Supplemental Material

CBE—Life Sciences Education

Busch *et al*.

Supplemental materials for

The disproportionate impact of fear of negative evaluation on first-generation college students, LGBTQ+ students, and students with disabilities in college science courses

Carly A. Busch[1]*, Nicholas J. Wiesenthal[1]*, Tasneem F. Mohammed[1], Shauna Anderson[2^], Margaret Barstow[2^], Cydney Custalow[2^], Jas Gajewski[2^], Kristin Garcia[2^], Cynthia K. Gilabert[2^], Joseph Hughes[2^], Aliyah Jenkins[2^], Miajah Johnson[2^], Cait Kasper[2^], Israel Perez[2^], Brieana Robnett[2^], Kaytlin Tillett[2^], Lauren Tsefrekas[2^], Emma C. Goodwin[1], Katelyn M. Cooper[1]

*These authors contributed equally
^ These authors contributed equally

[1]Research for Inclusive STEM Education Center, School of Life Sciences, Arizona State University, Tempe, AZ, 85287

[2]Biology Education Research Course, School of Life Sciences, Arizona State University, Tempe, AZ, 85287

This supplement contains the following:

Copy of survey questions

How many **large-enrollment** IN-PERSON college science courses have you enrolled in with whole-class discussions?

- None
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10+

Students were asked on a 5-point-Likert scale from Not at all characteristic of me (1) to Extremely characteristic of me (5) to rate each scenario based on their experiences. This scale included the following variables: Not at all characteristic of me, Slightly characteristic of me, Moderately characteristic of me, Very characteristic of me, Extremely characteristic of me.

Please answer the following questions about your experiences in your large-enrollment (100 students or more) college science courses at [institution].

- I worry about what my classmates in large-enrollment college science courses will think of me even when I know it doesn't make any difference.
- I am frequently afraid of my classmates in my large-enrollment college science courses noticing my shortcomings.
- I am afraid that my classmates in my college science courses will not approve of me.
- I am afraid that my classmates in my large-enrollment college science courses will be critical of me.
- When I am talking with a classmate in my large-enrollment college science courses, I worry about what they may be thinking about me.
- I am usually worried about what kind of impression I make in my large-enrollment college science courses.
- Sometimes I think I am too concerned with what my classmates think of me in my large-enrollment college science courses.
- I often worry that I will say or do the wrong things in my large-enrollment college science courses.

Based on your experiences in large-enrollment college science courses (100 students or more) that have opportunities for students to speak in front of the whole class, please indicate if you have ever experienced each of the following scenarios.

- I was called on to answer a question in front of the whole class without being able to talk to a neighbor.

- I was called on to answer a question in front of the whole class after getting to talk with a neighbor about the question.
- I was called on to answer a question on behalf of my group in front of the whole class.
- I voluntarily answered a question in front of the whole class.
- I voluntarily asked a question in front of the whole class.
- I have presented in front of the whole class by myself.
- I have presented in front of the whole class in a group.

Students were asked on a 5-point sliding scale from Not at all (0) to Extremely (4) to rate each scenario based on their experiences. This scale included the following variables: Not at all, A little, Somewhat, Very, Extremely.

Please answer the following questions based on your experiences in large-enrollment college science courses (100 students or more) that have opportunities for students to speak in front of the whole class.

- I worry other students would judge me if I were to answer a question in front of the whole class without being able to talk to a neighbor.
- I worry other students would judge me if I were to answer a question in front of the whole class after getting to talk with a neighbor about the question.
- I worry other students would judge me if I were to answer a question on behalf of my group in front of the whole class.
- I worry other students would judge me if I were to voluntarily answer a question in front of the whole class.
- I worry other students would judge me if I were to voluntarily ask a question in front of the whole class.
- I worry other students would judge me if I were to present in front of the whole class by myself.
- I worry other students would judge me if I were to present in front of the whole class in a group.

Students were asked on a 6-point sliding scale from Extremely unlikely (0) to Extremely likely (5) to rate each scenario based on their experiences. This scale included the following variables: Extremely unlikely, Unlikely, Somewhat unlikely, Somewhat likely, Likely, Extremely likely.

Based on your experiences in large-enrollment college science courses (100 students or more) that have opportunities for students to speak in front of the whole class, indicate how likely it would be for **others to judge you negatively** based on each of the following behaviors.

- Asking too many questions
- Answering too many questions
- Making too many comments (e.g., debating with the instructor)
- Not contributing in class
- Not appearing engaged
- Falling asleep in class
- Coming in late or leaving early

- Talking while the instructor is talking
- Providing the correct answer
- Providing the incorrect answer
- How I look (If I blush, I sweat, I have a visible disability, I'm insecure about my appearance)
- How I speak (I stutter, I don't use big words, I have an accent, English is my second language, I don't know the vocabulary)

Students were asked on a 6-point sliding scale from Extremely unlikely (0) to Extremely likely (5) to rate each scenario based on their experiences. This scale included the following variables: Extremely unlikely, Unlikely, Somewhat unlikely, Somewhat likely, Likely, Extremely likely.

Based on your experiences in large-enrollment college science courses (100 students or more) that have opportunities for students to speak in front of the whole class, please indicate how likely **you are to negatively judge another student** based on each of the following behaviors.

- Asking too many questions
- Answering too many questions
- Making too many comments (e.g., debating with the instructor)
- Not contributing in class
- Not appearing engaged
- Falling asleep in class
- Coming in late or leaving early
- Talking while the instructor is talking
- Providing the correct answer
- Providing the incorrect answer
- How they look
- How they speak

Students were asked on a 5-point sliding scale from Never (0) to Always (4) to rate each scenario based on their experiences. This scale included the following variables: Never, Rarely, Sometimes, Often, Always.

Based on your experiences in large-enrollment college science courses (100 students or more) that have opportunities for students to speak in front of the whole class, **when you worry other students are judging you negatively**, how likely are you to:

- Prepare more
- Struggle to think through science problems in class
- Struggle to clearly articulate your thoughts when contributing to discussions
- Participate less
- Overthink your responses in discussions
- Consider dropping the course
- Intentionally make an effort to bolster your reputation with the individual(s) that you perceive are judging you

Based on your experiences in large-enrollment college science courses (100 students or more) that have opportunities for students to speak in front of the whole class, which of the following things could your instructor do to **lessen** how much **you worry about other students judging you negatively**? Please select all that apply.

- Facilitate getting to know other students in the class
- Constructively respond to student answers (i.e., positively reframe a student's incorrect answer)
- Demonstrate that they're open to students asking questions
- Build a relationship with students
- Give students options to work alone instead of in a group
- Provide supplies students will need in class (or provide support for students to have needed supplies)
- Allow students to choose where they sit (i.e., no assigned seating)
- Avoid harsh criticism
- Express understanding of students' mental health
- Be conscientious about facial expressions and body language when talking with students
- Take volunteers rather than calling on students to share out to the whole class
- Avoid adding attention to minor class disruptions
- Accept late work
- Foster a collaborative rather than competitive environment
- Provide clear information about due dates so students can avoid being the only one not turning something in or having to ask a clarifying question
- Keep grades confidential
- Do not hover over students while they're taking an exam
- Personally participate in group conversations during group work

With regard to gender, I most closely identify as:

- Man
- Woman
- Gender-queer or non-binary
- A gender not listed, please describe
- Decline to state

I *most closely* identify as:

- American Indian or Alaska Native
- Asian or Asian American
- Black or African American
- Hispanic, Latino/a, or of Spanish Origin
- Native Hawaiian
- Pacific Islander
- White
- Other, please describe
- Decline to state

What is your parent's highest completed level of education? If you have more than one parent with differing levels of education, choose the parent with the highest completion level.

- Did not complete high school
- High school diploma or GED
- Some college but no degree
- Associate degree (for example: AA, AS)
- Bachelor's degree (for example: BA, BS)
- Master's degree (for example: MA, MS, MEd, MSW, MBA)
- Higher than a Master's degree (for example: PhD, MD, JD)
- Other, please describe
- Decline to state

During the time you have been pursuing your undergraduate program, have you considered yourself financially stable (i.e., having enough money for necessities such as groceries and rent)?

- Yes
- Yes, but only sometimes
- No
- Decline to state

Are you an international student?

- Yes
- No
- Decline to state

Select the major that is closest to yours. If you have more than one major, please choose all that apply.

- Biology
- Geosciences
- Physics
- Chemistry
- Engineering
- Math
- Computer science
- Another STEM major, please describe
- A major outside of science, technology, engineering, or math

What is your age?

Do you identify as a member of the LGBTQ+ community?

- Yes
- No
- Decline to state

Do you identify as having a disability?

- Yes
- No

- Decline to state

If yes
Please select which disabilities you identify with having (select all that apply)
- Learning disability (e.g., autism, dyslexia)
- Physical disability (e.g., cerebral palsy, spina bifida)
- Chronic health conditions (e.g., cancer, diabetes)
- Vision-related disability (e.g., blindness)
- Hearing-related disability (e.g., deafness)
- Anxiety or depression
- Other mental health or psychological disabilities (e.g., bipolar disorder, anorexia nervosa)
- Decline to state

Please indicate how you most closely identify. You do not need to have a formal diagnosis to identify as having currently or previously struggled with depression or a depressive disorder.

- Currently or having previously struggled with depression or a depressive disorder
- Having never struggled with depression
- Decline to state

Have you been formally diagnosed with depression or a depressive disorder?
- Yes
- No
- Prefer not to say

Are you currently being treated, or have you previously been treated for depression or a depressive disorder? Select all that apply.
- Medication
- Counseling/therapy (e.g., working with a psychologist or therapist)
- Other, please describe
- I am not/have not been treated for depression
- Prefer not to say

Please indicate how you most closely identify. You do not need to have a formal diagnosis to identify as having currently or previously struggled with anxiety or an anxiety disorder.
- Currently or having previously struggled with anxiety or an anxiety disorder
- Having never struggled with an anxiety disorder
- Prefer not to say

Have you been formally diagnosed with anxiety or an anxiety disorder?
- Yes
- No
- Prefer not to say

Are you currently being treated, or have you previously been treated for anxiety or an anxiety disorder? Select all that apply.
- Medication

- Counseling/therapy (e.g., working with a psychologist or therapist)
- Other, please describe
- I am not/have not been treated for anxiety
- Prefer not to say

CFA Results

We collected descriptive statistics to assess the normality of each BFNE item and found no deviations from normality (Supplemental Table 1). Our modified BFNE measure displayed excellent internal consistency (Omega total= 0.96, (Kline, 2015)).

We conducted a CFA to collect validity evidence that the BFNE scale functions as a single latent factor in our student population. Modification indices indicated a strong correlation between items BFNE_3 ("I am afraid that my classmates in my college science courses will not approve of me") and BFNE_4 ("I am afraid that my classmates in my large-enrollment college science courses will be critical of me"), as well as between BFNE_6 ("I am usually worried about what kind of impression I make in my large-enrollment college science courses") and BFNE_7 ("Sometimes I think I am too concerned with what my classmates think of me in my large-enrollment college science courses"). Because these item pairs are worded similarly and measure very close ideas, we conducted a second CFA, allowing BFNE_3 to correlate with BFNE_4, and BFNE_6 to correlate with BFNE_7. Fit indices for this second model indicate that the BFNE scale is functioning appropriately to measure FNE in our student population (Supplemental Table 2). Using Bartlett's method (DiStefano et al., 2009), factor scores weighted to reflect model factor loadings were calculated for each participant to use in further analyses.

Supplemental Table S1. Descriptive Statistics of Revised BFNE Items*

Item	Mean	Standard Deviation	Median	Minimum	Maximum	Skew	Kurtosis
BFNE_1	2.48	1.24	2	1	5	0.39	-0.88
BFNE_2	2.32	1.33	2	1	5	0.57	-0.94
BFNE_3	2.06	1.26	2	1	5	0.94	-0.3
BFNE_4	2.31	1.3	2	1	5	0.59	-0.82
BFNE_5	2.31	1.24	2	1	5	0.58	-0.74
BFNE_6	2.44	1.24	2	1	5	0.46	-0.82
BFNE_7	2.29	1.32	2	1	5	0.63	-0.86
BFNE_8	2.59	1.32	2	1	5	0.35	-1.03

*Skewness and kurtosis values less than an absolute value of 2.0 are generally considered to meet assumptions of normality (Hancock 2018).

Supplemental Table S2. Confirmatory Factor Analysis

Fit Indices	Data-Model Fit	Accepted Cutoff*
Chi-square	86.15, df=18, p=0.00	p>0.05
SRMR	0.026	≤ 0.080
CFI	0.972	≥ 0.950
TLI	0.956	≥ 0.950
RMSEA (90% confidence)	0.107 (0.085-0.130)	≤ 0.080

*As suggested by (Hancock et al., 2018). Though the chi-square test indicates poor model fit, this test is widely considered to be overly stringent and nearly always fails with larger sample sizes. The RMSEA also indicates poor model fit, but other fit indices (SRMR, CFI, and TLI) indicate acceptable model fit.

Supplemental Table S3**. Finding 1:** Full regression results for model of overall FNE score by the participant's gender, race, college generation status, LGBTQ+ status, disability status, and status as an international student.

Predictor	**beta**	**SE**	***p***
(Intercept)	-0.317	0.107	0.003
Gender - Not man	0.182	0.103	0.078
Race - Asian	0.015	0.117	0.899
Race - PEER	-0.048	0.114	0.673
First-gen - Yes	0.229	0.096	0.018
LGBTQ+ - Yes	0.459	0.124	< .001
Disability - Yes	0.442	0.199	0.027
International - Yes	0.073	0.221	0.742

Supplemental Table S4. **Finding 2:** Summary statistics for ratings for 7 responses to experiencing fear of negative evaluation.

Response	**Mean**	**SD**
Prepare more	2.010	1.185
Struggle to think	1.705	1.253
Struggle to speak	1.898	1.273
Participate less	2.262	1.397
Overthink	2.315	1.358
Drop the course	0.719	1.049
Repair reputation	0.952	1.059

Supplemental Table S5. **Finding 2:** Full regression results for 7 responses to experiencing FNE and students' gender, first-generation status, LGBTQ+ status, and disability status.

Response	Predictor	beta	SE	p^a
Prepare more	(Intercept)	1.784	0.111	< .001
	Gender – not man	0.194	0.117	0.097
	First-gen - Yes	0.233	0.105	0.027
	LGBTQ+ - Yes	0.049	0.141	0.730
	Disability - Yes	0.103	0.229	0.654
Struggle to think	(Intercept)	1.184	0.116	< .001
	Gender – not man	0.455	0.122	< .001
	First-gen - Yes	0.316	0.110	0.004
	LGBTQ+ - Yes	0.361	0.148	0.015
	Disability - Yes	0.184	0.240	0.444
Struggle to speak	(Intercept)	1.345	0.118	< .001
	Gender – not man	0.492	0.124	< .001
	First-gen - Yes	0.226	0.112	0.043
	LGBTQ+ - Yes	0.507	0.150	0.001
	Disability - Yes	0.327	0.243	0.180
Participate less	(Intercept)	1.810	0.129	< .001
	Gender – not man	0.431	0.135	0.002
	First-gen - Yes	0.014	0.122	0.910
	LGBTQ+ - Yes	0.718	0.164	< .001
	Disability - Yes	0.180	0.266	0.497
Overthink	(Intercept)	1.641	0.123	< .001
	Gender – not man	0.705	0.130	< .001
	First-gen - Yes	0.170	0.117	0.146
	LGBTQ+ - Yes	0.425	0.157	0.007
	Disability - Yes	0.434	0.254	0.088
Drop the course	(Intercept)	0.435	0.099	< .001
	Gender – not man	0.203	0.104	0.052
	First-gen - Yes	0.271	0.094	0.004
	LGBTQ+ - Yes	0.128	0.126	0.311
	Disability - Yes	0.033	0.205	0.872
Repair reputation	(Intercept)	0.990	0.100	< .001
	Gender – not man	-0.056	0.105	0.597
	First-gen - Yes	0.055	0.095	0.566
	LGBTQ+ - Yes	-0.092	0.128	0.474
	Disability - Yes	-0.126	0.207	0.542

[a] Bonferroni correction for the 4 comparisons (predictors) per regression makes alpha threshold for significance .0125.

Supplemental Table S6. **Finding 3:** Summary statistics for FNE ratings for 7 social evaluative practices, overall and disaggregated by whether the student had participated in the practice.

	Overall			**Have participated**			**Have not participated**		
Activity	Mean	SD	Median	Mean	SD	Median	Mean	SD	Median
Present alone	2.01	1.42	2.00	1.73	1.31	2.00	2.10	1.43	2.00
Voluntarily answer a question	1.61	1.36	1.40	1.21	1.21	1.40	1.98	1.38	1.40
Voluntarily ask a question	1.55	1.33	1.30	1.08	1.16	1.30	1.91	1.34	1.30
Cold call	1.82	1.33	2.00	1.96	1.34	2.00	1.78	1.33	2.00
Present in a group	1.54	1.28	1.40	1.44	1.21	1.40	1.59	1.31	1.40
Warm call	1.42	1.2	1.10	1.29	1.12	1.10	1.48	1.23	1.10
Group call	1.37	1.21	1.00	1.44	1.22	1.00	1.32	1.21	1.00

Supplemental Table S7. **Finding 3:** Full regression results for models of FNE scores in 7 social evaluative practices by the participant's experience with the practice, gender, college generation status, LGBTQ+ status, and disability status.

Social evaluative practice	**Predictor**	**beta**	**SE**	***p*[a]**
Present alone	(Intercept)	1.577	0.136	< .001
	Experience with practice- Yes	-0.289	0.148	0.051
	Gender - Not man	0.477	0.138	0.001
	First-gen - Yes	0.188	0.124	0.129
	LGBTQ+ - Yes	0.504	0.167	0.003
	Disability - Yes	0.463	0.270	0.087
Cold call	(Intercept)	1.285	0.128	< .001
	Experience with practice- Yes	0.184	0.143	0.198
	Gender - Not man	0.519	0.130	< .001
	First-gen - Yes	0.163	0.117	0.165
	LGBTQ+ - Yes	0.316	0.158	0.046
	Disability - Yes	0.532	0.256	0.038
Voluntarily answer a question	(Intercept)	1.761	0.140	< .001
	Experience with practice- Yes	-0.800	0.115	< .001
	Gender - Not man	0.174	0.129	0.180
	First-gen - Yes	0.108	0.116	0.355
	LGBTQ+ - Yes	0.385	0.156	0.014
	Disability - Yes	0.193	0.253	0.445
Voluntarily ask a question	(Intercept)	1.543	0.133	< .001
	Experience with practice- Yes	-0.823	0.112	< .001
	Gender - Not man	0.353	0.125	0.005
	First-gen - Yes	0.159	0.113	0.160
	LGBTQ+ - Yes	0.235	0.151	0.120
	Disability - Yes	0.578	0.245	0.019
Present with a group	(Intercept)	1.159	0.125	< .001
	Experience with practice- Yes	-0.158	0.116	0.176
	Gender - Not man	0.440	0.125	< .001
	First-gen - Yes	0.146	0.113	0.194
	LGBTQ+ - Yes	0.268	0.151	0.077
	Disability - Yes	0.788	0.245	0.001
Warm call	(Intercept)	1.139	0.122	< .001
	Experience with practice- Yes	-0.188	0.113	0.097
	Gender - Not man	0.363	0.119	0.002
	First-gen - Yes	0.085	0.106	0.424

	LGBTQ+ - Yes	0.198	0.144	0.169
	Disability - Yes	0.588	0.232	0.012
Group call	(Intercept)	0.966	0.126	< .001
	Experience with practice- Yes	0.103	0.109	0.343
	Gender - Not man	0.358	0.121	0.003
	First-gen - Yes	0.111	0.108	0.305
	LGBTQ+ - Yes	0.283	0.146	0.054
	Disability - Yes	0.472	0.236	0.047

[a] Bonferroni correction for the 5 comparisons (predictors) per regression makes alpha threshold for significance .01.

Supplemental Table S8. Summary statistics for ratings for 12 behaviors and the extent to which students would judge peers for exhibiting the behaviors and whether they worry others would judge them.

	Worry others would judge them			**Would judge others**		
Behavior	Mean	SD	Median	Mean	SD	Median
Ask too many questions	2.51	1.54	2.80	1.61	1.43	1.20
Answer too many questions	2.07	1.57	2.00	1.26	1.35	0.90
Make too many comments	2.92	1.71	3.20	2.29	1.69	2.20
Not contribute	1.24	1.36	0.90	0.90	1.19	0.30
Disengaged	1.25	1.28	1.00	0.90	1.14	0.40
Sleeping	1.84	1.62	1.70	1.23	1.42	0.80
Arriving late/leaving early	1.92	1.54	2.00	1.12	1.30	0.70
Talking	2.62	1.65	2.80	2.51	1.69	2.50
Providing correct answer	1.01	1.27	0.40	0.54	0.91	0.10
Providing incorrect answer	2.17	1.55	2.00	0.89	1.12	0.40
Looks	1.93	1.65	1.60	0.61	0.96	0.10
Speech	1.97	1.63	1.90	0.66	1.02	0.10

Supplemental Table S9. **Finding 4:** Full results for paired t-tests for ratings for 12 behaviors and the extent to which students would judge peers for exhibiting the behaviors and whether they worry others would judge them.

Behavior	**t-value**	**df**	***p*[a]**
Answer	-13.239	555	< .001
Ask	-14.938	558	< .001
Comment	-9.909	554	< .001
Contribute	-6.045	550	< .001
Engaged	-6.124	551	< .001
Sleep	-8.996	556	< .001
Late	-12.851	557	< .001
Talking	-1.839	557	0.066
Correct	-10.593	555	< .001
Incorrect	-20.321	555	< .001
Look	-18.235	549	< .001
Speech	-18.228	549	< .001

[a] Bonferroni correction for 12 tests results in alpha threshold for significance of .004.

Supplemental Table S10. Mean FNE scores for behaviors related to which voices/perspectives are heard during class disaggregated by demographic characteristics. Non-minoritized groups are denoted with gray shading. **Bold** indicates that the non-minoritized group reported lower FNE for the behavior.

Demographic group	Behavior related to perspectives heard during class				
	Answer too many questions	Ask too many questions	Comment	Correct answer	Incorrect answer
Woman/non-binary	2.19	2.62	2.97	0.96	2.28
Man	**1.78**	**2.22**	**2.79**	1.17	**1.91**
Asian	1.96	2.38	2.74	1.04	2.10
PEER	2.06	2.64	2.94	0.91	2.20
White	2.15	2.53	3.03	**0.99**	2.20
First-gen	2.05	2.56	2.85	1.06	2.29
Not first-gen	2.12	**2.51**	3.00	**0.98**	**2.10**
LGBTQ+	2.25	2.95	3.45	0.78	2.83
Not LGBTQ+	**2.07**	**2.45**	**2.85**	1.08	**2.10**
Disability	2.80	3.12	3.48	1.20	2.72
No disability	**2.06**	**2.50**	**2.91**	**1.00**	**2.16**
International student	2.29	2.22	2.31	1.50	2.10
Not international	**2.08**	2.55	2.97	**0.97**	2.20

Supplemental Table S11. Full results for regression analyses for FNE ratings for the 5 behaviors that affect whose perspectives are heard during class and students' gender, first-generation status, LGBTQ+ status, and disability status.

Behavior	Predictor	beta	SE	p^a
Answer too many questions	(Intercept)	1.805	0.148	<.001
	Gender – not man	0.377	0.155	0.016
	First-gen - Yes	-0.076	0.140	0.588
	LGBTQ+ - Yes	0.146	0.189	0.441
	Disability - Yes	0.685	0.306	0.026
Ask too many questions	(Intercept)	2.159	0.142	<.001
	Gender – not man	0.364	0.149	0.015
	First-gen - Yes	0.027	0.134	0.844
	LGBTQ+ - Yes	0.510	0.181	0.005
	Disability - Yes	0.487	0.294	0.098
Make too many comments	(Intercept)	2.819	0.159	<.001
	Gender – not man	0.135	0.167	0.420
	First-gen - Yes	-0.210	0.151	0.164
	LGBTQ+ - Yes	0.646	0.203	0.002
	Disability - Yes	0.420	0.329	0.203
Give a correct answer	(Intercept)	1.117	0.119	<.001
	Gender – not man	-0.110	0.125	0.378
	First-gen - Yes	0.052	0.113	0.645
	LGBTQ+ - Yes	-0.344	0.152	0.024
	Disability - Yes	0.252	0.246	0.306
Give an incorrect answer	(Intercept)	1.732	0.144	<.001
	Gender – not man	0.325	0.151	0.031
	First-gen - Yes	0.205	0.136	0.131
	LGBTQ+ - Yes	0.780	0.183	<.001
	Disability - Yes	0.368	0.296	0.214

[a] Bonferroni correction for the 4 comparisons (predictors) per regression makes alpha threshold for significance .0125.