER writing studio and/or for the writing productivity class.

The POWER writing studio is offered to graduate students nearly every month of the academic semester, which typically runs for 15 weeks in the spring and fall in the United States. The studios are free, not for class credit, and have voluntary participation. Students are able to sign up for the studios before the start of each month and the studio spots fill up quickly. Though the studios are designed for graduate students, occasionally a post-doctoral researcher or other academic member of the university enrolls. Participants and a facilitator meet once a week for two hours, during four consecutive weeks. In week 1, participants learn principles such as writing regularly, separating the generating of text from its editing, and “chunking” large projects into manageable pieces. In week 2, participants learn how to write and read at the same time and how to efficiently organize a literature review. In week 3, they learn about different writing resources for writers (books, services, online tools). In week 4, participants learn how to provide and solicit useful feedback, as well as why and how to establish writing support groups.

Students can alternately sign up for a class (15 weeks a semester; 5 weeks in the summer; or 2 weeks in a May-mester, a short version of a semester) to learn the same principles. Students pay tuition, and receive academic credit for this class. Despite the varying lengths of the class for credit, the class is the same in its content, covering the topics in the writing studio and additional

content such as writing theory, how to edit one's own writing, and the process of writing academic articles for publication.

METHOD

Sampling and Procedures

Participants who enrolled in the POWER studios or class were recruited for this study by receiving an email invitation, alongside a link to an online survey engine (Qualtrics). The invitation was emailed prior to the first studio or class meeting and participants were reminded of the survey during the first meeting. The university's Institutional Review Board approved the study and data collection protocols. Student participation was voluntary; student responses were anonymous.

Our final sample size included 174 graduate students enrolled in either the studio or class offered between Summer 2013 and Spring 2015. Of the 174 participants, 135 (77.6%) had enrolled in a studio and 36 (20.7%) had registered for the class. Three participants did not report whether they were enrolled in the studio or class. Detailed sample demographics are discussed under the "Results" section.

Instrument and Measures

The online survey instrument included 85 questions and took approximately 15 minutes to complete. The instrument included demographic questions (age, gender, race, first and second language when applicable, international status, country of origin), degree level (master's or doctoral), academic department, area of study, and years in their department. To measure previous exposure to writing support services, we asked respondents whether they had ever utilized any university or POWER writing service resources. We also asked whether they were

enrolled in a studio or in the class at the time of the survey, and assessed participant's writing anxiety, self-efficacy, and EI.

To measure writing anxiety, we used Daly and Miller's (1975) Writing Anxiety Scale. The instrument includes 26 Likert-type scaled items (responses on a 5-point scale: 5 = *strongly disagree*) designed to quantify university students' writing anxiety. The items contain statements about writing such as "I avoid writing," "I have no fear of my writing being evaluated," and "I enjoy writing." Because the instrument was developed in the context of assessing students enrolled in a composition class, we adapted the language to the context of graduate students. For example, we substituted the original term "essays" with "papers" and the original phrase "composition class" for "writing class." Daly and Miller (1975) reported an internal consistency of .921 for the 26-item scale, using a split-half technique. The internal consistency for our graduate student sample was .928 (Cronbach's alpha).

To measure students' self-efficacy, we employed Zimmerman and Bandura's (1994) Writing Self-Efficacy Scale. The original instrument includes 25 Likert-type scaled items. The items comprise statements about the students' confidence to perform writing tasks such as eliciting suitable topics for writing in a short time, adjusting writing style to suit the audience's needs, and finding ways to overcome being stuck on an assignment. Responses were offered on a scale of 1 to 7, where 1 = *not able to do the task at all*, and 7 = *able to do the tasks very well*. We adapted the language to the context of graduate studies. For example, we changed the original statement, "I can come up with memorable examples quickly to illustrate an important point," to "I can come up with examples from the reviewed literature, to illustrate an important point." In order to reflect the POWER Writing Services principles, we deleted items such as "I can construct a good opening sentence quickly" and added items such as "I can protect my writing

schedule/times,” and, “I can obtain the appropriate feedback I need, during various stages of my writing project.” Our final, adapted scale for self-efficacy included 26 items. Zimmerman and Bandura (1994) reported an internal consistency of .91 (Cronbach’s alpha) for their 25-item scale, obtained from a sample of undergraduate students. For our sample of graduate students, we obtained an internal consistency score of .93 (Cronbach’s alpha) with a 26-item adapted scale.

To measure students’ EI, we selected items from the EI scale created by Shutte, Malouff, Hall, Haggerty, Coope, Golden, and Dornheim (1998). The instrument was designed to quantify a person’s state of emotional development. The original instrument consisted of 33 items. From these, we discarded items focused on the “utilization of emotions” dimension of EI – a dimension alluding to how one relates to others (e.g., “Other people find it easy to confide in me” or “I present myself in a way that makes a good impression on others”). Our final scale consisted of 22 of the original 33 items. Schutte et al. (1998) reported an internal consistency of .90 for the 33-item scale. Our internal consistency was .89 for the 22-item scale (Cronbach’s alpha).

Analysis

We assessed the missing data in our sample to determine patterns of missing-ness and found them to be missing at random (Buhi, Goodson, & Neilands, 2008). As the number of participants not completing the survey accounted for less than 10% of the total sample, we excluded these participants from further analyses. Because we wished to focus on graduate student data, we also eliminated the one post-doctoral student and the one faculty participant from our sample.

Using data from our final sample of 174 participants, we reverse-scored the writing anxiety and EI scores so the high values indicated high writing anxiety and high levels of EI. We used Daly and Miller's (1975) formula for calculating writing anxiety ($78 + \text{Positive Scores} - \text{Negative Scores}$) and we reverse scored one negatively worded item on the EI scale before calculating the EI sum score.

Having established the data met all relevant assumptions related to multicollinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals (Tabachnick & Fidell, 2013), we conducted multiple regression analyses to examine the relationship between writing anxiety, self-efficacy, and emotional intelligence (EI), with writing anxiety as the dependent variable. We tested the fit of our proposed model, controlling for gender, degree level, first language, international status, and prior exposure. In the analysis, variables were entered simultaneously in each of the models.

RESULTS

Research Question 1: *What are the characteristics of graduate student writers who utilize the POWER Writing Services at a large, research-intensive university, including their writing anxiety, self-efficacy, and emotional intelligence (EI)?*

Between the Summer 2013 and Spring 2015 semesters, 194 participants responded to the survey. After deleting the surveys containing missing data and the one post-doctoral and one faculty respondent, the final sample comprised 174 respondents. Participants' ages ranged from 20 to 54 ($M = 30.8$ $SD = 6.9$). Most participants were women (60.8%). Participants came from varied departments/colleges within the university.

A little over half the sample (52.9%) comprised international students, and 55.2% reported English was not their first language. Of the total sample, 83.3% reported not having

participated in any other writing service prior to their studio or class enrollment; while 16.7% reported having either attended a studio and/or receiving help for their writing from other sources.

The theoretical midpoint is an artificial parameter to show how many of the sample scores fall above or below the mean of the instruments' scale, allowing the reader to gauge the distribution of scores. For writing anxiety, participants' mean score was 73.3 ($SD = 16.5$). The possible range of scores for the writing anxiety scale is 26 (*low anxiety*) to 130 (*high anxiety*); thus, our sample's writing anxiety mean score fell below the scale's theoretical midpoint (78.0). For self-efficacy, the mean score for the total sample was 97.3 ($SD = 27.3$). The possible range for the self-efficacy scale is 26 (*low self-efficacy*) to 182 (*high self-efficacy*); thus, our participants' mean score fell below the scale's theoretical midpoint (104). For EI, the sample's average score was 83 ($SD = 10.3$). The possible range for the EI scale is 22 (*low EI*) to 110 (*high EI*), indicating the sample's mean fell above the scale's theoretical midpoint (66).

Research Question 2: *Are there significant differences between the writing anxiety, self-efficacy, and EI of the graduate students in the study in terms of gender, degree level (master's or doctoral), first language (speakers whose first language is English vs. speakers whose first language is not English), international status, and prior exposure to a writing service?*

Table 1 shows the results of a series of two-tailed t-tests assessing statistically significant differences between groups of students on their writing anxiety, self-efficacy, and EI.

Table 1. Differences in Writing Anxiety, Self-efficacy, and Emotional Intelligence on Selected Independent Variables

Variable	Writing Anxiety			Self-efficacy			Emotional Intelligence		
	Mean (SD)	<i>p</i>	Cohen's <i>d</i>	Mean (SD)	<i>p</i>	Cohen's <i>d</i>	Mean (SD)	<i>p</i>	Cohen's <i>d</i>
Gender		.084	.269		.626	.074		.978	.004
Male	70.63 (14.49)			96.09 (26.80)			83.04 (9.95)		
Female	75.13 (17.45)			98.16 (27.67)			83.00 (10.64)		
Degree Level		.046	.307		.059	.290		.520	.098
Master's	77.25 (15.36)			91.29 (20.10)			83.80 (10.45)		
Doctoral	71.76 (16.77)			99.86 (26.64)			82.69 (10.39)		
Language		.017**	.368		.001**	.635		.047	.305
English as first language	70.06 (17.87)			106.50 (26.64)			84.74 (10.70)		
English not first language	76.06 (14.89)			89.92 (25.60)			81.61 (9.88)		
International Status		.167	.212		.003**	.457		.335	.148
Non-international status	71.53 (17.29)			103.77 (25.77)			83.82 (11.22)		
International status	75.01 (15.71)			91.63 (27.44)			82.83 (9.50)		
Prior Exposure		.557	.089		.020	.357		.822	.034
Some prior exposure to writing services	71.72 (19.39)			108.03 (28.34)			83.41 (8.84)		
No prior exposure to writing services	73.70 (15.94)			95.21 (26.65)			82.94 (10.65)		

Note: $df = 172$; ** $p < .017$ (Bonferroni correction value for testing three hypothesis for each demographic variable).

As Table 1 illustrates, there were no statistically significant differences for gender or degree level among the dependent variables. Still, gender and degree level exhibited small to moderate effect sizes with respect to writing anxiety (For gender: Cohen's $d = .269$; for degree level: Cohen's $d = .307$). Females reported higher writing anxiety ($M = 75.13$; $SD = 17.45$) than males ($M = 70.63$; $SD = 14.49$), and master's students reported higher writing anxiety ($M = 77.25$; $SD = 15.36$) than Doctoral students ($M = 71.76$; $SD = 16.77$).

Writing anxiety and self-efficacy scores did differ significantly and by moderate-to-large amounts, for speakers of various languages. Participants who reported English was not their first language had higher writing anxiety ($M = 76.06$; $SD = 14.89$; Cohen's $d = .368$) and lower self-efficacy ($M = 89.2$; $SD = 25.60$; Cohen's $d = .635$) than participants for whom English was their first language (writing anxiety: $M = 70.06$; $SD = 17.87$; Cohen's $d = .368$; self-efficacy: $M = 106.50$; $SD = 26.64$; Cohen's $d = .635$). In addition, EI scores differed by a moderate amount (albeit not statistically significant) between speakers and non-speakers of English as a native language (Cohen's $d = .305$). Participants who reported English as their first language had higher EI scores ($M = 84.74$; $SD = 10.70$) than participants who did not report English as their first language ($M = 81.61$; $SD = 9.88$).

Self-efficacy scores also exhibited a statistically significant difference and a moderate effect size, when non-international and international students were compared (Cohen's $d = .357$). Specifically, non-international students had higher self-efficacy ($M = 103.77$; $SD = 25.77$) than international students ($M = 91.63$; $SD = 27.44$).

Last, though non-significant, a moderate effect size was observed in self-efficacy for students who had been exposed to writing services, prior to the survey, compared to those who had no exposure ($p < .020$; Cohen's $d = .357$). Participants reporting prior exposure to a writing

service had higher self-efficacy ($M = 108.03$; $SD = 28.34$) than participants who did not have prior exposure to a writing service ($M = 95.2$; $SD = 26.65$).

Research Question 3: *How well do self-efficacy and EI predict writing anxiety in this sample of graduate students?*

To answer this question, we ran three multiple regression models as shown in Table 2 (with variables entered simultaneously in each model).

Table 2. Standardized Beta Coefficients for Predictors of Writing Anxiety, Among a Sample of Graduate Students at a Research-Intensive University, According to Different Regression Models

Predictors	Model 1 Adj. $R^2 = .062$		Model 2 Adj. $R^2 = .551$		Model 3 Adj. $R^2 = .552$	
	β	p	β	p	β	p
Gender	.162	.037*	.158	.004**	.157	.004*
Degree Level	-.153	.040*	-.049	.348	-.055	.290
Language	.297	.031*	.007	.939	-.002	.981
International Status	.093	.504	.025	.793	.017	.864
Prior Exposure	-.013	.864	.107	.041*	.104	.047**
Writing Self Efficacy (self-efficacy)			-.747	.0001***	-.722	.0001***
Emotional Intelligence (EI)					-.065	

Note: * $p < .05$; ** $p < .01$; *** $p < .001$.

Model 1 explained 6.2% of the variance in writing anxiety (Adjusted $R^2 = .062$, $F(5, 172) = 3.268$, $p < .008$, Cohen's $f^2 = .066$). Language made the largest significant contribution to the model ($\beta = .297$; $p < .031$) followed by gender ($\beta = .162$; $p < .037$). Degree level also made a significant contribution to the model ($\beta = -.153$; $p < .040$). Participants who indicated either that English was not their first language, or that they were female, or that they were master's students had higher writing anxiety scores. The other variables did not contribute significantly to Model 1.

Model 2 included the variables examined in Model 1 plus self-efficacy as the independent variables, and explained 55.1% of the variance in writing anxiety, (Adjusted R square = $.551$, $F(6, 172) = 36.125$, $p < .0001$; Cohen's $f^2 = 1.227$ – very large). Of the independent variables, self-efficacy made the largest unique contribution to the model ($\beta = -.747$; $p < .0001$). Notably, in the presence of self-efficacy, whether or not the student had prior exposure to a writing service became statistically significant ($\beta = .107$; $p < .041$) — a demographic variable that did not contribute to Model 1. Higher writing anxiety was associated with participants who reported lower self-efficacy, indicated they were female, or noted *no* prior writing exposure. In addition, language and degree level, both contributors in Model 1, became non-significant in the presence of self-efficacy as a predictor variable. Analysis of the part correlation coefficients for self-efficacy ($-.691$), gender ($.151$), and prior exposure ($.105$) indicated self-efficacy explained 47.75% of the variance, gender explained 2.3%, and prior exposure explained 1.10% of the variance in writing anxiety.

Model 3 included all variables in the previous models alongside EI as the independent variables, and explained 55.2% of the variance in writing anxiety (Adjusted R square = $.552$, $F(7, 172) = 31.234$, $p < .0001$; Cohen's $f^2 = 1.232$ – very large). Self-efficacy maintained its strong

relationship with writing anxiety, again making the largest unique contribution to the model ($\beta = -.722; p < .0001$) while EI did not contribute to the model. In this model gender, again, made a small but significant contribution to writing anxiety ($\beta = .157; p = .004$), and prior exposure made a small, but marginally significant contribution ($\beta = .104, p = .047$). Higher writing anxiety was associated with participants who either reported lower self-efficacy, indicated they were female, or noted *no* prior writing exposure. Last, analysis of the part correlation coefficients for self-efficacy (-.625), EI (-.060), and gender (.150), indicated self-efficacy explained 39.06%, EI explained .36%, and gender explained 2.25% of the variance in writing anxiety.

DISCUSSION

This study's purpose was to examine the writing anxiety, self-efficacy, and emotional intelligence (EI) of a sample of graduate students at a large, research-intensive university. In doing so, we wished to characterize our sample, compare the sample's measures on the variables of interest, and analyze how well self-efficacy and EI predicted writing anxiety. Our final sample included 174 graduate students enrolled in either the POWER writing studio or class.

Student Characteristics and Notable Measures

The average student in our sample was female, pursuing a doctoral degree, and not participating in any other writing service prior to the POWER writing studio or class. In addition, the average student was not overly anxious about academic writing. The average student reported less than average self-efficacy but high EI.

Notably, students who reported English was not their first language had statistically significant higher writing anxiety and lower self-efficacy compared to native English speakers. International students also showed statistically significant lower self-efficacy than students who reported not to be international. Our findings align with theorists and researchers noting the

challenge K-12 students face in learning when simultaneously being on the academic English language learning trajectory while learning new content (Fang, 2006; Janzen, 2008). Graduate students are learning the content of their specific areas of research alongside academic writing. These findings are important as institutions think about how to best serve non-native English-speaking students who are studying in higher education settings where English is the primary language and/or who are not native to the country where they are studying.

Predictors of Writing Anxiety

Self-efficacy. In our regression models, self-efficacy exhibited a significant and large association with writing anxiety. When introduced in the second model, self-efficacy increased the variance explained to 48.9% (recall: the first model included only demographic variables). Self-efficacy also made a large, statistically significant, and negatively directed (i.e. higher self-efficacy equaled lower writing anxiety) contribution in both the second and third regression models.

Though, to our knowledge, no other studies have empirically explored the relationship between self-efficacy and writing anxiety with a sample of graduate students, the findings are in line with empirical findings noting negative relationships between writing anxiety and self-efficacy among students at the undergraduate level and below (Klassen, 2002; Martinez, Kock, & Cass, 2011; Matoti & Shumba, 2011; Pajares, 2007). In addition, the study supports researchers arguing the importance of fostering university students' self-efficacy in order to lower writing anxiety and increase writing development (e.g., Mascle, 2013). This finding is useful to guide the development of writing services: providing students strategies that build their confidence in writing academically could increase students' self-efficacy (Bandura, 1982, 1997; Mascle, 2013).

Model variations. Self-efficacy also contributed to whether or not groups of students with similar characteristics experienced writing anxiety. Students who reported English was not their first language or who reported to be master's students had higher writing anxiety in Model 1; however, the variables disappeared in significance in the presence of self-efficacy in Model 2. As researchers have noted, increasing students' skills for self-efficacious learning in an academic setting is beneficial to their writing outcomes (Pajares, 2003; Prat-Sala & Redford, 2012; Zimmerman & Bandura, 1994). Systematically providing graduate students with tools, models, and support to build their academic writing skills could help graduate students with their self-efficacy in academic writing.

Gender, on the other hand, was statistically significant in predicting writing anxiety in all three regression models. Females exhibited higher writing anxiety. Our findings align with Martinez, Kock, and Cass's (2011) who found females to experience higher writing anxiety than males among their sample of undergraduate students. However, our findings also bring up the question as to why self-efficacy did not mitigate the gender differences in the present study's sample and regression analysis. Pajares' (2003) review of self-efficacy noted gender differences in self-efficacy were non-significant when the analysis controlled for gender orientation beliefs (i.e., whether the person believes their gender is associated with success in an academic domain). Other factors not measured in the present study may have contributed to female students being associated with higher writing anxiety regardless of also reporting high self-efficacy.

Prior-exposure (i.e., whether students had previously sought out specific help on academic writing or not) made significant contributions to the model when self-efficacy was introduced (Models 2 and 3). Specifically, students with no prior writing exposure had higher writing anxiety. Although tempting to conclude that writing services enhance self-efficacy,

because the study is cross-sectional, we cannot override the possibility that it is the students with stronger self-efficacy who seek out the assistance of writing services.

Although we did not find empirical studies showing that increases in self-efficacy among academic writers decreases their writing anxiety, theory (Bandura, 1997), research (Zimmerman & Bandura, 1994), and books concerned with academic writers (Belcher, 2009b; Boice, 1990; Goodson, 2017) all point to the importance of building self-efficacy as a way to lower writing anxiety.

Emotional intelligence. Results from the third regression model (including demographic variables, self-efficacy, and EI) indicated EI accounted for very little of writing anxiety and that the contribution was not significant. While the most immediate conclusion is that inclusion of EI within a framework to predict writing anxiety among graduate students is inaccurate, limitations related to our measures of EI can also account for the absent relationship. Because EI is multidimensional and culturally specific, the measures may not have been appropriate for a sample with such a large group of international participants. Future studies with a larger sample size would do well to examine this issue in particular, by analyzing EI scores of non-international students as compared to those of international students. EI and anxiety (outside of the academic writing context) are often associated with higher work productivity and performance (Lam & Kirby, 2002; Zeidner, Matthews, & Roberts, 2004) and general academic achievement (Perera & DiGiacomo, 2013).

However, our descriptive data found a moderate effect (Cohen's $d = .305$) with respect to EI when analyzing the language variable (i.e., whether or not the student reported English to be their native language). Students who reported English as their first language had higher EI scores than students who did not report English to be their first language. Past studies have noted

students with higher EI tend to do better in language learning than students with lower EI (Aki, 2006). Future research on EI would be beneficial, especially given the interest in EI in terms of language and culture differences (Ekermans, 2009).

Limitations, Directions for Future Research, and Practical Implications

Our study has several limitations. As previously noted, we may have overlooked cultural subtleties in the emotional intelligence instrument that could have skewed our results. Our sample did include overall highly emotional intelligent students, and the lack of variability in the scores may have affected the relationship between the EI variable and writing anxiety. Research should also look into the EI instrument's fidelity with non-native English-speakers as it is possible the instrument was not culture-sensitive enough and made more sense to native English speakers, therefore accounting for the discrepancy in our findings.

Second, our sample is not generalizable to all graduate students in higher education – it was limited to a large, research university in the United States. In addition, students who took the studios or class did so voluntarily; therefore, the sample is not necessarily representative of all graduate students, many of whom may not have chosen to take a class to help them in their academic writing. Nonetheless, the findings contribute to the limited research on graduate students and academic writing and can inform present practitioners and future researches in varied settings.

Third, our survey did not account for writing productivity measures. Because we wished to maintain participant anonymity and, given the difficulties in accurately assessing productivity, we opted not to include this variable in our analyses. Still, writing productivity measures, including writing outcomes or writing achievement, could be invaluable in future studies attempting to connect these variables with writing anxiety, self-efficacy, and EI measures. Future

studies could also explore if these measures change over time as students participate in academic writing support structures. The studies could also continue to explore variables of interest such as gender and native language. Last, subsequent studies could certainly use larger samples than the one in this study, with the ability to apply more sophisticated statistical techniques.

Our findings, nonetheless, provide a foundational understanding of the relationship between writing anxiety, self-efficacy, and EI amongst a group of academic writers. More importantly, the study provides the first in-depth analyses of these variables in the context of graduate student academic writers, who arguably are the future of the academy.

It is to the universities' best interest to ensure graduate students are well equipped with the tools allowing them to successfully communicate ideas and innovation in writing. Ideas for reducing graduate student writing anxiety include providing workshops and services similar to the ones mentioned in this study, in which participants are taught specific productivity strategies and afforded writing support. Tactics such as self-regulating one's writing, writing regularly, and having a writing support group have been well-documented by book authors and researchers as helping academic writers be more self-efficacious and less anxious (Boice, 1990; Belcher, 2009b; Goodson, 2017; Murray & Thow, 2014). In addition, helping non-native English speaking students in higher education settings increase their EI could benefit their academic writing.

In conclusion, it is our hope that the study lends to a first step in forging new studies and future directions in practice to help reduce writing anxiety and increase self-efficacy and emotional intelligence of graduate student writers.

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