REVEALED CONFIDENCE, SELF-EFFICACY, AND STRESS IN THE INTRODUCTORY ECONOMICS CLASSROOM

Paul W. Grimes
Dean and Professor of Economics
Kelce College of Business
Pittsburg State University
and
Emeritus Professor of Economics
College of Business
Mississippi State University

ORCID: 0000-0002-3938-9696
paul.grimes@pittstate.edu
(620) 235-4590

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Author Address: 1701 South Broadway, 101 Kelce College of Business, Pittsburg State University, Pittsburg, KS 66762 USA.

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ABSTRACT

This paper examines the relationships between college students' revealed confidence on test performance in an introductory economics course, their measured degrees of academic self-efficacy, and personal stress. One hundred and five students enrolled in a freshman-level introductory economics course were asked to predict their score on a regularly scheduled exam. Each student's revealed confidence was measured as the difference between the student's predicted score and the student's actual performance. All students were also administered a standardized psychometric instrument to measure their individual levels of personal self-efficacy and stress across several academic perceptual domains. A regression model was estimated to examine the moderating effects of confidence and stress on predictive calibration – the degree to which a student accurately predicted their test performance. The results indicated that high levels of stress from in-class academic experiences resulted in more accurate predictive calibration scores while measured self-efficacy had no significant effect, *ceteris paribus*. The estimated effect of personal in-class stress on predictive calibration is consistent with the implications of active inference theory.

Keywords: confidence, self-efficacy, stress, predictive calibration, active inference

JEL Classification: A22, D91

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In recent years, the educational and popular press has characterized the current generation of college students as being extremely sensitive to the stresses and rigors of university life. As a result, a new colloquial term, "snowflake," is often applied to students who demonstrate an inflated sense of self-importance and false overconfidence which results in personal distress when confronted with new intellectual challenges and ideas that are contrary to their established beliefs (Yagoda, 2016). The connotation of this term indicates that many, both outside and inside higher education, view students' newly-found concern with personal stress as a negative impactor on the learning experience. However, recent advances in neural science suggest that stress resulting from differences in expectation and experience is critical to learning and the acquisition of self-knowledge. This paper examines personal stress in an introductory economics course and its effect on students' self-assessment of learning.

It is well documented that college students naturally bring preconceived beliefs about economic phenomena into the classroom (see for example, Goffe, 2013). Furthermore, Caplan (2001, 2002) has shown that the public's popular, and strongly held, beliefs about economic issues often significantly differ from those of trained economists. Students who enter the economics classroom with previously formed misconceptions about economic behavior and events may face significant hurdles in learning basic economic concepts and theories (Busom, Lopez-Mayan & Panadés, 2017). Students naturally experience uncertainty when presented with objective evidence and ideas that run counter to their preconceived normative beliefs and cognitive frames of reference (Hellmich, 2019). This uncertainty manifests as stress as students process the divergence between their prior expectations and new information. Numerous opportunities arise for confrontations between preconceptions and teaching in the introductory

economics classroom where "hot button" issues such as income distribution, taxes, international trade, and immigration are often discussed (Parsons & Mamo, 2017). Likewise, misconceptions about the economy and economic phenomena likely contribute to the observed overconfidence of students in Principles of Economics courses (Grimes, 2002; Nowell & Alston, 2007).

While students with ingrained prior misconceptions may be reluctant to study new material and ideas, the divergence between previously formed beliefs and new information taught in the classroom is an important element of the learning process. According to active inference theory, from the cognitive neurosciences, all human beings act in ways to minimize the gulf between expectations and sensory inputs (for a layman's overview of active inference theory see Raviv (2018) and for detailed scientific explanations see, for example, Friston et al. (2016, 2017).[1] In an educational setting, students' expectations are based on the preconceptions brought to class which are then confronted through the sensory input of new ideas taught within the course. The self-perception of a divergence between the two creates uncertainty and stress but then leads to students' minimizing the gap by actively adjusting their self-awareness of what must be learned.

To examine the role of stress in an introductory economics course, this study builds upon previous work on student metacognition and self-assessment of learning.[2] Specifically, data collected from a psychometric instrument designed to measure stress and self-efficacy in an academic environment were entered into a model of predictive calibration - the ability of students to accurately gauge their learning. The results indicate that student stress was primarily confined to in-class tasks associated with academic performance. Consistent with prior studies, student subjects revealed a significant degree of overconfidence in measured learning; however, high levels of reported stress were found to improve the accuracy of self-assessment, *ceteris paribus*. This result is consistent with active inference theory.

The contextual setting of the study is outlined in the next section along with an overview of the student sample's characteristics and the results from the psychometric instrument. The empirical model and its estimation are then described and the results presented and discussed. The paper closes with comments concerning the implication of the findings for instructors and students.

Investigation Design

Setting and Data Collection

This study was conducted at Pittsburg State University (Pitt State) during a normal 16-week fall semester. Pitt State is a comprehensive masters-level public institution located 100 miles south of the Kansas City metropolitan area in extreme southeast Kansas. The university currently enrolls approximately 6,500 students drawn primarily from the surrounding region of southeast Kansas, southwest Missouri, northeast Oklahoma, and northwest Arkansas.[3] The sample consisted of 105 students enrolled in a traditional lower-division introduction to economics course that satisfied general education requirements for all majors and was taught by an experienced instructor. The study's design and the processes for collection of student data from instructor-administered surveys and instruments were approved by the Pitt State Institutional Review Board and adhered to U.S. federal regulations concerning informed consent.

Data were collected at several points in time using multiple forms. Immediately prior to the semester's mid-point, students completed a demographic questionnaire designed to capture relevant individual characteristics and behaviors. All students also completed the *Academic Self-Efficacy and Stress* (*ASES*) instrument originally developed by Zajacova, Lynch and Espenshade (2005). Using a 10-point Likert scale, The *ASES* asked respondents to report their degree of personal confidence in completing 27 academic tasks, such as, "asking questions in class," "doing well on exams," and, "finding time to study." Respondents then reported their degree of experienced personal stress associated with these same 27 tasks using the same scale. Thus, the *ASES* captured individual perceptions of self-efficacy and stress using a common measurement scheme which allows for relative comparisons.

The students' self-assessment of learning was measured by evaluating their expectation of performance on a mid-term examination relative to their actual performance on the examination. Immediately prior to sitting for the exam, students were asked to predict their test score (in percentage terms). The exam was the second of three tests scheduled during the course, therefore, students were knowledgeable about testing procedures and experienced with the type, style, and difficulty of the

instructor's questions.[4] In addition, students were incentivized to take their prediction seriously with the promise of bonus test points for an accurate prediction (Luccasen & Thomas, 2014). After the exam was graded, the actual scores achieved were compared with the students' forecasts, and measures of individual predictive calibration were calculated.

Overview of Sample Data

Table 1 provides an overview of selected personal characteristics and behaviors for the 105 students in the sample.[5] Overall, the class profile closely resembled the Pitt State undergraduate student population. A little more than half of the students were male and a vast majority identified their race as White, which reflects the racial demographics of the local region. The mean student was approximately 20 years of age, a first semester sophomore, with an ACT score just above 22 and a B grade point average. Consistent with earlier work by Grimes, Sanderson and Ching (1997) students reported studying a little more than two hours per week for each of their courses but doubled that amount of time when preparing for an examination. Most of the students reported an arts and sciences or engineering technology major and most lived off-campus with a roommate. Only one in five students belonged to a Greek fraternity or sorority. The average student in the sample was only involved in one campus student organization or club. Not surprisingly, the vast majority of the students did not plan to take an additional economics course beyond the introductory class. Nothing reported in Table 1 indicates that the sample significantly deviated from the expected norm for the local student population and is a typical sample drawn from a regional comprehensive masters-level institution serving a relatively rural population base.

---------- Insert Table 1 About Here ----------

The table also reports the students' mean pre-test prediction of exam performance and the mean score achieved. Comparison of these numbers reveals that students, on average, overpredicted their exam score by more than five and half percentage points – a full one-half letter grade. This revealed

overconfidence is consistent with previous studies of economics student metacognition (Grimes, 2002; Nowell & Alston, 2007) and suggests that students in introductory economics courses are relatively poor at self-assessment of learning. Students in the sample slightly tempered their overconfidence when asked to predict their final course grade. As seen in Table 1, the mean Expected Course Grade was only about one-third of grade point above the mean Actual Course Grade of 2.65.

Table 2 reports the mean scores for the sample's self-efficacy and stress ratings for each of the 27-items in the *ASES* instrument. Based on Zajacova, Lynch and Espenshade's (2005) original factor analysis, 23 of the items are organized into four domain categories: Interaction at School, Academic Performance Out of Class, Academic Performance in Class, and Managing Work, Family and School. The remaining four items are shown in the table as Independent. Student respondents indicated How Confident and How Stressful each item was for them using a 10-point Likert scale running from, "Not at all. . ." to "Extremely . . ." For each item, and for the totals of each domain category, a difference in means t-test was conducted across the How Confident and How Stressful responses. The difference and t-value are reported in the last two columns of the table.

---------- Insert Table 2 About Here ----------

Examination of Table 2 reveals that in total and for three of the four domain categories, students reported being significantly more confident than stressful. Only in the Academic Performance in Class category are the mean confidence scores consistently less than the mean stress scores. In fact, measured stress is greater than confidence for *each* item in this category. The only other place in the *ASES* results where stress significantly exceeds confidence is for the Independent "Having enough money" item. Thus, overall, the student sample reported a significant degree more self-efficacy when compared to their reported stresses. The net differences between the confidence and stress scores indicate that students were significantly more confident about their abilities to conduct interpersonal interactions at school, complete out-of-classroom academic work, and to manage their personal non-academic responsibilities

relative to their confidence at performing in-class academic work. Extrapolating these results to the college population in general suggest that the public's recent focus on classroom stress and the American college student may reflect a reality where the classroom is the primary source of life's uncertainties for this population. Today's generation of students feel highly confident and money appears to be the only uncertainty that rivals grades in generating significant net personal stress.[6]

A Model of Predictive Calibration

Empirical Specification

To evaluate the role of personal stress on self-assessment of academic performance, a model of predictive calibration was constructed and estimated. Predictive calibration was defined following the specification originally put forth by Lichtenstein and Fischhoff (1977):

$$\text{PREDICTIVE CALIBRATON} = \frac{(\text{Actual Examination Score} - \text{Expected Examination Score})^2}{\text{Expected Examination Score}} \quad [1]$$

Evaluating this specification results in a positive number that reflects the degree to which a student's expected examination score diverged from the actual examination score achieved. The formulation treats overestimations and underestimations with equal weight. Larger values represent larger gaps between expectations and realizations. Thus, smaller predictive values represent more accurate predictions.

Closely following previous studies examining the determinants of predictive calibration in an economics classroom setting (Grimes, 2002; Nowell & Alston, 2007), the following relationship was estimated using ordinary least squares regression:

$$\text{PREDICTIVE CALIBRATON} = \alpha + \beta_1\text{AGE} + \beta_2\text{MALE} + \beta_3\text{BLACK} + \beta_4\text{ACT} + \beta_5\text{GPA} + \beta_6\text{HIGH SCHOOL ECONOMICS} + \beta_7\text{ABSENCE} + \beta_8\text{BETTER} + \beta_9\text{EXAM OVERCONFIDENCE} + \beta_{10}\text{HIGH STRESS} + \beta_{11}\text{HIGH SELF-EFFICACY} + \varepsilon \quad [2]$$

The empirical specification, sample mean, and standard deviation for each variable included in the model are reported in Table 3.

The independent variables AGE, MALE, and BLACK are included to control for demographic characteristics often found to influence a student's self-assessment of learning and understanding. ACT, GPA, and HIGH SCHOOL ECONOMICS (categorical variable indicating student had completed prior high school economics course) enter the model to control for variations in student aptitude and stock of specific human capital in economics prior to participating in the introductory economics course. The ABSENCE variable (percentage of class meetings missed) captures differences in student engagement in the course and BETTER (a categorical variable equal to one if the student performed better on the second exam relative to the first) measures student course progress at the time students were asked to forecast their examination performance. The primary independent variables of interest to this study, all specified as categorical variables, are EXAM OVERCONFIDENCE (predicted score exceeds actual performance), HIGH STRESS (total stress index score more than one standard deviation above the sample mean), and HIGH SELF-EFFICACY (total confidence index score more than one standard deviation above the sample mean). Grimes (2002) found that student overconfidence resulted in less accurate predictive calibration scores and therefore, EXAM OVERCONFIDENCE is expected to enter the model with a positive sign (recall the larger PREDICTIVE CALLIBRATION scores reflect a larger gap between predicted and actual scores). In the same manner, the HIGH SELF-EFFICACY coefficient was expected to enter the model with a positive sign. HIGH STRESS was expected to enter the model with a negative coefficient based on the implications of active inference theory – students who reported relatively high levels of stress, and therefore uncertainty, in their prior in-class academic experiences, naturally perceive the divergence between their expectations and current performance, resulting in more accurate predictions.

---------- Insert Table 3 About Here ----------

The Results

Table 4 presents the empirical results for the model of predictive calibration. Overall, the equation performed well with a significant F-Statistic and an acceptable cross-sectional R^2 value. Many of the variables obtained statistically significant coefficients with the expected signs.[7] As expected (see, Gutierrez & Price, 2017), men were found to report more accurate PREDICTIVE CALLIBRATION scores than women and BLACK students were significantly less accurate, holding all else constant. Furthermore, students with higher ACT and GPA scores and those who scored BETTER on the exam relative to the earlier test, were significantly more likely to have a more accurate PREDICTIVE CALLIBRTION score, *ceteris paribus*. This result is consistent with the empirical calibration literature that generally reports high achieving students are more accurate in their predictions relative to lower achieving counterparts (Bol & Hacker, 2012).

---------- Insert Table 4 About Here ----------

Both the EXAM OVERCONFIDENCE and the HIGH SELF-EFFICACY coefficients entered the model with expected positive signs; however, only the EXAM OVERCONFIDENCE coefficient was statistically significant. Thus, those students who overestimated their exam performance were significantly less accurate in their forecasts than those who underestimated their score, holding everything else the same. Overestimations in predictions were likely to be farther off the target and less accurate than underestimations.[8] However, relatively high degrees of academic self-efficacy, as measured by the *ASES*, had no significantly measurable impact on the accuracy of student self-assessment of exam performance, *ceteris paribus*.

As seen in Table 4, the HIGH STRESS coefficient was estimated to be negative and statistically significant. Thus, holding all else constant, students who reported relatively high levels of in-class academic uncertainty prior to their mid-term examination were able to more accurately self-assess and predict their examination score. This result is consistent with the predictions of active inference theory

applied to a classroom setting. The finding is also consistent with Kader (2016) who found that "facilitating test anxiety" had positive benefits on student performance. While the constructs of "anxiety" and "stress" resulting from perceived uncertainty differ, they are closely and positively related.[9] The current results suggest that in-class academic stress may have the positive benefit of facilitating more accurate self-assessments of learning and understanding.

Conclusions

This study extends the economic education literature on student metacognition by examining the role of students' perceived stress in the classroom on the ability of students to accurately self-assess learning and understanding. Building upon previous studies, a model of predictive calibration is estimated to control for a variety of student characteristics but also includes measures of in-class self-efficacy and academic stress captured through a psychometric instrument. The empirical results indicate that introductory economics students with relatively high degrees of perceived stress more accurately predicted their score on a mid-term examination, *ceteris paribus*. This result is consistent with the predictions of active inference theory from the cognitive neurosciences. Active inference theory hypothesizes that human beings (and all organisms in general) act to minimize the difference between expectations and perceptions. Thus, students who have experienced measurable in-class uncertainty between expectations and outcomes adjust their self-assessment of learning.

From an instructor's perceptive, the current results indicate that creating some degree of uncertainty in the classroom may have positive benefits. Confronting the misconceptions that students bring to the classroom may generate student stress, but this stress positively directs students to react by examining prior expectations and self-assessments of understanding. Students who actively shy away from the intellectual confrontation of new ideas to avoid stress are thus less likely to receive the benefits of uncertainty.

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ENDNOTES

[1]In the language of active inference theory as devised by Karl Friston, when expectations diverge from perceptions, an organism experiences "surprise." The difference between expectations and sensory inputs is known as "variational free energy." All living organisms are hypothesized to actively infer actions that will minimize free energy. These actions are assumed to occur within a Bayesian framework where surprise is the negative log probability of sensory samples. According to Friston (2018), ". . . everything we infer (and do) is in the service of minimizing surprise or maximizing the evidence for our internal or generative models of the world."

[2]My focus here is on the relationship between stress and *self-assessment* of academic performance and not on the role of how stress may causally influence academic performance. That complex relationship is left for future investigations.

[3]Additional information about Pitt State is available on its official website, www.pittstate.edu and through the National Center for Education Statistics' institutional profile, https://nces.ed.gov/globallocator/col_info_popup.asp?ID=155681

[4]The exam was composed of 50 multiple-choice questions which were previously evaluated for accuracy, internal-consistency, and item discrimination. A week prior to the exam, students were provided with a review outline of the course material on which the exam was based.

[5]This sample represents the total number of students who completed the surveys, the psychometric instrument, and the examination. Nine additional students enrolled in the course failed to complete one or more of these items. Examination of the data did not reveal any evidence of systematic bias due to self-selection and the sample attrition was assumed to be random.

[6]Interestingly, the *ASES* item with the highest mean confidence score was also the item with the lowest stress score – "Getting along with family members." Thus, in the era of "helicopter parents," Generation Z students feel extremely secure within their familiar environment – a domain in which Baby Boomers and other generations may not have shared the same feelings.

[7]Numerous alternative specifications of the equation were estimated to ensure the model's stability and reliability of the results and conclusions.

[8]This result is also consistent with the Dunning-Kruger effect which suggests that people without established competence in a subject also lack the metacognitive skills to recognize their incompetence (Kruger & Dunning, 1999).

[9] Kader (2016) also found that manifestations of another form of anxiety, "debilitating test anxiety," had significant negative effects on student performance.

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Table 1

Selected Characteristics of Student Sample

Characteristic	Percentage or Mean
Gender:	
Male	55.24%
Female	44.76%
Race:	
White	85.71%
Black	2.86%
Other	12.42%
Age:	
Years	20.47 (5.05)
Academic:	
ACT Composite Score	22.19 (3.36)
GPA (4-point scale)	3.25 (0.21)
Credit Hours Completed	34.74 (27.96)
Weekly Study Hours per Course	2.18 (1.75)
Study Hours for Course Exam	4.48 (2.90)
Took High School Economics	40.00%
Plan to Take More Economics	15.24%
College of Major:	
Arts and Sciences	43.81%
Technology	34.28%
Education	15.23%
Business	6.67%

Living Arrangement:	
Alone	8.57%
Roommate(s)	75.24%
Family/Spouse/Partner	16.19%
Living Distance:	
On-Campus	40.00%
Off-Campus	48.58%
Commute	11.42%
Social:	
Fraternity or Sorority	22.00%
Number of Campus Organizations	0.97 (1.32)
Alcoholic Drinks per Week	5.21 (9.96)
Voted in Last Presidential Election	47.62%
Performance Self-Efficacy:	
Expected Examination Score	79.73 (7.93)
Actual Examination Score	74.08 (14.37)
Expected Course Grade	2.92 (0.77)
Actual Course Grade	2.65 (1.12)
Number of Observations	105

Note: ( ) – Standard Deviation

Table 2

Mean Student Scores: *Academic Self-Efficacy and Stress*

Inventory Item	How Confident	How Stressful	Difference	t-Value
Interaction at School:				
Asking questions in class	4.96 (2.65)	4.84 (2.74)	0.12	0.32 [0.75]
Making friends at school	6.54 (2.66)	3.28 (2.99)	3.26	8.35 [<0.01]
Talking to my professors	6.09 (2.26)	3.66 (2.67)	2.43	7.12 [<0.01]
Getting help and information at school	5.99 (2.33)	3.91 (2.61)	2.08	6.09 [<0.01]
Talking to college staff	6.09 (2.27)	3.70 (2.67)	2.39	6.99 [<0.01]
Participating in class discussions	5.78 (2.63)	3.99 (2.66)	1.79	4.90 [<0.01]
Understanding college regulations	7.26 (2.42)	2.64 (2.19)	4.62	14.51 [<0.01]
Total:	42.64 (12.90)	26.01 (13.39)	16.63	9.17 [<0.01]
Academic Performance Out of Class:				
Studying	5.70 (2.22)	5.25 (2.33)	0.45	1.43 [0.15]
Keeping up with the required readings	5.18 (2.16)	4.74 (2.26)	0.44	1.44 [0.15]
Writing term papers	6.07 (2.19)	5.88 (2.68)	0.19	0.56 [0.57]
Getting papers done on time	6.50 (2.32)	5.29 (2.75)	1.21	3.45 [<0.01]
Preparing for exams	5.32 (2.26)	6.13 (2.40)	-0.81	-1.44 [0.15]
Improving my reading & writing skills	6.74 (2.72)	3.04 (2.36)	3.70	10.53 [<0.01]
Researching term papers	5.89 (2.73)	5.04 (2.44)	0.85	2.38 [0.02]
Understanding my textbooks	6.01 (2.35)	4.25 (3.23)	1.76	4.52 [<0.01]
Total:	47.42 (12.15)	39.61 (12.01)	7.81	4.68 [<0.01]

Academic Performance in Class:				
Doing well on exams	5.35 (2.28)	7.15 (2.29)	-1.80	-5.71 [<0.01]
Having more tests in the same week	5.00 (2.31)	6.89 (2.43)	-1.89	-5.78 [<0.01]
Getting the grades I want	5.63 (2.35)	6.51 (2.34)	-0.88	-2.72 [<0.01]
Doing well in my toughest class	4.91 (2.51)	6.78 (2.61)	-1.87	-5.29 [<0.01]
Total:	20.90 (7.60)	27.28 (7.59)	-6.38	6.09 [<0.01]
Managing Work, Family and School:				
Managing time efficiently	6.22 (2.84)	4.62 (2.50)	1.60	4.33 [<0.01]
Managing both school and work	6.23 (2.15)	5.07 (3.00)	1.16	3.22 [<0.01]
Getting along with family members	7.73 (2.85)	2.33 (2.65)	5.40	14.22 [<0.01]
Finding time to study	5.99 (2.24)	4.77 (2.53)	1.22	3.70 [<0.01]
Total:	26.17 (6.50)	16.79 (7.25)	9.38	9.87 [<0.01]
Independent Scale Items:				
Taking good class notes	6.71 (2.36)	3.70 (2.26)	3.66	9.44 [<0.01]
Understanding my professors	6.51 (2.12)	3.42 (2.10)	3.09	10.61 [<0.01]
My parents' expectations of my grades	6.27 (2.51)	5.25 (4.31)	1.02	2.10 [0.04]
Having enough money	5.07 (2.62)	6.83 (2.99)	-1.76	4.54 [<0.01]
Total:	24.56 (6.24)	19.13 (7.76)	5.43	5.59 [<0.01]
Scale Item Mean	5.99 (1.38)	4.77 (1.32)	1.19	6.39 [<0.01]
Total Scale Score Mean	161.69 (37.02)	128.82 (35.12)	32.87	6.41 [<0.01]

Notes: ( ) – Standard Deviation
[ ] – *p*-Value

Table 3

Variable Specifications and Descriptive Statistics

Variable	Specification	Mean
Dependent Variable:		
PREDICTIVE CALIBRATION	(Actual Examination Score – Expected Examination Score)^2 / Expected Examination Score	2.24 (3.86)
Independent Variables:		
AGE	Student's age in years	20.47 (5.05)
MALE	Student's gender is male = 1; Student's gender is female = 0	0.55 (0.50)
BLACK	Student self-identifies as black = 1; Otherwise = 0	0.03 (0.17)
ACT	Student's highest composite score on ACT exam	22.19 (3.36)
GPA	Student's cumulative grade point average, 4-point scale	3.25 (0.58)
HIGH SCHOOL ECONOMICS	Student completed high school course in economics = 1; Otherwise = 0	0.40 (0.49)
ABSENCE	Percentage of class meetings student was absent	11.67 (16.78)
BETTER	Score on Examination #2 > Score on Examination #1 = 1; Otherwise = 0	0.77 (0.42)
EXAM OVERCONFIDENCE	Expected Examination Score > Actual Examination Score = 1; Otherwise = 0	0.62 (0.49)
HIGH STRESS	Student's in-class stress index score is one standard deviation beyond the sample mean = 1; Otherwise = 0	0.20 (0.41)
HIGH SELF-EFFICACY	Student's total confidence index score is one standard deviation beyond the sample mean = 1; Otherwise = 0	0.16 (0.37)

Notes: ( ) – Standard Deviation

Table 4

Regression Results: Determinants of Predictive Calibration

Variable	**Predictive Calibration**	***t* Statistic**
CONSTANT	15.166***	4.182
AGE [-]	-0.028	-0.386
MALE [-]	-1.739***	-2.408
BLACK [+]	3.584**	1.627
ACT [-]	-0.177*	-1.498
GPA [-]	-2.178***	-3.035
HIGH SCHOOL ECONOMICS [-]	0.515	0.718
ABSENCE [+]	-0.016	-0.713
BETTER [-]	-1.567**	-1.838
EXAM OVERCONFIDENCE [+]	1.253**	1.688
HIGH STRESS [-]	-1.187*	-1.372
HIGH SELF-EFFICACY [+]	0.933	1.014
F-Statistic	4.099	
R^2	0.327	

Notes: [ ] Expected sign of coefficient.
*** Statistically significant, .10 level, one tailed test.
** Statistically significant, .05 level, one tailed test.
* Statistically significant, .01 level, one tailed test.