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**THE IMPACT OF WRITING INTENSIVE COURSES ON WRITING
APPREHENSION AND ACADEMIC MOTIVATION**

A Masters Thesis

Presented to

The Graduate College of
Missouri State University

In Partial Fulfillment

Of the Requirements for the Degree
Master of Science, Psychology

By

Jacqueline S. Byrket

July 2016

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Psychology

Missouri State University, July 2016

Master of Science

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ABSTRACT

Current research in writing apprehension lacks evaluation of psychology course effectiveness in reducing this trepidation. The present study focused on three psychology courses and utilized Self-Determination Theory (SDT; Deci & Ryan, 1985, 2002) and student instructor rapport to assess changes in writing apprehension. Participants ($N = 78$) from three upperclass level courses completed the Basic Psychological Needs Scale (BPNS), Academic Motivation Scale (AMS), Daly-Miller Writing Apprehension Test-Revised (WAT-R), and Student Instructor Rapport Scale (SIRS-9) at the beginning and end of the semester. Even though pre-/post-test differences were non-significant for all three courses, the Experimental Psychology class exhibited the greatest decrease in writing apprehension. These findings indicate a necessity for degree specific writing instruction.

KEYWORDS: writing apprehension, academic writing, undergraduate writing, Self-Determination Theory, student instructor rapport

This abstract is approved as to form and content.

Adena Young-Jones, PhD
Chairperson, Advisory Committee
Missouri State University

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ACKNOWLEDGEMENTS

I would like to thank the following people for their support during the course of my graduate studies:

Adena Young-Jones, PhD

D. Wayne Mitchell, PhD

Melissa D. Fallone, PhD

I dedicate this thesis to Joseph James Nash in recognition of the hours he unknowingly sacrificed.

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INTRODUCTION

Writing has been a fundamental component of a liberal arts education since the formation of the collegiate system. Decades of research continues to sponsor writing ability as a cornerstone supporting critical thinking (Bartlett, 2003; Johnson, Tuskenis, Howell, & Jarszewski, 2011). Unfortunately, most college students exhibit poor writing ability and report apprehension toward the act of writing even after obtaining a degree (Bartlett). Studies of writing theory have been undertaken across the humanities to appraise the effectiveness of varying pedagogical techniques and address these concerns (Fallahi, Wood, Fallahi, & Austad, 2006; Gielen, Tops, Dochy, Onghena, & Smeets, 2010; Stellmack, Keenan, Sandidge, Sippl, & Konheim-Kalkstein, 2012). Previously, emphasis has been placed on teaching strategies while ignoring the attitudes and motivations of students tackling writing proficiency. This discrepancy may be remedied through the application of motivational principles; specifically, the creators of Self-Determination Theory (SDT; Deci & Ryan 1985, 2002) present basic psychological need satisfaction (i.e., autonomy, competence, and relatedness) as the vehicle driving motivation (Levesque, Zuehlke, Stanek, & Ryan, 2004). The current research addresses a motivational component of student attitudes toward academic writing by measuring writing apprehension, academic motivation, basic psychological need satisfaction, and student/instructor rapport at the beginning and end of a semester.

Undergraduate Writing

Writing skills, and even student interest in writing, are reportedly declining; this mirrors the diminished emphasis on writing in America's high schools (The National Commission on Writing in America's Schools and Colleges, 2003). A call for regenerating interest in writing, led by the NCWASC, stresses its necessity as a building block to critical thinking (Bayat, 2014; Fischer & Zigmond, 1998; Johnson, Tuskenis, Howell, & Jarszewski, 2011). College freshmen entering the university with a deficit in practicing core English requirements are likely to graduate not only as poor writers but possibly as inept thinkers. The less students gain exposure and competency in this fundamental skill within the lower educational system, the more they must be encouraged to explore and achieve proficiency in higher education.

Traditionally, most undergraduate students are required to attend two basic English courses focusing on general writing capabilities (Spain, 2009). After general education requirements are satisfied, the path to a bachelors' degree might include just one or two compositions per semester depending on specific course standards. Within a given major, the design of writing courses and student competency requirements depend on standards of the given department and vary greatly across the university system. The lack of writing proficiency in undergraduates has spurred empirical reviews of classroom techniques traditionally used for teaching composition (Fallahi, Wood, Fallahi, & Austad, 2006; Gielen, Tops, Dochy, Onghena, & Smeets, 2010; Kahn & Holody, 2009; Morgan, Fraga, & Macauley, 2011; Stellmack, Keenan, Sandidge, Sippl, & Konheim-Kalkstein, 2012).

Morgan, et al. (2011) reviewed the writing practices/attitudes of biology majors and discovered a distinct need for major specific writing courses. Respondents were not confident in their abilities to write a research report or meet expectations of the department despite having fulfilled general education requirement(s). The liberal arts strategy of creating writing courses to serve multiple fields within a single semester leaves students in the science, technology, engineering, and math (STEM) majors at a disadvantage. Science majors will rarely see a request for the narrative or descriptive writing practiced in an English class; instead, they are faced with the rigorous chore of synthesis writing, demanded as a persuasive theme in a particular manuscript style. To address this and similar concerns, a few universities have renovated their composition courses to reflect an interdisciplinary approach, enhance pedagogy, and standardize student writing proficiency across majors (Bartlett, 2003). Although, outcome studies still suggest that many students still fall short of expectations.

This deficiency reflects compounding obstacles. Collegians are not only lacking sufficient practice in the art of writing, but they are not afforded opportunities for expert mentoring within their field. Domain specific writing courses can be the most difficult to find properly trained and willing instructors to teach (Bayat, 2014; Morgan, et al., 2011). In addition, compositional courses are generally taught by graduate students and emphasize the humanities perspective including a focus on descriptive and narrative papers (Bartlett, 2003; Daisey, 2003). Conversely, scientific writing largely requires students to analyze and compose objective and persuasive types of writing. Skills aside, teaching writing within a particular domain is time consuming and can be much less rewarding than other curriculum objectives especially if instructors do not feel competent

in providing feedback to students. This may tempt instructors to drop writing assignments from their syllabi. When these scenarios combine, undergraduate students are disadvantaged in attempting to build enhanced critical thinking skills for daily life and remain underprepared for the demands of a graduate education.

Graduate degree programs within the social sciences are known to be writing intensive, and faculty tend to expect a high degree of writing proficiency from all students (Bartlett, 2003; Can & Walker, 2010; Karakaya & Ulper, 2011; Torrance, Thomas, & Robinson, 1992; Wingate, 2010). A survey conducted by Torrance et al. revealed that students pursuing a doctoral degree spend the equivalent of six and half days performing writing tasks over three months. This number was obtained as the average time for all participants and hours worked do not necessarily equate to increased proficiency. Continued exercise without subsequent improvement is frustrating for both the student and teacher. The leap from undergraduate practices to graduate expectations can be daunting for even the most prepared and practiced individual.

Writing Apprehension

It is not surprising that declining practice and insufficient instructional support leads collegians to experience writing apprehension; with high professional benchmarks for this skill, many undergraduates report anxiety throughout the writing process and even after receiving a final evaluation (i.e., grade on a term paper or final course grade; Bayat, 2014; Cayton, 1990; Karakaya & Ulper, 2011). Daly and Miller (1975) originally coined the term "writing apprehension" to address students' cognitive "gap" between expectations and demonstrated behaviors. They appear to understand the importance of

writing proficiency but lack motivation for writing or seeking assistance with skill development. Similar to public speaking anxiety and test anxiety, this apprehension is experienced by most students and is related to the evaluative process (Karakaya & Ulper, 2011). The Writing Apprehension Test (WAT; Daly & Miller, 1975) addresses student concerns about the ability to write clearly, the expertise of evaluators, and the influence of social comparison. They argue that, unlike public speaking anxiety, the goal of instructors is not to eliminate writing apprehension altogether but to assist students in reaching a level that creates an optimal balance between motivation and challenge.

Reduction in apprehension is evidenced in contemporary approaches to writing (Bayat, 2014; Cayton, 1990; Hubbard & Simpson, 2003; Karakaya & Ulper; Torrance, Thomas, & Robinson, 1992; Rickabaugh, 1993; Wingate, 2010). Bayat emphasized that a process writing approach, in which students write, revise, and resubmit projects throughout a semester, led to paired anxiety reductions with each revised assignment submission. In addition, Hubbard and Simpson found even greater decreases using process writing assignments with early career science and mathematics students by assigning the composition of a "how to" guide for technical writers. Overall, the connection between practice and lessened anxiety is magnified when the project maintains relevancy to the writer.

A second opportunity for improving student attitudes toward writing exists in peer review practices (Bayat, 2014; Can & Walker, 2010; Cho & MacArthur, 2011; Fallahi, Wood, Fallahi, & Austad, 2006; Wingate, 2010). Requiring students to participate in peer review not only diminishes the burden for instructors but also provides a valuable learning experience to students. Several studies found that student writers can easily

identify mistakes in their own papers, feel greater confidence in their writing abilities, and are likely to seek assistance in the future if they participate in a peer review session (Bayat, 2014, Cho & MacArthur, 2011, Wingate, 2010). Additional research supports these three behavioral assets identified as apprehension reducers (Daly & Miller, 1975; Popovich & Masse, 2005); however, peer review recommendations are provided with a word of caution. If the writer maintains a pessimistic mindset (Popovich & Masse) or doubts the peer reviewer's credibility and/or expertise (Wingate), feedback may have a null or deleterious effect. Wingate endorses a balance between peer and instructor review to facilitate and enhance attitudes toward writing.

Despite plentiful research in undergraduate writing apprehension, most investigations disregard chosen majors. A few examinations note that the influence of technical expertise increases apprehension in math and science majors (Hubbard & Simpson, 2003), anxiety in journalism students due to modern avenues of mass communication (Popovich & Masse, 2005), and trepidation in psychology majors because of APA style demands (Byrket, Young-Jones, & Hayden, 2014; Fallahi, Wood, Fallahi, & Austad, 2006; Johnson, Tuskenis, Howell, & Jarszewski, 2011; Levine, 1990). For instance, a recent survey of undergraduate psychology students indicates a need to design interventions based on the type of writing expected within the individuals' desired field and was the impetus for the current project (Byrket, Young-Jones, & Hayden, 2014). The analysis revealed that participants enrolled in psychology courses experience moderate levels of writing apprehension and admit the importance of writing proficiency. Regrettably, they also avoided academic writing and did not participate in behaviors necessary for developing competence such as seeking assistance from a writing center or

accepting writing assignments beyond their course requirements. Continuation of such practices is likely to encourage student apprehensions and inhibit opportunities for skill development.

Self-Determination Theory

If students facing the high demands of graduate school begin to experience inadequacy within any academic domain, it can lead to an ultimate sense of failure (Deci, Vallerand, Pellitier, & Ryan, 1991; Niemiec & Ryan, 2009; Vallerand, Pellitier, & Koestner, 2008). Self-Determination Theory (SDT; Deci & Ryan 1985, 2002) applies to higher education with issues such as student retention, academic motivation, and educational achievement (Deci, Vallerand, Pellitier, & Ryan, 1991; Levesque, Zuehlke, Stanek, & Ryan, 2004; Niemiec & Ryan, 2009; Young, Johnson, Hawthorne, & Pugh, 2011). Deci and Ryan assert that students can attain the highest form of motivation, intrinsic motivation, through fulfillment of the basic psychological needs (i.e., autonomy, competence, and relatedness). As the university environment satisfies, or fails to satisfy, these needs the individual moves along the motivation continuum from amotivation through extrinsic motivation (externally regulated, introjected, integrated) and then self-regulated intrinsic motivation. Students that demonstrate intrinsic motivation tend to enjoy coursework, achieving higher grades, and experiencing an overall sense of psychological well-being that becomes self-perpetuating, while their amotivated peers find it hard to attend class, complete assignments, and may eventually withdrawal from college (Deci & Ryan, 2002; Ratelle, Guay, Vallerand, Larose, & Senecal, 2007). Even still, others dwelling in extrinsic motivation may falter if external motivators, such as

grades and parental approval, are removed from the environment. In this instance an extrinsically motivated individual will slide into a state of academic amotivation.

It is important to note, SDT contains a full spectrum of motivation (Deci & Ryan 1985, 2002). At any given time a student may travel along this range and can even experience different levels of motivation in various life realms. The scope of this theory is focused on the impact of basic psychological needs within the purview of academic writing for the current project. In particular, the assessment concentrated on psychology majors. A pilot survey indicated a positive relationship between basic psychological needs, academic motivation, and writing apprehension (Byrket, et al. 2014). For example, fulfillment in the need for competency and intrinsic motivation scores were predicted negatively with writing apprehension. If students could be convinced that writing is important and encouraged to practice, the outcome may include an enhanced sense of competency, enrich academic motivation, and reduce writing apprehension.

Student Instructor Rapport

The relationship between students and their instructors is the focus of several investigations of academic success and student learning (Creasey, Jarvis, & Knapcik, 2009; Lammers & Gillaspay, 2013; Lammers, Gillaspay, & Cagle, 2014; Pianta & Stuhlman, 2004). A scale created by Lammers, Gillaspay, and Cagle identifies student instructor rapport as a blend of mutual respect, demonstrated concern for students, effective communication, and overall relationship satisfaction. According to Pianta and Stuhlman, the influence of this relationship is reciprocal. Students describing positive rapport attained higher final grades while instructors claiming more amicable interactions

with their students also rated superior classroom learning. Quality of the learning environment and rapport also links to a better sense of connectedness and a decrease in undergraduate test anxiety. In a sequential survey design, test anxiety and rapport were measured prior to each exam; results indicated a steady decrease in anxiety as positive rapport increased. Hence, rapport is relevant to the current project in the examination of the writer/editor relationship.

The instructional method for writing competencies is primarily review followed by a return of either written or oral editorial comments (Cho & MacArthur, 2011, Wingate, 2010). It is expected that students will review the provided feedback and incorporate the recommendations in future assignments (Wingate). Regrettably, the internalization of suggestions is questionable and difficult to track across an educational career. An obstacle to feedback application is credibility of the editor; if a writer perceives the editor as lacking in expertise or genuine concern, the less likely he/she is to consider criticisms in future revisions. Cho and MacArthur argue that demonstrating effective communication, expertise, and concern may increase feedback credibility. Lammers et al. (2014) acknowledge that these three traits are essential to positive rapport. Student instructor rapport can be an indispensable component for decreasing writing apprehension as well as enhancing competency and proficiency.

Gender

Achievement differences between male and females are exhibited throughout early academics and into college (Chee, Pino, & Smith, 2005; Duckworth & Seligman, 2006; Hyde & Linn, 1988; Pajares, Miller, & Johnson, 1999). Females are known to

maintain higher grade point averages (GPA; Chee, Pino, & Smith, 2005; Duckworth & Seligman, 2006) and scholastic achievement test scores (Duckworth & Seligman). In addition, males traditionally exhibit shortcomings in verbal ability performance scores (Hyde & Linn; Maccoby & Jacklin, 1974), but this gap is shrinking (Hyde & Linn).

Specific to writing skills, females tend to feel more competent. For example, with elementary students, females demonstrated a greater satisfaction with the final product and overall confidence in their abilities after completing a writing competency exercise (Pajares, Miller, & Johnson, 1999). The effect on performance was minimized when efficacy scores were adjusted to account for writing aptitude, but student attitudes remained differentiated. This small but significant disparity suggests an academic edge for female students. If males feel disadvantaged and apprehensive in regard to their writing skills, this could explain the gender differences observed in academic achievement (e.g. GPA and achievement tests; Chee, Pino, & Smith, 2005; Duckworth & Seligman, 2006). Since women feel more competent in verbal and academic skills, they may experience less apprehension when faced with compositional tasks. Yet, gender differences remain unassessed in writing apprehension research (Byrket, Young-Jones, & Hayden, 2014; Daly & Miller, 1975; Fallahi, Wood, Fallahi, & Austad, 2006; Hubbard & Simpson, 2003; Johnson, Tuskenis, Howell, & Jarszewski, 2011; Levine, 1990; Popovich & Masse, 2005).

Present Investigation

Writing apprehension and basic psychological need satisfaction were gauged at the beginning and end of the fall semester to fully explore the impact of classroom

involvement, field specific instruction, and instructor feedback on student attitudes. In addition, gender comparisons were completed to see if differences exist. Three courses were sampled for participation due to the varied writing requirements and to examine the influence of domain specific writing practice versus general writing exercises.

Experimental Psychology is traditionally the first required class in which students are taught the finer details of APA style and write a research proposal according these standards. Psychology of Diverse Populations is a senior capstone course that includes a term composition for self-awareness and topic specific research. Basic English proficiency is expected but grades and feedback are not impacted by academic writing fluency. Finally, Preparation for Graduate School is a senior level course in which students write subjective persuasive compositions about themselves such as personal statements and cover letters. APA style requirements are followed in all assignments; nevertheless, academic ideals such as scientific objectivity are not emphasized and multiple revisions are accepted for all assignments.

Research Questions

The purpose of this project was to investigate the following research questions:

- A. Do writing apprehension scores change in a semester?
- B. Do writing apprehension scores differ across course or gender?
- C. Does instructor rapport increase in a semester?
- D. Does the revised apprehension scale predict academic motivation scores?
- E. Does instructor rapport impact writing apprehension, basic needs, and/or academic motivation scores?

It was expected that students would experience basic psychological need satisfaction and positive student/instructor rapport from participation in the class writing exercises.

Additionally, writing practice will result in a decrease of writing apprehension and an increase in academic intrinsic motivation.

METHODS

Participants

A total of 169 undergraduate participants responded to an online survey; after data screening, the final sample size was 79. Several data strings were excluded because respondents were enrolled in all three courses sampled. Only their first attempt was recorded, determined by the survey time stamp. Additionally, only complete responses, including both the pre-/post-test surveys were included. Students were recruited from the Experimental Psychology (EP; $n = 27$), Psychology of Diverse Populations (PDP; $n = 31$), and Preparation for Graduate School (PGS; $n = 21$) courses. Each student received extra credit points in their respective classes as participation incentive. The sample consisted of 60 Females (76%), 76 Upperclassmen (96%), and identified as predominately Anglo/White/Non-Hispanic (87%). See Table 1 for additional demographic information.

Measures

The following scales were administered:

- 1.) Academic Motivation Scale (AMS): This measure is used to assess six different levels of motivation (intrinsic motivation, integration, identification, introjection, external regulation, and amotivation; Vallerand, et al. 1992) with a total of 28 items. Each participant is given six subscales scores, one for each type of motivation. These dimensions are used to calculate an overall final score Self-Determination Index (SDI). The AMS and SDI formula have been shown to be reliable and predictive of academic success as determined by grade point average (GPA; Vallerand, et al. 1993). Scale reliability for this analysis was good (Cronbach's alpha $\alpha = .90$).
- 2.) Basic Psychological Needs Scale-School (BPNS): A total of 21 items from the BPNS determine need satisfaction in the domains of autonomy, competence,

and relatedness. This version was created by modifying the BPNS-Work version and has since been utilized in several educational studies (Deci, Vallerand, Pellitier, & Ryan, 1991; Ilardi, Leone, Kasser, & Ryan, 1993; Levesque, Copeland, Pattie, & Deci, 2010; Niemiec & Ryan, 2009; Young, Johnson, Hawthorne, & Pugh, 2011; Vallerand, Pellitier, & Koestner, 2008). Scoring of the scale provides three subscale mean scores that represent each of the three needs. Recently, the three subscales have shown strong reliability ($\alpha = .77 - .83$; Kuzucu & Simsek, 2013); yet, reliability was determined to be very good ($\alpha = .90$) for this analysis.

3.) Daly-Miller Writing Apprehension Test (WAT; Revised-2014): The WAT was created to investigate positive and negative forms of general writing apprehension (Daly & Miller, 1975). A validation analysis by Richmond and Dickson-Markman (1985) attained split-half reliability of $r = .95$. Yet, the reliability was extremely low when previously investigated (split-half $r^2 = .414$; Byrket, Young-Jones, & Hayden, 2014). Subsequently, a revised version (WAT-R) with 21 items was created to update the item language and incorporate definitive vocabulary for evaluating students in the social sciences. This version is unidimensional and a summation score is calculate to represent overall writing apprehension. Reliability of the revised scale was improved to very good ($\alpha = .94$).

4.) Student Instructor Rapport Scale (SIRS-9): This nine item questionnaire weighs student perceived rapport with their current instructor represented as a single mean score and is designed specifically for the classroom environment (Lammers & Gillaspay, 2013). It has demonstrated high internal consistency (Cronbach's $\alpha = .96$) and convergent validity (Creasey, Jarvis, & Knapcik, 2009) across several administrations (Lammers, Gillaspay, & Cagle, 2014). The scale demonstrated very good reliability ($\alpha = .91$) for this sample.

5.) Demographic Questionnaire: A series of yes/no and multiple choice type questions collected objective and descriptive information about participants (i.e., classification, ethnicity, grade point average, etc.).

Procedure

Students were recruited by their instructors in each course and accessed the survey by clicking a link posted in the online course management system (Blackboard). Then, they were routed to the survey posted on a Qualtrics software data collection platform. After agreeing to the informed consent, participants were presented with the five measures. All scales, with the exception of the Demographic Questionnaire, were

randomly presented using Qualtrics randomization logic for equal order of appearance. The Demographic Questionnaire was administered last to reduce the potential influence of stereotype threat.

RESULTS

Data Screening

Data were first evaluated for respondent completion of pre- and post-test measures. Participants who provided 50% or less response to either administration were eliminated from the analysis ($n = 89$); this included those that did not participate in one of the data collections (pre-test $n = 29$, post-test $n = 33$). Missing data at random were replaced using the Linear Trend at Point method (LTAP) and resulted in 19 data point replacements in the pre-test variables and 13 in the post-test variables.

In consideration of the proposed regression analysis for research questions D and E, distance and leverage values were calculated for the six variables (SDI, Autonomy, Competency, Relatedness, WAT-R, SIRS). The calculated cutoff values were Mahalanobis' [$X^2(12) = 32.91$], Cook's (.058), and Leverage (.321). Based on these criteria, one data string was deleted as an outlier. Skew and Kurtosis were deemed to be acceptable for the data utilizing Z score criteria of an absolute value less than three. Assumptions were met for normality, linearity, homogeneity, and homoscedasticity.

The pre-/post-test design of this investigation required evaluation of all six variable pre-test scores between groups before addressing the proposed research questions. A One-Way ANOVA compared means between courses. Levene's statistic was non-significant for all variables meeting the assumption for homogeneity of variances. A significant difference was revealed at pre-test between groups for the WAT-R measure [$F(2,76) = 3.58, p = .03, \eta^2 = .09$]. *Post hoc t*-tests demonstrated significant differences between means in the Experimental Psychology course when compared to the

Psychology of Diverse Populations [PDP; $t(56) = -2.24, p = .029, d = -.60$] and Preparation for Graduate School [PGS; $t(46) = -2.00, p = .05, d = -.60$] courses. Students in Experimental Psychology (EP; $M = 2.89, SD = .86$) exhibited means significantly higher and with greater variability than respondents from the other classes [PDP ($M = 2.48, SD = .53$); PGS ($M = 2.46, SD = .54$)]. Bonferroni's adjustment for three tests constricted the p-value ($p < .02$) so that only the difference between the EP and PDP students remained significant. Assessment of all other pre-test variables were non-significant. See Table 2 for relevant statistics from this test.

Research Questions A and B

Do writing apprehension scores change in a semester and do writing apprehension scores differ across course type or gender? A 3 X 2 X 2 factorial ANOVA with repeated measures on the last factor assessed course and gender differences. There was not a main effect for the repeated measure WAT-R [*Wilk's Δ* ; $F(1, 73) = 1.91, p = .171, \rho\eta^2 = .025$]. There was a main effect of course [*Wilk's Δ* ; $F(1, 73) = 3.50, p = .035, \rho\eta^2 = .09$], gender [*Wilk's Δ* ; $F(1, 73) = 10.09, p = .002, \rho\eta^2 = .121$], and no significant interaction effect was detected [*Wilk's Δ* ; $F(2, 73) = 1.53, p = .224, \rho\eta^2 = .04$]. Estimated marginal means for the WAT-R were analyzed via *post-hoc t*-tests.

In evaluation of the main effect by course, *post-hoc* tests revealed no significant differences between the three courses [$F(2,73) = 2.54, p = .086, \rho\eta^2 = .07$]. Review of the means indicates the EP course exhibited the greatest decrease in WATR, with the PDP and PGS students displayed little to no change (EP: $M = .13, SD = .45$; PDP: $M = .03, SD = .40$; PGS: $M = .00, SD = .57$) as noted by the mean difference scores (See Table 3).

Gender differences were evaluated utilizing a similar procedure. A *post hoc t*-tests of the estimated marginal means for both groups indicated there were not significant differences in WAT-R [$F(1,73) = 1.32, p = .255, p\eta^2 = .02$] with Males exhibiting a slight increase in apprehension ($M = -.12, SD = .47$) and Females demonstrating a slight decrease ($M = .12, SD = .44$). Nonetheless, these results should be viewed with caution due to the inequality of group sizes (Males: $n = 19$, Females: $n = 59$; See Table 3 and Figure 2).

Research Question C

Does instructor rapport increase in a semester? Pre-test scores of the Student Instructor Rapport Scale were compared across the three courses using a 3 X 2 X 2 factorial ANOVA with repeated measures on the last factor. No main effects were demonstrated by gender [*Wilk's Δ* ; $F(1, 73) = .08, p = .774, p\eta^2 = .00$], course [*Wilk's Δ* ; $F(2, 73) = 2.60, p = .082, p\eta^2 = .07$], or repeated measure [*Wilk's Δ* ; $F(1, 73) = .90, p = .347, p\eta^2 = .01$]. There was also no interaction [*Wilk's Δ* ; $F(2, 73) = 2.16, p = .122, p\eta^2 = .06$] This indicates no change in SIRS scores throughout the semester.

Research Question D

Does the revised apprehension scale predict academic motivation scores? To account for the differences in pre-test WAT-R scores by group, the WAT-R_{diff} score was entered as the predictor variable in the linear regression model with SDI post-test scores as the dependent variable. The two variables did not exhibit significant correlations ($r^2 =$

.179, $p = .06$), and the overall regression model was non-significant [$F(1, 77) = 2.56, p = .114, r^2 = .179$].

Research Question E

Does instructor rapport impact writing apprehension, basic needs, and/or academic motivation scores? Post-test scores were evaluated for correlations between the SIRS and WATR, BPNS (Autonomy, Competency, Relatedness), and SDI. There was not a significant correlation between the SIRS and WATR ($r^2 = -.161, p = .157$); it did demonstrate significant correlations with the three subscales of the BPNS [Autonomy ($r^2 = .534, p < .001$), Competency ($r^2 = .348, p = .002$), Relatedness ($r^2 = .351, p = .002$)] and SDI scores ($r^2 = .265, p = .02$). Multiple Linear Regressions were used to investigate the SIRS as a predictor for the four variables. The overall model was significant for SDI [$F(1,77) = 5.84, p = .018, R^2 = .06$], Autonomy [$F(1,77) = 30.66, p < .001, R^2 = .29$], Competence [$F(1,77) = 10.62, p = .002, R^2 = .12$], and Relatedness [$F(1,77) = 10.81, p = .002, R^2 = .12$]. See Table 4.

DISCUSSION

Summary

The academic community fears undergraduates are not meeting writing proficiency standards (Bartlett, 2003), and these qualms are well founded; contemporary research suggests that a degree does not guarantee an excellent writing ability or sense of competence with the skill (Johnson et al., 2011). Obstacles to development of this aptitude include a lessened demand for writing requirements in coursework, limited access to expertise, and a shortage of instructors properly trained in domain specific requirements (Bayat, 2014; Morgan, Fraga, & Macauley, 2011). The decline in practice and instructional support has cultivated writing ineptitude and an surge in writing apprehension among undergraduates (Bayat; Cayton, 1990; Karakaya & Ulper, 2011). The cognitive underpinning between student behavior and academic expectations is the writing apprehension experienced by most collegians (Daly & Miller, 1975). A previous survey within the psychology major uncovered a relationship between basic psychological needs, academic motivation, and writing apprehension. (Byrket et al., 2014). Furthermore, positive student instructor rapport was identified as a necessary component for reducing anxiety in the classroom, enhancing learning quality, and increasing academic achievement (Creasey et al., 2009; Lammers & Gillaspay, 2013; Lammers et al., , 2014). The current assessment aspired to measure psychology course effectiveness in reducing writing apprehension and how a reduction may lead to greater overall academic motivation.

Course Differences

This project was designed to specifically evaluate the impact of writing instruction and practice in two required [Experimental Psychology (EP) and Psychology of Diverse Populations (PDP)] and one optional [Preparation for Graduate School (PGS)] course. Pre- to post-test means indicate a small reduction in the EP and PDP classes; though, these differences were non-significant. This suggests that mere instruction and guidance in the classroom is not enough to assist students in feeling more comfortable with academic writing practices. The traditional 16 week semester may be too short for students to process, practice, and apply any feedback received in order to gain an overall sense of competency with newly acquired skills.

When change scores were examined by course, the EP participants exhibited the greatest difference in apprehension. This supports the hypothesis proposed by Morgan et al. (2011) that domain specific writing instruction provides the utmost benefit. For individuals to experience an optimal reduction in academic writing apprehension, they must receive exposure and experience in the writing style required within their chosen field. Classes that include several writing assignments scored according to APA style and continued reinforcement of these techniques throughout their undergraduate career are the most beneficial. Additionally, in line with the recommendations of Torrance and colleagues (1992), the current project indicates that supplemental training will assist writers to gradually meet the increased expectations for graduate school. For graduate degree seekers, a second course in academic writing instruction would help prepare them for the transition to master's level writing requirements. .

Gender Differences

Review of writing apprehension evaluations revealed a lack of assessment regarding disparities between male and female students (Bayat, 2014; Daly & Miller, 1975; Cayton, 1990; Hubbard & Simpson, 2003; Karakaya & Ulper, 2011; Popovich & Mase, 2005; Torrance et al., 1992; Rickabaugh, 1993; Wingate, 2010). However, gender has a demonstrated influence in academic achievement (e.g., GPA) in the past and may be a supplementary constraint for anxiety through writing confidence and/or willingness to work through academic trepidations. Investigations in elementary schools revealed greater competence, confidence, and satisfaction among female students (Pajares et al., 1999). Gender differences in writing apprehension were not exhibited in this study with females decreasing and males increasing throughout the semester. The repeated measures design of this project may have required a greater number of participants for a proper comparison. Although, the decrease in means suggest that male student might be at a disadvantage when compared to their female peers. As the semester comes to a close, each of the three classes requires larger, higher stakes writing assignments. The differences could highlight that male students are more susceptible to the pressure of final projects or that female students gain a sense of competency throughout the semester that is not experienced equally by the genders. These results raise thought-provoking questions regarding gender differences that were not previously investigated in the academic writing domain (Bartlett, 2003; Can & Walker, 2010; Karakaya & Ulper; Wingate).

Instructor Rapport

It is imperative to note that instructor rapport was not significantly different across courses or from the beginning to end of the semester. Several reasons for this lack of difference are proposed. The sample included only upper level students who may already have existing relationships with instructors in these courses. All three instructors teach multiple courses, are involved in student research projects, and are known to have friendly countenances that are accessible to most undergraduates. They may have impressed respondents merely by reputation. The survey was completed after students received instruction for their first writing assignment. This timeframe ranged from the first to third week of classes. Even if a student did not have a relationship with the instructor from an earlier semester, they did have time to evaluate the student/instructor relationship prior to survey completion. Also, the scores rested at the high end of the scale and could indicate a tendency toward desirable responding on this particular measure even though scale distribution was not significantly skewed.

Regression Analysis

Writing apprehension difference scores were examined for potential impact on overall academic motivation (SDI). Interestingly, student apprehension was not linked to motivation as assessed. This may suggest that these individuals do not view writing as a skill integral to academics or their overarching career goals. If writing is discounted, any criticism or feedback received about the task would be diminished and have less of an impact on motivation.

Despite this disparity, student instructor rapport was integral to academic motivation and well-being. Student Instructor Rapport Scale (SIRS) was a positive predictor of motivation and the three basic psychological needs: autonomy, competence, and relatedness. If instructors teach larger classes, online courses, and/or more courses per semester, rapport may become a victim of the modern classroom. Yet, this study provides evidence that faculty can have a far greater impact on student well-being and development than they might expect. Previous surveys utilizing the SIRS demonstrated that rapport was a positive influence on student success in both online and seated classrooms (Lammers & Gillaspay, 2013; Lammers et al., 2014). The current results support this relationship and elucidate the basic psychological needs as the mechanism of impact; academic success is more attainable when the student feels increased well-being and motivation. Likewise, these results parallel the major components of Self-Determination Theory (SDT: Deci & Ryan 1985, 2002; Vallerand, Pelletier, & Koestner, 2008).

WAT-R

A potential carry-over effect was demonstrated in the means testing for the WAT-R. The recommended course schedule at this university prompts students to take the EP course in their junior year, while the PDP and PGS courses are held for senior students. Pre-test scores indicated the PDP and PGS students began the semester with lower mean apprehension scores than the EP group. Life experience is a potential explanation for this effect. Overall, exposure to the academic environment could reduce writing apprehension in the transition from junior to senior year or the influence of the EP course

may not be fully realized until the senior level courses are tackled. More likely than not, it is a combination of the two factors working together to reduce writing apprehension in seniors.

Future Research and Limitations

Future investigators should review course schedules to detect which participants have already completed the EP course or plan to enroll in it concurrently with the other two classes. By identifying students who have taken classes in the expected sequence, a potential carryover effect can be examined in greater detail. Moreover, a measure of writing competency was not included in this study. These measures were not assessed in the current project. The survey focused on student attitudes in order to emphasize the importance of perceived competency over actual competence. Although, the analysis revealed students may need to experience competency at a certain level *before* they can achieve a reduction in apprehension. Previous studies examined SAT/ACT test scores, course grades, and/or writing samples as evidence of student ability (Bayat, 2014; Daly & Miller, 1975; Cayton, 1990; Hubbard & Simpson, 2003; Karakaya & Ulper, 2011; Torrance et al., 1992; Rickabaugh, 1993; Wingate, 2010). Lowerclassmen samples should also include similar competency measures to explore the dynamics of apprehension, aptitude, and experience.

Two specific sampling issues are recognized with the current examination: gender sample size and exclusive sampling of senior level students. The gender results require further examination with a larger sample size and more equal groupings before conclusions can be drawn. It is possible male students were more likely to participate for

extra course credit and were anxious regarding their grade overall or this particular group was more apprehensive than the "average" male college student. Another limitation of this examination is the use of upper level students as participants. If an intervention is designed to reduce apprehension, it would most likely be beneficial within the first years of college. Assessing attitudes as freshmen and then again with seniors could reveal better opportunities for early intervention. Regardless, this thesis reaffirms that inspiring students to "put pen to paper" will alleviate writing apprehension. Educators need to encourage this practice to provide students with the skills and experiences essential to feeling successful and competent well beyond the college years.

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APPENDIX

Human Subjects IRB Approval

To: Adena Young
Psychology
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From: MSU IRB

Approval Date: 8/25/2015
Expiration Date of Approval: 8/24/2016

RE: Notice of IRB Approval by Expedited Review (under 45 CFR 46.110)
Submission Type: Renewal
Expedited Category: 7.Surveys/interviews/focus groups
Study #: 15-0041

Study Title: Thesis Prospectus: The Impact of Writing Intensive Courses on Writing Apprehension and Academic Motivation

This submission has been approved by the Missouri State University IRB for the period indicated. It has been determined that the risk involved in this research is no more than minimal.

Table 1. Sample demographic variable distribution.

Demographic Variable	Demographic Category	Frequency (<i>n</i>)	Sample Percentage (%)
Course	Experimental Psychology	27	34
	Psychology of Diverse Populations	31	39
	Preparation for Graduate School	21	27
Gender	Male	19	24
	Female	60	76
Student Classification	Upperclassmen	76	96
	Lowerclassmen	2	3
Ethnic Group	Anglo/White/Non-Hispanic	69	87
	Black/Non-Hispanic	1	1
	Hispanic	3	4
	Asian/Pacific Islander	2	3
	Native American	1	1
	Non-Resident Alien	2	3
	More Than One/Bi-racial	1	1

Table 2. One-Way ANOVA of pre-test scores between courses: Self-Determination Index, Basic Psychological Need Scale, Student Instructor Rapport Scale, and Writing Apprehension Test-R.

Dependent Variable	F Statistic	Mean (SD)		
		Experimental Psychology	Psychology of Diverse Populations	Preparation for Graduate School
Self-Determination Index (SDI)	(2,76) = 1.83, $p = .168$	-.62 (3.05)	.03 (3.29)	1.05 (2.48)
Basic Psychological Needs Scale (BPNS)				
Autonomy (A)	(2,76) = .63, $p = .535$	4.20 (.67)	4.40 (.64)	4.33 (.73)
Competence (C)	(2,76) = 1.17, $p = .316$	4.75 (.71)	4.96 (.58)	5.00 (.59)
Relatedness (R)	(2,76) = 1.67, $p = .846$	4.24 (.74)	4.34 (.74)	4.26 (.73)
Student Instructor Rapport Scale (SIRS)	(2,76) = .72, $p = .491$	3.92 (.68)	4.11 (.57)	4.08 (.63)
Writing Apprehension Test-R (WAT-R)	(2,76) = 3.58, $p = .033$	2.89 (.86)	2.48 (.53)	2.46 (.54)

Table 3. Calculated mean difference scores from the Writing Apprehension Test-R by course and gender.

Grouping Variable	E	Mean
	Pre-test WAT-R (SD)	Post-test WAT-R (SD)
Course		
Psychology of Diverse Populations	2.48 (.53)	2.45 (.58)
Preparation for Graduate School	2.46 (.54)	2.46 (.45)
Experimental Psychology	2.89 (.86)	2.76 (.83)
Gender		
Male	-.12	.47
Female	.12	.44

Table 4. Multiple Linear Regression of Student Instructor Rapport Scale predicting Self-Determination Index and Basic Psychological Needs.

<i>X</i>	<i>Y</i>	<i>t</i> Statistic	β	pr^2
	SDI	$t(77) = 2.42, p = .018$.265	.07
Student Instructor Rapport Scale	BPNS			
	Autonomy	$t(77) = 5.54, p < .001$.534	.29
	Competence	$t(77) = 3.26, p < .001$.348	.12
	Relatedness	$t(77) = 3.26, p < .001$.351	.12

Figure 1. Writing Apprehension Test-R pre-/post-test means by course. Error bars represent +/- one standard deviation.

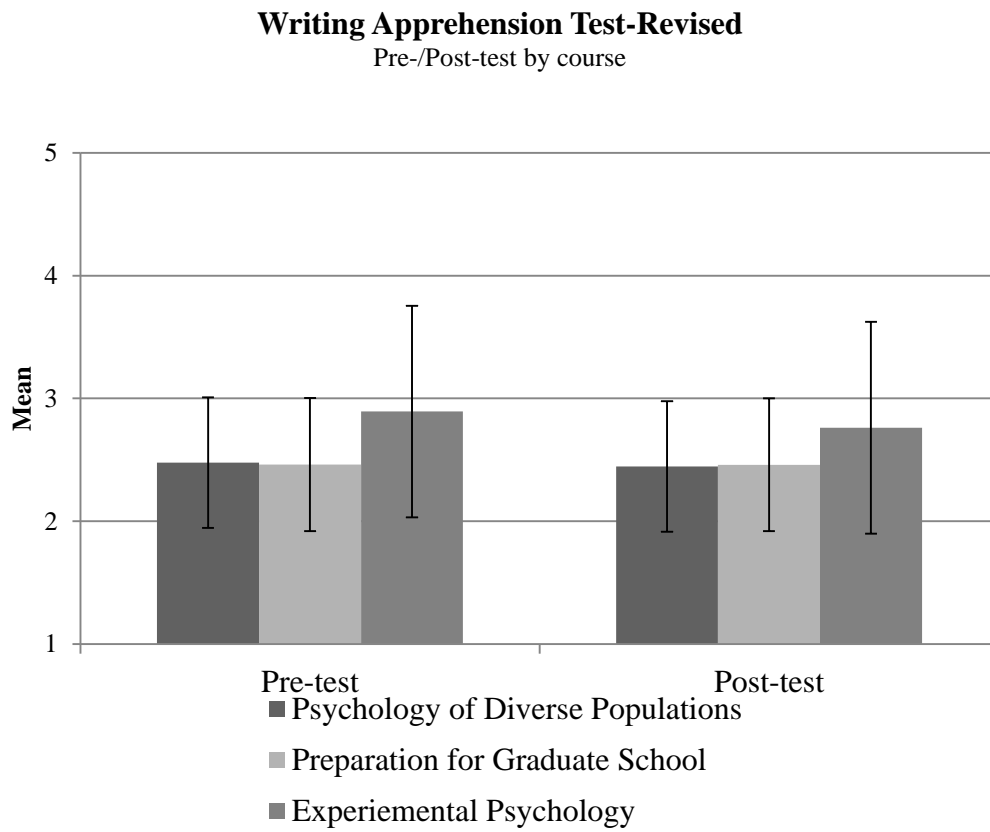


Figure 2. Writing Apprehension Test-R mean difference scores by gender and overall. Error bars represent +/- one standard deviation.

