Exercise Self-Efficacy and Perceived Wellness among College Students in a Basic Studies Course

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Submitted May15, 2009; Revised and Accepted August 8, 2009

Abstract

University basic studies courses provide a valuable opportunity for facilitating the knowledge, skills, and beliefs that develop healthy behaviors to last a lifetime. Belief in one's ability to participate in physical activity, exercise self-efficacy, is a psychological construct that has had a documented impact on physical activity. Although previous research has investigated self-efficacy, physical activity, and wellness in various contexts, this study has specifically focused on exercise self-efficacy and perceived wellness in a college population. The purpose of the study was to determine the relationship between exercise self-efficacy and perceived wellness in a sample of college students enrolled in a basic studies physical activity and wellness course. After surveying 611 students, the results indicated that total exercise self-efficacy significantly predicted perceived wellness and the wellness subscales of physical, spiritual, intellectual, psychological, and emotional dimensions ($p<.05$). However, exercise self-efficacy did not significantly predict social wellness. These findings are of particular relevance because a predictive relationship between exercise self-efficacy and perceived wellness is in need of examination. This study indicated that development of exercise self-efficacy through strategically-planned curricula and educational programs may be an effective way to improve wellness among college students.

Key words: **Key words**: *Exercise Self-efficacy, Perceived Wellness, College Students, Basic Studies.*

Introduction

With our technology-driven society overcome with sedentary behaviors, and its associated negative physical and emotional consequences (e.g., heart disease, depression), the need for effective health promotion strategies is undeniably substantiated. In particular, college students are a population to target since their physical inactivity levels have been reported as about 50%,[1] along with an increase in unhealthy behaviors such as binge drinking and smoking.[2] These harmful trends are of concern to educators, as this life stage characterized by transitioning to independence and adoption of decision-making skills, signifies a unique time in the development of long-term behaviors.

With a rising trend in both physical and emotional problems, and established national health goals to increase not only quantity, but quality of life,[3] university level basic health and fitness-based courses are expanding to include a more comprehensive, preventive, and multidimensional approach to its curriculum. Wellness, "a multidimensional state of being describing the existence of positive health in an individual as exemplified by quality of life and a sense of well-being,"[4] represents the shift in focus from the treatment of illness and disease to the proactive process of maximizing potential by balancing positive thoughts, feelings, and behaviors associated with quality of life. The concept of wellness is predicated upon the overlapping, integrative nature of its multiple dimensions that uniquely influence each other throughout life. These dimensions represent the whole person (i.e., mind, body, spirit) and, depending upon the model, include physical, social, intellectual, emotional, psychological, spiritual, occupational, and environmental.[5,6]

In order for health professionals and educators to help individuals maximize their potential, determining thoughts, feelings, and behaviors associated with higher levels of health and wellness is important. For example, physical activity behaviors are associated with beneficial physiological and psychological health effects (e.g., disease risk reduction, weight control, improved mood, etc.).[7] As a result, researchers have sought effective approaches to increasing physical activity across various populations, especially over the long-term. A prevalent cognitive-based approach is to facilitate beliefs, such as self-efficacy, that are associated with increased physical activity and other positive health behavior changes (e.g., smoking cessation) and wellness outcomes (e.g., enhanced quality of life). In fact, self-efficacy, which is the belief in one's capability to perform a behavior, has been the focus of an extensive number of investigations since its inception over thirty years ago.[8-10] In addition, self-efficacy has become an integral component of social cognitive theory[11] and the transtheoretical model,[12,13] both well-documented psychological theories prevalently used to further understand health behavior change, even among college populations.[14]

In order to determine wellness perceptions (which are considered valid indicators of future health[15]) associated specifically with beliefs about physical activity, exercise self-efficacy was measured. This domain-specific type of self-efficacy is the belief in one's capability to successfully perform incremental bouts of physical activity,[16] and has been previously studied among college students and other populations.[17-19] Exercise self-efficacy is a reliable predictor of physical activity behavior,[17,20] and has been described as a "critical variable for exercise behavior regardless of population."[14] The hypothesis that higher exercise self-efficacy beliefs would be associated with higher perceptions of overall wellness and among more than just the physical dimension, was based on previous research indicating an efficacy-affect relationship.[21]

The hypothesized associations between exercise self-efficacy and the physical dimension of wellness (physical wellness), the five other dimensions of wellness (i.e., psychological, social, spiritual, intellectual, and emotional), and overall wellness were the focus of this study. Physical wellness has been defined as the ability of the body to function effectively and meet the demands of daily life.[5] It includes good physical fitness that involves cardiovascular endurance, strength, and flexibility, in addition to healthy nutrition, sound medical care, and personal safety.[6] The psychological, social, spiritual, intellectual, and emotional wellness dimensions deal more with the cogntive and affective domains, but an association with exercise self-efficacy was hypothesized due to the extent of psychological and physical benefits linked with physical activity as well as the efficacy-affect relationship discussed in previous literature.

According to our literature review, five research studies to date have addressed self-efficacy related to exercise and wellness among college students, although different aspects of these constructs than the present study. For example, Sullum, Clark, and

King[22] found that college students with higher self-efficacy scores at baseline were less likely to experience exercise relapse. Gieck and Olsen[23] assessed self-efficacy related to physical, intellectual, spiritual, emotional, and social wellness to determine the impact of an 11-week holistic wellness walking program on physical activity and short-term adherence among obese and sedentary college students. Among other results, this study indicated that self-efficacy played a role in incorporating holistic wellness concepts into the daily lives of a college population. According to Hu and colleagues,[24] exercise self-efficacy (specific to cycling) had a significant influence on enjoyment of physical activity in a sample of low to moderately active college-aged women. Lastly, based on the theoretical framework of social cognitive theory and stages of change, Wallace and researchers[14] investigated personal (exercise self-efficacy), behavioral (physical activity history), and environmental (family and friend social support for physical activity) characteristics associated with exercise behavior among undergraduate university students. In another study conducted by Wallace and Buckworth,[19] exercise efficacy expectations among college students were examined, with results revealing higher efficacy scores among those in the maintenance stage of change. Essentially, both of these studies found a significant association between exercise self-efficacy and exercise stage of change. These five studies have helped to develop the research knowledge regarding the association between exercise self-efficacy and various aspects of the cognitions and behaviors related to physical activity among college students, but more studies are still needed to further explore the relationship. The present study sought to advance our understanding of exercise self-efficacy by assessing its relationship to perceived wellness and the associated six additional dimensions.

Perceived wellness, and the development of a valid questionnaire for its assessment, has been the focus for Adams and colleagues.[25,26] One of the studies examined perceived wellness, spiritual wellness, and psychological wellness using the Perceived Wellness Survey (PWS) in a college population, and found that life purpose, optimism, and sense of coherence were significantly related to perceived wellness.[27] Another study utilized the PWS to examine perceived wellness and its relationship to quantity of physical activity among hospital employees.[28] They found that higher overall, physical, and psychological wellness scores were significantly related to higher leisure time physical activity participation.

In an effort to determine the relative importance of exercise self-efficacy in wellness, this study examined the relationship between exercise self-efficacy and perceived wellness while also obtaining baseline measures of perceived wellness and its six dimensions among a college population.

Methods

Participants

A population of 1037 students enrolled in a required mid-atlantic coastal university basic studies course, *Physical Activity & Wellness* (PED 101) were invited to participate in the study during the Spring 2008 semester. Majority of the enrolled PED 101 students were sophomores (53%), followed by juniors (21%), seniors (19%), and freshmen (7%). Eighty-four percent were white and 54% were females.

This 2-credit course focused on the development of knowledge, skills, and attitudes to facilitate health and wellness behaviors to last a lifetime. The course consisted of one lecture and two physical activity labs each week (students select their lab from a variety of activities).

After Institutional Review Board approval, all 1037 enrolled PED 101 students were sent an initial email inviting them to participate in an online survey for extra credit (a separate extra credit opportunity was offered to those who chose not to participate), and specifying a 2-week time frame for survey completion. This email contained informed consent information and a direct link to the survey, which was administered through Select Survey (SelectSurvey.NET 1.6.1, ClassApps.com, 2006). It was made clear that clicking the link to take the survey indicated consent. Upon entering the survey, participants completed demographic questions including gender, age, ethnicity, race, full-time or part-time student status, employment status, and collegiate athlete status. Students were sent an email reminder one week following the initial email (which was one week prior to survey closure).

Instrumentation

Following the demographic questions, the participants were directed to complete the Perceived Wellness Survey (PWS), a 36-item, self-administered, multidimensional questionnaire scored on a six-point Likert scale from 1, “Very strongly disagree” to 6, “Very strongly agree.” This scale measures overall well-being on six dimensions, physical, social, emotional, intellectual,

psychological, and spiritual, with six questions devoted to each dimension. Higher scores indicated greater total wellness overall and in each of the subscales. The instrument has shown construct validity and reliability in previous research,[25,26] and has been used to assess college populations.[25,27] Moreover, the items in the PWS were shown to have high internal reliability overall (alpha=.91) and consistency in the subscales.[25,28] Sample items from each dimension include, "I am always optimistic about my future" (psychological), "I sometimes think I am a worthless individual" (emotional), "I will always seek out activities that challenge me to think and reason" (intellectual), "My friends will be there for me when I need help" (social), "My physical health is excellent" (physical), and "I believe that there is a real purpose for my life" (spiritual).

Participants were then directed to complete the Self-Efficacy and Exercise Habits Survey, which was used to assess the psychological construct of self-efficacy in the physical activity context.[18] This 12-item questionnaire measured participants' confidence levels in motivating themselves to exercise consistently for at least six months. This survey was based on a 5-point Likert scale from "I know I cannot" (1) to "Maybe I can" to "I know I can" (5). This scale was selected due to its simplicity, its previous validation on a similar undergraduate student population, and its established test-retest reliability and internal consistency.[18]

Data Analysis

Several analyses were used to interpret the data using SPSS 15.0. First, descriptive statistics were computed for an accurate profile of the sample, and means and standard deviations were calculated for the self-reported wellness score, total perceived wellness, the six wellness dimensions, a total exercise self-efficacy score, and corresponding subscales. To prepare data for statistical analysis, the items in the exercise self-efficacy instrument were collapsed into means for each subscale, and a grand mean for a total self efficacy score was computed. The items in the PWS were scored following the guidelines as specified by the instrument's authors.[26] This procedure created a score for the six wellness subscales: physical, psychological, social, spiritual, intellectual, and emotional, as well as a total wellness score.

Next, a bivariate analysis for each pair was conducted to explore relationships between the variables using Pearson's r. Prior to computing the bivariate correlations, the demographic variables were also coded for statistical analysis. Males were coded with a zero and females with a 1; full time student status was coded as zero, with part time as a 1; student athlete was coded with a 1 and non athlete with a zero; those working full time were coded with a 1 and those working part time coded with a zero. In addition, race was coded as: American Indian or Alaska Native with a zero, Asian with a 1, Black or African American with a 2, Native Hawaiian or Pacific Islander with a 3, White with a 4, and Other with a 5. The bivariate relationships revealed numerous significantly correlated variables among the demographic variables, reported wellness, and exercise self-efficacy and perceived wellness scales.

Standard multiple regression models were used to assess the contributions of variables in predicting perceived wellness and the subscales of wellness that were revealed in the bivariate correlations. A number of assumptions were met prior to computing the regression analysis. There were no missing values or univariate or multivariate outliers. Multivariate normality was examined by screening for skewness and kurtosis of the measured variables. Although there was moderate negative skewness of the variables, they fell within the accepted range of +/- 3.00 and no transformation of the variables was necessary.[29] A review of the scatter plot of the variables did not reveal any violations of this assumption.

Results

Out of 1037 students enrolled in PED 101 in the Spring of 2008, 611 completed the survey with the overall response rate of 59%. Seventy-one percent of females responded, while only 44% of males responded. Table 1 presents a profile of the students that completed the survey. A majority of respondents were female (66%) aged 17-20 (80%), white (89%), going to school full time more than 6 credit hours for the semester (98%), and working a part time job (95%). A small percentage of the sample were college athletes (9%).

Table 2 presents the unadjusted means and standard deviations for the participants' exercise self-efficacy scores with subscales, and scores for perceived wellness and the six wellness dimensions. Descriptively, the sample reported high perceptions of wellness overall (M = 4.45) and slightly higher than average self-efficacy beliefs regarding exercise (M = 3.53). The sample reported a greater ability to stick to their exercise program (M = 3.63) than having time for it (M = 3.43). While the means clustered close together on wellness scores, the sample reported the highest perceptions in the

spiritual dimension (M = 4.50), followed by the social dimension (M = 4.18). Perceptions of emotional wellness were rated the lowest (M = 3.83). Their overall composite wellness score was relatively high (M = 4.54).

The bivariate correlations results are presented in Table 3. Gender was significantly correlated with the participants' reported wellness (r = -.133, $p < .01$), making time for exercise (r = -.127, $p < .01$), and social wellness (r = .083, $p < .05$). Results indicated males students were more likely to report they had time for exercise and a higher reported wellness, and females reported higher perceptions of social wellness. In addition, age mattered in whether a student was employed full time (r = -.102, $p < .05$) and whether or not they were full time students (r = .165, $p < .01$). The older students were less likely to work full time and more likely to be full time students. Results also showed that race was significantly correlated with spiritual wellness (r = .098, $p < .05$), and employment was related to emotional wellness (r = -.803, $p < .05$). Caucasians were more likely to perceive spiritual wellness than American Indian, Alaska Native, or Asian ethnicity. Lastly, those in the sample who only worked part time were more likely to perceive emotional wellness than those working full time.

Relationships also emerged between exercise self-efficacy and total wellness and the PWS subscales. Students who reported high exercise self-efficacy were more likely to have a higher perceived wellness, and psychological, physical, emotional, spiritual, and intellectual wellness. The one subscale of the PWS with no significant relationships with exercise self-efficacy was in the social wellness subscale. Upon examination of the subscales within the self-efficacy measure, the item on "making time for it" subscale was not significantly related to any of the PWS subscales with the exception of physical wellness.

To further examine these relationships, several multivariate regression models were conducted to investigate the predictors for perceived wellness score and each of the six wellness dimensions. Table 4 displays the correlations between the variables, the unstandardized regression coefficients (β) R^2, F value, and the standard error (*SE*). Model 1 examined whether the two subscales of exercise self-efficacy: time for exercise and sticking to it could predict perceived wellness as a collective whole. The results revealed that sticking to an exercise program leads to enhanced wellness. The analysis showed significant result ($p < .001$), but only .038 of the variance is explained. The self-efficacy variable of having time for exercise was not significant while the measure of sticking to it was. This result indicated a higher perceived wellness could be the result of a higher perceived ability to remain dedicated to an exercise program.

Regression models 2 through 7 tested if the exercise self-efficacy subscales could predict psychological, physical, social, spiritual, intellectual, or emotional wellness. Similar to the first model, it was revealed that the perception of being able to stick to an exercise task led to psychological, physical, emotional, spiritual and emotional wellness, while having time for it was not a significant predictor. These models were significant either at $p < .01$ or $p < .05$ level, with the most variance explained for physical wellness ($R^2 = .051$). The relationships between the exercise self-efficacy subscale of "sticking to it" and the wellness subscales were also positive. The only insignificant regression model was social wellness. Neither measure of exercise self-efficacy, sticking to it or making time for it, played a role in how socially well the participants' felt. Overall, the regression analysis revealed that a higher perceived wellness, psychological, physical, emotional, intellectual and spiritual wellness can be predicted by those who feel they have the ability to remain committed to an exercise program.

Discussion

Among an undergraduate college population enrolled in a basic studies lifetime physical activity and wellness course, exercise self-efficacy was significantly related to overall wellness and all subscales of wellness (i.e., psychological, physical, spiritual, intellectual, and emotional). Social wellness was not related to exercise self-efficacy, as revealed in the bivariate correlations. The regression results also indicated that exercise self-efficacy was a significant predictor of physical, spiritual, intellectual, psychological, and emotional wellness. These findings are of particular relevance because a predictive relationship between exercise self-efficacy and perceived wellness has not been explored previously.

When examining the subscales of exercise self-efficacy more closely, sticking to a program was more important than making time for it. Making time for it was not significantly related to perceived wellness or any PWS subscale except physical wellness. This could be explained by the nature of the sample. College students often experience and perceive demands and constraints of their time in their attempt to balance academic and personal

schedules. On the other hand, sticking to a program and the related feelings of empowerment seems to lead to perceived wellness and emotional, spiritual, physical, psychological, and intellectual wellness.

The significant relationship between exercise self-efficacy beliefs and overall perceived wellness, and the dimensions of wellness extend the limited research in this area. While one previous study revealed a relationship between exercise self-efficacy and wellness,[23] this study revealed a predictive relationship between exercise self-efficacy and wellness. The predictors for total wellness score and each of the six wellness dimensions yielded noteworthy findings, and provide a preliminary picture of relevant cognitions (namely exercise self-efficacy) and perceptions (wellness) for future research and development of effective health behavior change programs, curricula, and interventions. It appears that students with high exercise self-efficacy beliefs were more likely to perceive overall wellness, and physical, spiritual, intellectual, psychological, and emotional wellness.

In this study, the Self-efficacy and Exercise Habits Survey rated exercise self-efficacy by asking participants about their confidence in their abilities to make time for exercise and to stick to an exercise program consistently for at least six months. In this study, participants reported a greater ability to stick to their exercise program than having time for it, and overall, they reported slightly higher than average exercise self-efficacy beliefs and high overall wellness perceptions. This result was similar to the findings reported by Sullum, Clark and King.[22] They found that college students with higher self-efficacy at baseline were less likely to experience exercise relapse eight weeks later. Previous research examining the effectiveness of a self-efficacy and knowledge-based walking intervention among a group of obese, sedentary college students revealed that changes in self-efficacy and knowledge could be used to predict changes in exercise-related behaviors.[23] However, neither of the two studies assessed the effect of exercise self-efficacy on perceptions of wellness.

Previous researches supported the relationships between exercise self-efficacy and some components of wellness as shown in this study. For example, Bezner, Adams, and Whistler[28] found higher rates of physical activity and leisure time physical activity were associated with higher physical and psychology well-being scores on the PWS. Gieck and Olsen[23] found self-efficacy was related to physical, intellectual, spiritual, emotional, and social wellness in a holistic wellness walking program. Likewise, the association of exercise self-efficacy and the physical component of wellness had been shown in other research. Hu and colleagues,[24] found exercise self-efficacy (specific to cycling) had a significant influence on enjoyment of physical activity in a sample of low to moderately active college-aged women. Wallace and researchers[14,19] found a significant association between exercise self-efficacy and exercise stage of change. However, a predictive relationship between exercise self-efficacy and wellness was not examined in these studies.

In this study, social wellness was not predicted or associated with exercise self-efficacy beliefs. It may be that social wellness is more appropriately addressed in terms of social support and assessed as a separate variable from exercise self-efficacy. This explanation may be supported by the study results of Wallace and colleagues.[14,19] They found social support to be a significant predictor of stage of exercise behavior change in addition to exercise self-efficacy among a sample of college students.

While this research has both practical and research-oriented implications, there are study limitations. As with most survey research, it was self-report with no other primary data sources to support the findings. Another limitation was the lack of random sampling in participant recruitment. Rather, a convenience sample was used in which students were invited to participate if they were enrolled in a physical activity and wellness-based course. Also, content in the course is related to survey variables which may have also played a confounding role in students' survey responses. Consequently, results of the study are not generalizable to college populations particularly due to the mostly white, female sample. Lastly, cross-sectional research has its inherent limitation in only identifying relationships between variables at one point in time. Therefore, future longitudinal research to assess changes in these variables over time is recommended.

Conclusions and Recommendations

In order to promote a lifetime of health and wellness, it is essential to develop cognitions and beliefs associated with successful, long-term health behavior change. University basic studies courses provide a valuable and potentially influential opportunity to improve the knowledge, skills, and beliefs of an entire college student population at a critical time in the development of their decision-making skills and lifelong behaviors. The findings in this study are

applicable to developing a model curriculum that promotes wellness, the positive, balanced, and multidimensional aspect of health, by using an approach that is not only engaging, but maximizes research-supported theoretically sound psychological constructs such as exercise self-efficacy.

In light of the relationship between exercise self-efficacy and perceived wellness, future studies, educational curricula, and programs designed to improve college students' wellness could specifically focus on improving self-efficacy and promoting belief in one's ability to participate in physical activity, possibly using the framework of Social Cognitive Theory, and extending on Gieck and Olsen's work on holistic wellness principles. However, adding a separate component focusing on the development and assessment of social support is strongly recommended, not only due to the findings from this study, but also due to the strong research evidence indicating the importance of social support in physical activity adherence.

In addition, future research could focus on exercise self-efficacy and wellness among different populations, for a longer term, and with the additional assessment of health behaviors (e.g., physical activity), other cognitions or beliefs (e.g., other types of self-efficacy, exercise motivation, perceived competence, autonomy, etc.), or other wellness-based measures. Although not a major focus of this study, gender differences in exercise self-efficacy were found. Males in this sample were more likely to report having time for exercise as well as perceiving higher levels of wellness, while females reported higher perceptions of social wellness. This finding, in addition to all of these preliminary findings, could be further explored among other college populations for comparison, or among other populations such as those who are sedentary, obese, or of a different age group.

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Table 1. Demographic Profile of Participants

	n	%
Gender		
Male	208	34%
Female	403	66%
Age(y)		
17-20	489	80%
21-25	97	16%
26-29	7	1.2%
30-35	7	1.2%
≥ 36	5	.09%
Ethnic group		
Hispanic or Latino	22	4%
Not Hispanic or Latino	589	96%
Race		
American Indian or Alaska Native	6	1%
Asian	7	1%
Black or African American	17	3%
Native Hawaiian or Pacific Islander	2	.01%
White	545	89%
Other	34	6%
Student status		
Full time	601	98%

Part time	10	2%
Employment status		
Full time	31	5%
Part time	580	95%
College athlete		
Yes	52	9%
No	559	91%

Note. N=611

Table 2. Unadjusted Descriptives of Reported Wellness, Self-Efficacy with Subscales, Total Wellness and Subscales

	M	SD
Perceived wellness	4.59	.588
Social wellness	4.18	.969
Intellectual wellness	4.05	.753
Emotional wellness	3.83	.888
Spiritual wellness	4.50	.957
Psychological wellness	3.97	.912
Physical wellness	3.97	.960
Self efficacy	3.53	.620
Sticking to it	3.63	.739
Having time for it	3.43	.808

Table 3. Bivariate Correlations Among Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Gender	--									
2. Age	-.016	--								
3. Race	-.013	.004	--							
4. Student status	.103*	.165**	-.033	--						
5. Employment	.072	-.102*	-.026	-.107**	--					
6. College athlete	-.046	-.042	.006	.016	.070	--				
7. Reported wellness	-.133**	-.026	.025	-.027	.049	.217**	--			
8. Total self efficacy	-.096*	.025	.031	.056	.047	.232**	.282**	--		
9. Sticking to it	-.026	.001	-.003	.038	.009	.141**	.159**	.779**	--	
10. Making time	-.127**	.038	.059	.050	.063	.227**	.282**	.820**	.280**	--
11. Total wellness	-.028	-.033	-.073	-.024	-.022	-.005	.175**	.139**	.192**	.035
12. Psychological wellness	-.041	.004	-.029	-.017	-.038	-.062	.122**	.084*	.129**	.010
13. Social wellness	.083*	-.014	-.026	-.037	-.061	-.078	.127**	.004	.060	-.049
14. Physical wellness	-.032	.001	-.015	-.042	.022	.058	.232**	.192**	.232**	.082*
15. Spiritual wellness	.064.	-.004	.098*	-.011	-.032	-.030	.171**	.105*	.172**	.002
16. Intellectual wellness	.035	-.023	-.034	.013	-.076	-.043	.098*	.102*	.137**	.031
17. Emotional wellness	-.060	.005	-.046	-.026	-.083*	-.026	.119**	.095*	.168**	-.007

* $p < .05$; ** $p < .01$

Table 4. Linear Regressions (β) Testing for Wellness Factors

Variable	Model 1: Self efficacy subscales on Perceived Wellness	Model 2: Regressing on Psychological Wellness	Model 3: Regressing on Physical Wellness	Model 4: Regressing on Social Wellness	Model 5: Regressing on Spiritual Wellness	Model 6: Regressing on Intellectual Wellness	Model 7: Regressing on Emotional Wellness
Time for it	-.022	-.029	.018	-.071	-.051	-.008	-.058
Sticking to it	.201**	.139**	.227**	.080	.187**	.139**	.182**
R^2	.038	.014	.051	.005	.029	.015	.030
F	11.773	5.353	16.968	2.455	9.810	5.675	9.302
SE	2.91	4.69	3.95	4.75	5.05	4.10	4.71
df	2	2	2	2	2	2	2
p	.000**	.005*	.000**	.087	.000**	.004*	.000*

*$p < .05$; **$p < .001$