Comparison of Freshman Baseline with First Year Seminar Assessment Results

Academic Year 2019 – 2020

We dedicate this report to the memory of Professor Joan St. Germain, who was a dedicated member of this Team for seven years (from 2013-2019). We miss her!!

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Executive Summary

Background

Recommendations from the 2019 Assessment Team (with current status in red)

1. The Assessment Team recommends that a consistent format and rhetorical situation be adopted for all baseline and FYS scenarios. This year there were different formats, e.g., some scenarios asked students to write an essay, others a memo, and one asked that students develop a lesson plan. The lesson plan scenario resulted in depressed scores for all traits of Inquiry-Based (Critical) Thinking. The team felt that it was

important that all scenarios allow students to grapple with a question, issue, or problem that has at least two possible answers or solutions. The format must allow the students to justify their position/recommendation by using evidence (which they have to carefully evaluate for relevance and credibility), by considering multiple points of view and potential consequences of the recommendation they make. Although not all scenarios had a consistent format, all scenarios this year had an expected format clearly articulated with examples given. All required students to develop a recommendation or position. Most notably, the format for one scenario, which the team felt last year did not provide an opportunity for students to produce a strong response that aligned with the rubric traits, was revised this year to align more nearly with the rubric.

2. The Assessment Team realizes the challenges of developing strong *authentic* scenarios that will engage students in significant critical thinking/problem solving. They further recognize the challenges of finding significant sources that are of uniform page length across multiple scenarios. For this reason, the team strongly suggests that the baseline and FYS exercises be divided into two parts. The first part should not be timed and should occur before the student takes the final part of the assessment. During Part I of the assessment, students should read each document thoroughly and evaluate each for credibility and relevance. They should also include a short summary of each document. For the second part of the assessment, which (for FYS) occurs during a two-hour time block during Marshall's final exam week, students should bring their notes regarding each document, the documents themselves, and their summaries and evaluations of each document regarding its credibility and relevance. Then, during Part II of the assessment, students should complete the section of the assessment that asks them to outline additional information they would like to have to propose an answer or solution. Finally, with the information they have, they should write their recommendation in the format required. Although we realize that, due to scheduling constraints, all students in each section of UNI 100 cannot complete baseline assessments at the same time, we recommend that, when students begin Part II of the assessment, Blackboard provide them with only a two-hour window to complete the exam to make it compatible with the timeframe for FYS exams. The Assessment Team hopes that this process will provide students with enough time to carefully read and evaluate each document and that students will have sufficient time to thoughtfully prepare their recommendations. The team feels that we should explore the possibility of a similar time sequence for the baseline assessment, which must occur in UNI 100 during the first week of the fall term. Although these recommendations were not implemented, the scenarios used for FYS this year did not vary as widely in document length as they had in previous years. Also, our analysis found no significant difference in student performance across scenarios for any trait *except* for *Communication Fluency*: convention/format, which is not an outcome of FYS. Further discussion among Assessment Team members in summer 2020 revealed that, due to COVID-19, student enrolled in FYS during spring 2020 had one day to complete the final assessment. The reason for this was that all were given online. This arrangement, which will continue in fall 2020, will allow the methods by which students complete baseline and FYS assessments to be more uniform. Please refer to the first recommendation at the end of this report.
3. The Assessment Team's final recommendation is that the timeframe to complete baseline assessments be extended through week two of the fall semester. This will enable students who enroll in UNI 100 after the first week to complete the assessment and give all students enough time to complete both parts of the task. This recommendation was implemented in fall 2019.

Procedures for 2020 Assessment

General Procedures

In August 2019, 1,362 incoming freshmen at Marshall University uploaded baseline assessments into Blackboard as part of their assignments for Freshman First Class (UNI 100). These assessments required students to analyze and evaluate information, solve problems, and write effectively. These skills are aligned to three of Marshall University's outcomes; *Information Literacy*, *Inquiry-Based (Critical) Thinking*, and *Communication Fluency*. Freshmen completing Marshall's mandatory First Year Seminar in Critical Thinking (FYS) completed assessments that mirrored those they finished as incoming freshmen.

In May 2020 a group of eight faculty representing several academic colleges from across the university evaluated a sample of Marshall's assessment artifacts using a rubric that allowed them to score each artifact across eight criteria (traits). These traits included information needed and source acknowledgment (*Information Literacy*), evidence, viewpoints, and recommendation/position (I*nquiry-Based [Critical] Thinking*), and development, convention/format, and communication style (*Communication Fluency*). This project was coordinated by the Office of Assessment and Quality Initiatives.

A random sample of 200 (15%) of Marshall's baseline assessments was drawn from the pool of 1,362 assessments available. However, twenty-three (23) of these assessments could not be scored for one of three reasons.

Reason	Number of students
Uploaded baseline assessments were completely blank	13
Uploaded baseline assessments were completed in a format that assessors could not open	8
A document other than the baseline assessment was uploaded in error	2
Total unable to be scored on any trait	**23**
Uploaded baseline assessments were missing the third part of the assignment, which aligned to seven of our rubric traits	14
Total unable to be scored on the last seven traits	**37**

This left 163 artifacts able to be scored for all traits, with an additional 14 able to be scored for the first trait (*Information Literacy*: information needed) only. Please refer to the supporting documentation for means that include all of the scorable baseline assessments.

Of the 177 students who at least partially completed a baseline assessment that assessors were able to open, 47 did not complete FYS assessments during academic year 2019-2020, and one student with a scorable baseline assessment uploaded an FYS assessment in a format assessors could not open. This reduced the number of pre-test/post-test pairs for analysis to 129. Of these 129 pairs, eight only partially

completed the baseline, answering only the part that aligned to *Information Literacy*: information needed. This reduced the number of complete baseline/FYS comparisons to 121.

The reasons for the forty-seven students who did not upload FYS exams are as follows:

Reason	Number of students
Completed FYS with a grade, but did not submit FYS assessments to Blackboard	13
Received a grade of "F" or "NC" for FYS and are enrolled in FYS again in fall 2020	2
Withdrew from FYS and are not currently registered for Marshall's Fall 2020 Term	3
Withdrew from Marshall University after fall 2019	9
Withdrew from Marshall University after spring 2019	1
Have not taken FYS, but are registered for FYS in fall 2020	8
Have not taken FYS and are no longer enrolled at Marshall University	8
Have not taken FYS; are enrolled at Marshall in fall 2020, but not registered for FYS	2
Completed Yeager Seminar rather than FYS	1
Total	**47**

All assessments were de-identified and each assessment had two independent raters. Please see the supporting documentation that follows this summary for a detailed explanation of scoring procedures.

Results and Analysis

Comparison of Freshman Baseline to Results at the End of FYS

The baseline and FYS means (and standard deviations) for the 129 students in the sample with scorable baseline and FYS exams aligned to *Information Literacy*: information needed and for the 121 students in the sample with scorable baseline and FYS exams aligned to the remaining seven traits are reported below. Please note that, for students with scorable baseline and FYS (i.e., pre-post) assessments, *paired-samples t-tests* using adjusted alpha levels to control for Type I error (.025 for I*nformation literacy*), (.017 for *Inquiry-Based [Critical] Thinking*), and (.017 for *Communication Fluency*) showed significant mean differences between freshman baseline and FYS results for all traits. We note that all comparisons reached statistical significance, i.e. on average, students performed significantly better at the end of FYS on each trait of every outcome than they had on their baseline assessments. We further note that *Communication Fluency* is not an outcome of FYS.

Outcome	Trait	Baseline Mean (*SD*)	FYS Mean (*SD*)	Statistical Significance
Information Literacy	**Information Needed**	2.116 (0.6688)	2.519 (0.6477)	$t(128) = -4.983$, $p < .001$
	Source Acknowledgment	1.355 (0.3843)	2.471 (0.8834)	$t(120) = -12.884$, $p < .001$
Inquiry-Based (Critical) Thinking	**Evidence**	1.798 (0.6211)	2.360 (0.6808)	$t(120) = -7.884$, $p < .001$
	Viewpoints	1.847 (0.5732)	2.198 (0.4851)	$t(120) = -5.966$, $p < .001$
	Recommendation/Position	2.252 (0.6361)	2.471 (0.5996)	$t(120) = -2.847$, $p = .005$
Communication Fluency	**Development**	2.029 (0.6901)	2.446 (0.7095)	$t(120) = -5.582$, $p < .001$
	Convention/Format	2.306 (0.7810)	2.566 (0.7851)	$t(120) = -2.869$, $p = .005$
	Communication Style	2.393 (0.5485)	2.591 (0.5701)	$t(120) = -3.291$, $p = .001$

Please refer to the supporting documentation for means that include the entire samples of baseline and FYS artifacts.

A frequency analysis also showed the following increases in students scoring between 2.5 and 4.0 on the rubric between baseline and FYS. Please see the supporting documentation following this summary for additional information.

Outcome	Trait	Percentage Gain in Students Scoring 2.5 to 4.0 from Baseline to FYS
Information Literacy	**Information Needed**	19%
	Source Acknowledgment	58%
Inquiry-Based (Critical) Thinking	**Evidence**	38%
	Viewpoints	19%
	Recommendation/Position	14%
Communication Fluency	**Development**	23%
	Convention/Format	11%
	Communication Style	23%

This year's results showed a significant difference in performance based on scenario used for the FYS assessments only for the trait *Communication Fluency*: convention/format. For this trait, student scores were significantly lower for the GMO Foods scenario than for the Hydraulic Fracture, Online Gaming, and Social Media scenarios. Also, gain scores between students in our sample who completed FYS in fall 2019 ($n = 62$ for the first trait and 58 for all others) and those who completed FYS in spring 2020 ($n = 67$ for the first trait and 63 for all others) did not differ significantly on any outcome trait. Please refer to the supporting documentation for additional detail.

Conclusions

The conclusions reached from this year's analysis mirror those of every analysis this team has performed since 2013. Marshall's freshmen have shown significant improvement in at least some traits of information literacy and critical thinking skills between matriculation and the

completion of First Year Seminar in Critical Thinking each year. For the past two years, students' improvement has reached statistical significance for all traits of both outcomes.

Recommendations from the 2020 Assessment Team

The Summer Assessment Team made the following recommendations:

1. That, given that both baseline and FYS assessments will be delivered via the assignment module in Blackboard Learn in fall 2020, both groups be allotted one day dedicated to completing this assessment. For baseline assessments, this day will be during the first two weeks of the term. For FYS assessments, the task will continue to be the course's final exam, given the last week of the term.
2. That we provide greater clarity to the directions that align with the *Information Literacy*: information needed part of the exam/rubric. Directions will be modified to ask students to outline additional information they need to make recommendations regarding the issues posed in their scenarios and to suggest methods as to how they will acquire this information.

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Supporting Documentation

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Comparison of Freshman Baseline and First-Year Seminar (FYS) Assessments

Academic Year 2019 - 2020

Review Procedures

- Two hundred (200) baseline critical thinking artifacts were used for this evaluation. The baseline artifact sample represented approximately 15% of the 1,362 submitted to Blackboard in fall 2019.
- Of the 200 baseline artifacts sampled, only 177 were able to be at least partially assessed and only 163 were complete. Please refer to the executive summary for more detail.
- One hundred twenty-nine (129) students with at least partially completed baseline assessments completed FYS assessments. Of these 129 students, 121 completed all parts of both their baseline and FYS assessments. Please refer to the executive summary for additional detail.

Review Procedures Continued

- Each assessment had two independent raters and scores were determined in the following manner:
  - If raters assigned the same score, that became the score for the artifact.
  - If raters' scores differed by one point, e.g. Rater 1 assigned a score of 1 and Rater 2 a score of 2, the final score was the mean, i.e. 1.5.
  - If raters' scores differed by more than one point, e.g. Rater 1 assigned a score of 1 and Rater 2 a score of 3, the raters met to discuss the rationale for their scores to see if they could agree on a score or, at minimum, scores that differed by no more than one point.
  - If raters' scores differed by more than one point and, after discussion, they were not able to resolve the differences, a third rater was assigned to review the assessment. (For this review, all raters were able to reconcile disagreements, so third raters were not needed).

Interrater Reliability

- We conducted interrater reliability analyses using the Cohen's Kappa statistical procedure. In so doing, we used the following rules, similar to those suggested by Stellmack, Kohneim-Kalkstein, Manor, Massey, & Schmitz (2009):
  - Since our scoring procedure was to average final scores between two raters when scores differed by only one point, we used that averaged score (e.g. 1.5) as the score for both raters, counting it as an agreement in the interrater reliability analysis.
  - For scores that were two or more points apart, the original score of each reviewer was used in the analysis. Therefore, these scores were counted as disagreements.

Rubric Used for Scoring

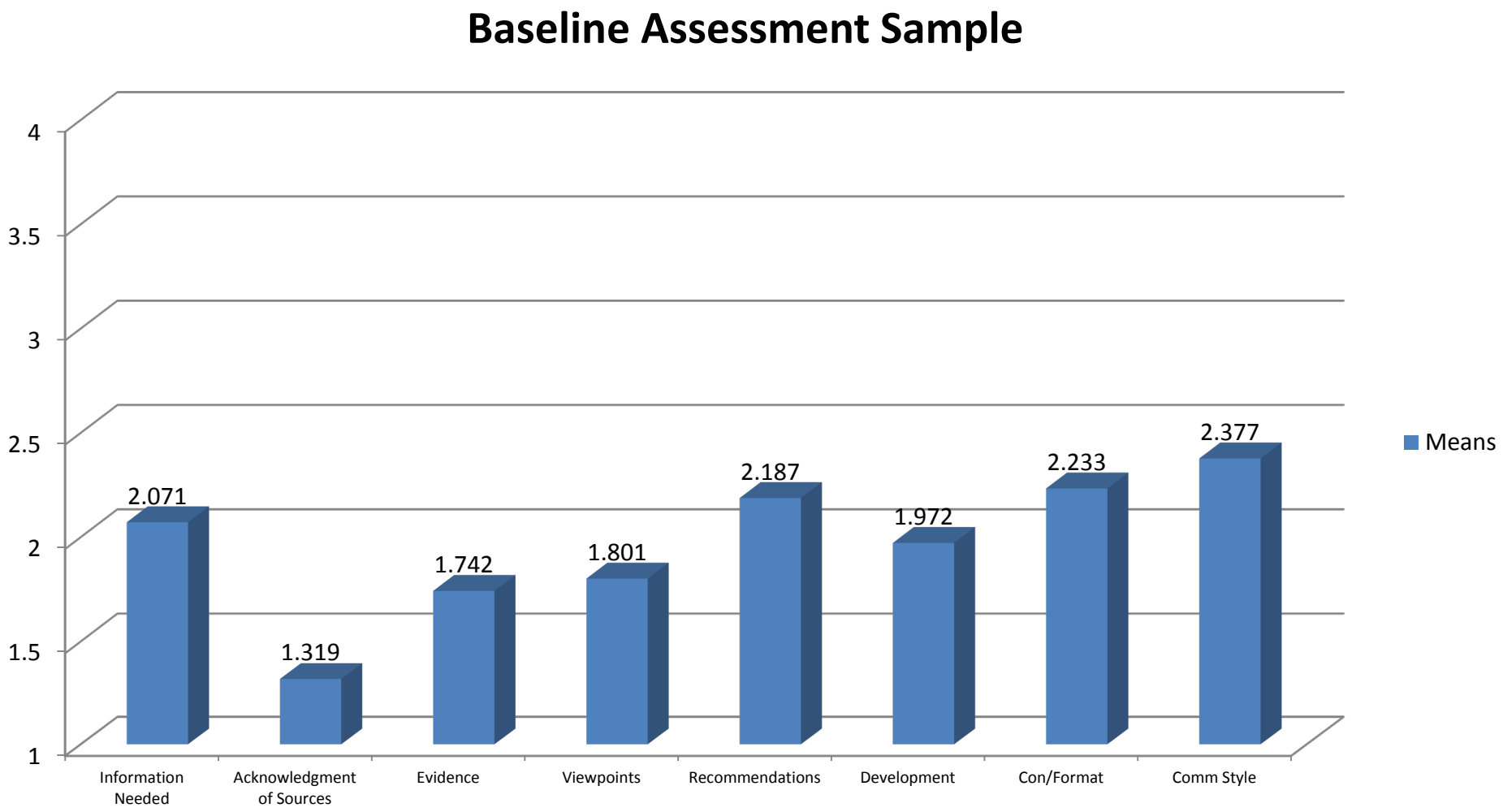
Baseline/FYS Assessment Rubric – Summer 2020 – updated 5-11-2020

Outcomes	Traits	Performance Levels			
		1	2	3	4
Information Literacy	Information Needed	Does not acknowledge or assess the need for more information.	Acknowledges the need for more information but does not identify research methods/sources (or those identified are not feasible) that would address unanswered questions.	Assesses the need for more information and recommends general research methods/sources (that are feasible) that would address some unanswered questions.	Assesses the need for more information and recommends specific research methods/sources (that are feasible) that would address most unanswered questions.
	Source Acknowledgment	Fails to acknowledge sources from the DL.	Indirectly/vaguely acknowledges some sources of information from the DL.	Clearly acknowledges multiple relevant sources of information from the DL.	Integrates relevant information from the DL. Acknowledges sources used.
Inquiry-Based Thinking	Evidence	Disregards or misunderstands evidence from the DL.	Insufficient evidence is taken from sources in the DL or evidence is used without appropriate interpretation/evaluation (i.e. poor job).	Evidence is taken from relevant and valid sources in the DL with some interpretation/evaluation, but not enough to develop a coherent analysis or synthesis (i.e. adequate job).	Evidence is taken from relevant and valid sources in the DL with enough interpretation/evaluation to develop a coherent analysis or synthesis (i.e. good/excellent job).
	Viewpoints	Ignores viewpoints expressed in the DL.	Viewpoints expressed in the DL are taken as mostly fact, with little or no question.	Questions some viewpoints expressed in the DL.	Thoroughly questions and evaluates viewpoints expressed in the DL.
	Recommendation/Position	Either does not make a recommendation (take a position) or makes a recommendation (takes a position), but does not justify it in any way.	Recommendation/position is justified, but does not acknowledge different sides of the issue.	Recommendation/position is justified and takes into account different sides/complexities of the issue.	Recommendation/position takes into account the complexities of the issue. Any limits to the recommendation are acknowledged.
Communication Fluency	Development	Shows little or no evidence of developing his/her ideas.	Shows some development of ideas.	Shows a strong, but perhaps somewhat incomplete, development of ideas.	Produces a document in which the ideas have been fully developed.
	Convention/Format	Demonstrates minimal attention to basic organization and presentation and stylistic conventions.	Demonstrates some awareness of basic organization, content, and presentation and stylistic conventions.	Demonstrates consistent use of important conventions particular to a specific writing task, including organization, content, presentation, and stylistic choices.	Demonstrates detailed attention to and successful execution of a wide range of conventions particular to a specific writing task including organization, content, presentation, formatting, and stylistic choices.
	Communication Style	Uses language that impedes meaning because of errors in usage/mechanics.	Uses language that generally conveys meaning to readers, although writing may include some errors.	Uses straightforward language that generally conveys meaning to readers. The language in the document has few errors.	Uses sophisticated language that skillfully communicates meaning to readers with clarity and fluency, and is virtually error-free.

Freshman Baseline Assessment Means

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

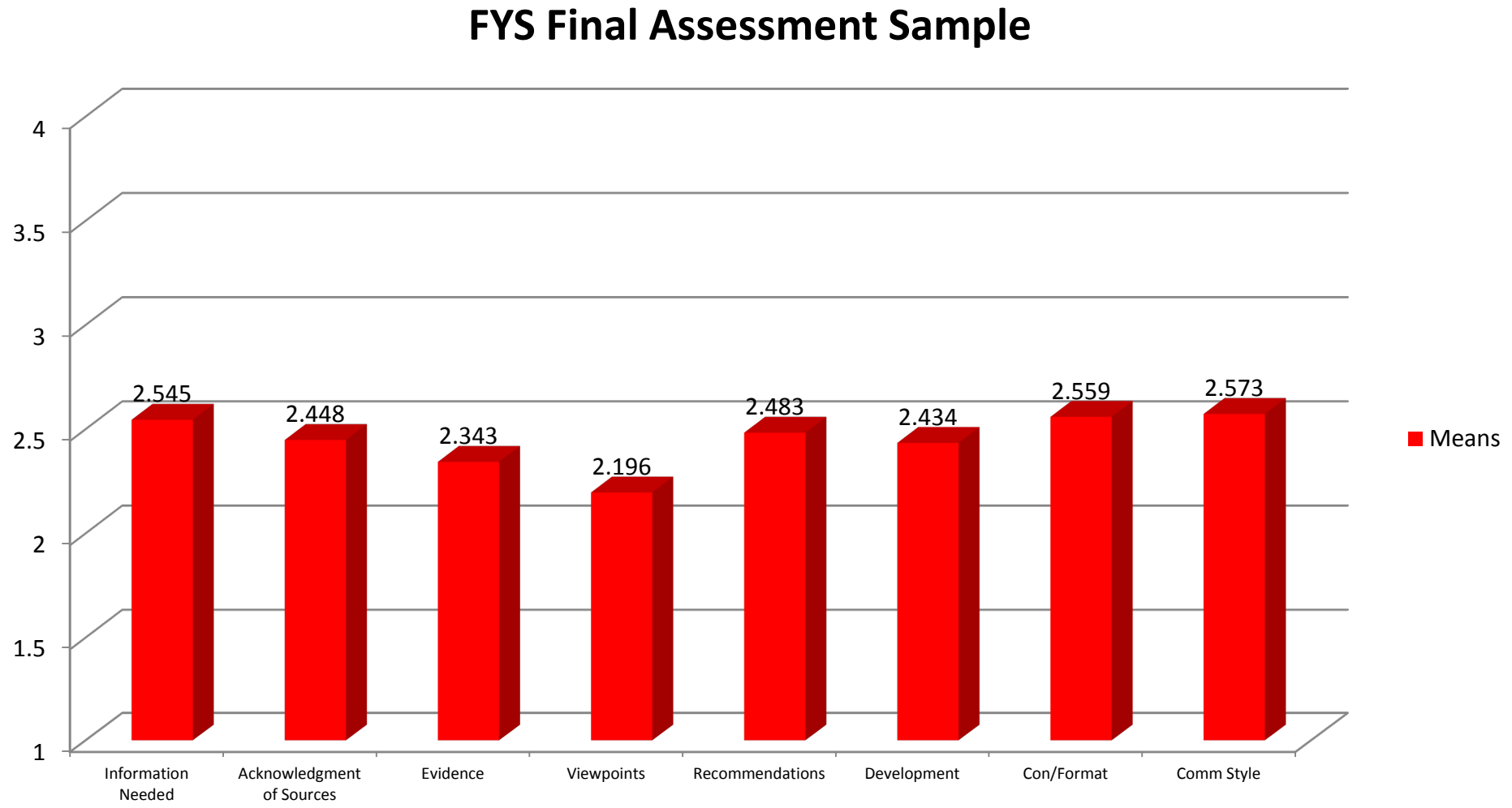
n = 177 for Information Needed and 163 for All Other Traits



Freshman FYS Assessment Means

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

n = 143 for all traits.

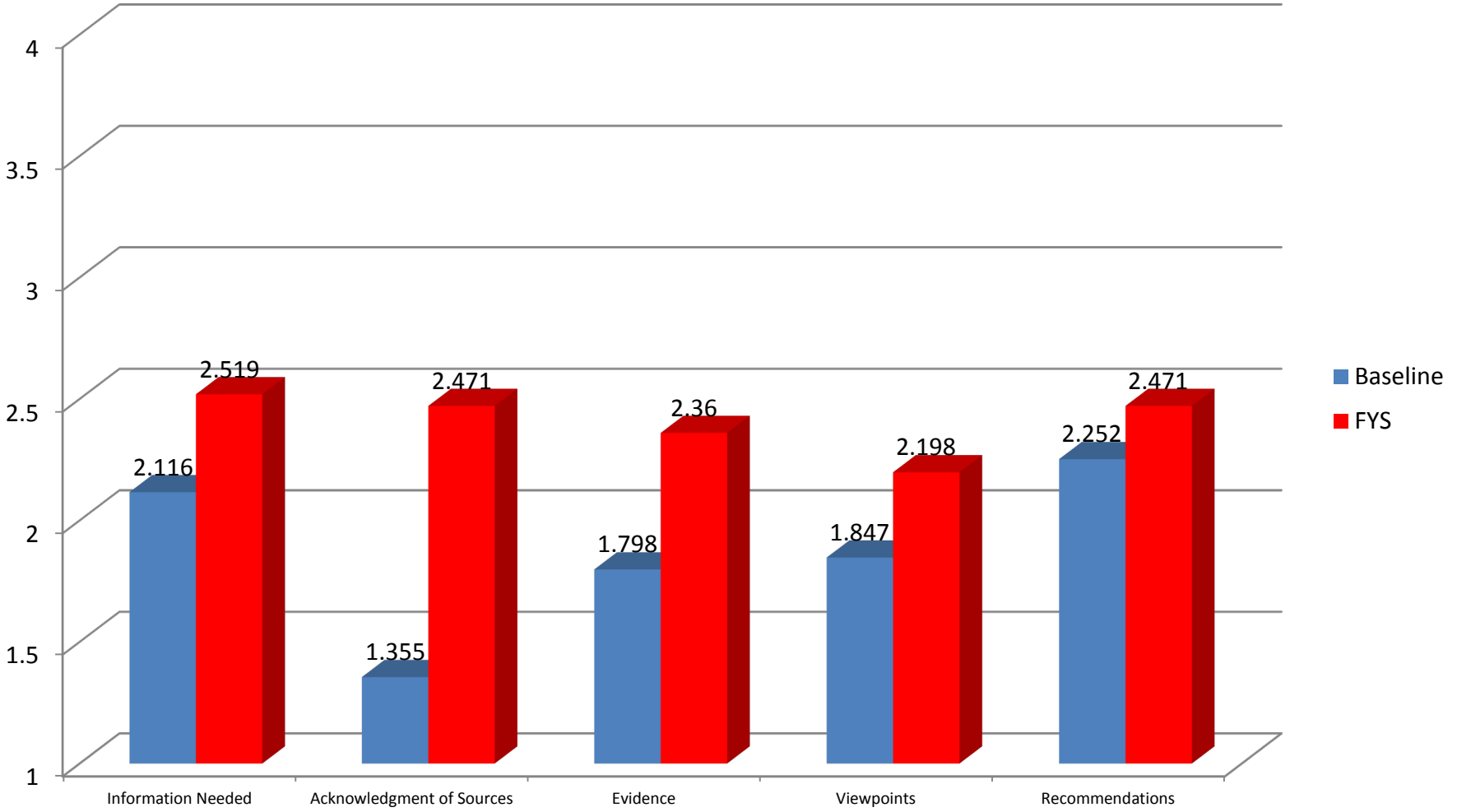


Freshman Baseline/FYS Comparisons

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

n = 129 for Information Literacy: *information needed* and 121 for all other traits

Mean differences are statistically significant for all traits.



Freshman Baseline/FYS Comparisons

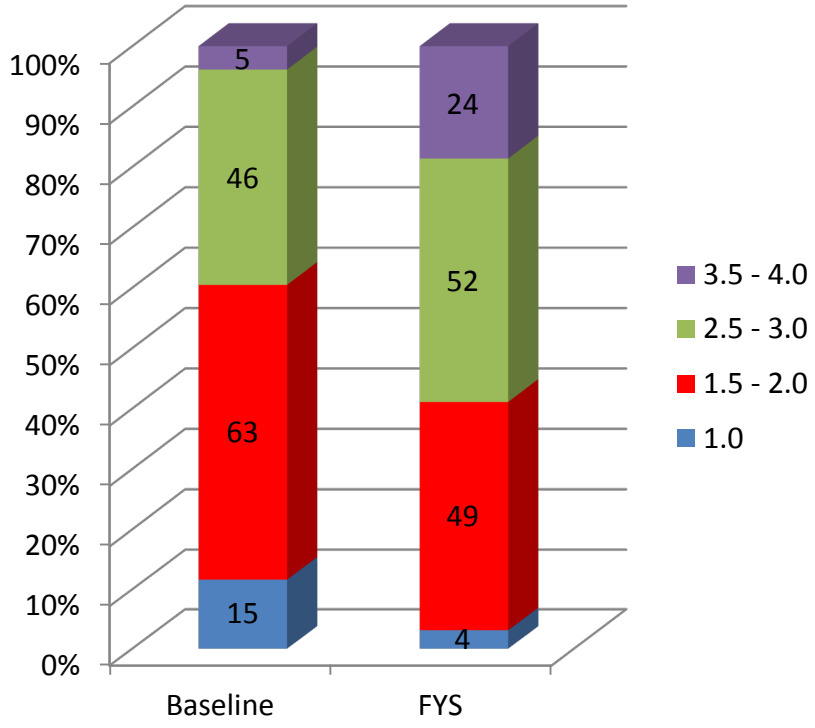
n = 129 for IL: *Information Needed* and 121 for all other traits.

Trait/ Performance Level	Info Needed	Acknowledgment of Sources	Evidence	Viewpoints	Recommendations
1.0 Baseline	15 (12%)	53 (44%)	24 (20%)	19 (16%)	8 (7%)
1.0 FYS	4 (3%)	18 (15%)	10 (8%)	5 (4%)	6 (5%)
1.5 – 2.0 Baseline	63 (49%)	65 (54%)	70 (58%)	73 (60%)	51 (42%)
1.5 – 2.0 FYS	49 (38%)	31 (26%)	39 (32%)	64 (53%)	36 (30%)
2.5 – 3.0 Baseline	46 (36%)	3 (2%)	26 (21%)	29 (24%)	59 (49%)
2.5 – 3.0 FYS	52 (40%)	44 (36%)	66 (55%)	51 (42%)	73 (60%)
3.5 – 4.0 Baseline	5 (4%)	0	1 (1%)	0	3 (2%)
3.5 – 4.0 FYS	24 (19%)	28 (23%)	6 (5%)	1 (1%)	6 (5%)
Grand Total Baseline	**129 (100%)**	**121 (100%)**	**121 (100%)**	**121 (100%)**	**121 (100%)**
Grand Total FYS	**129 (100%)**	**121 (100%)**	**121 (100%)**	**121 (100%)**	**121 (100%)**

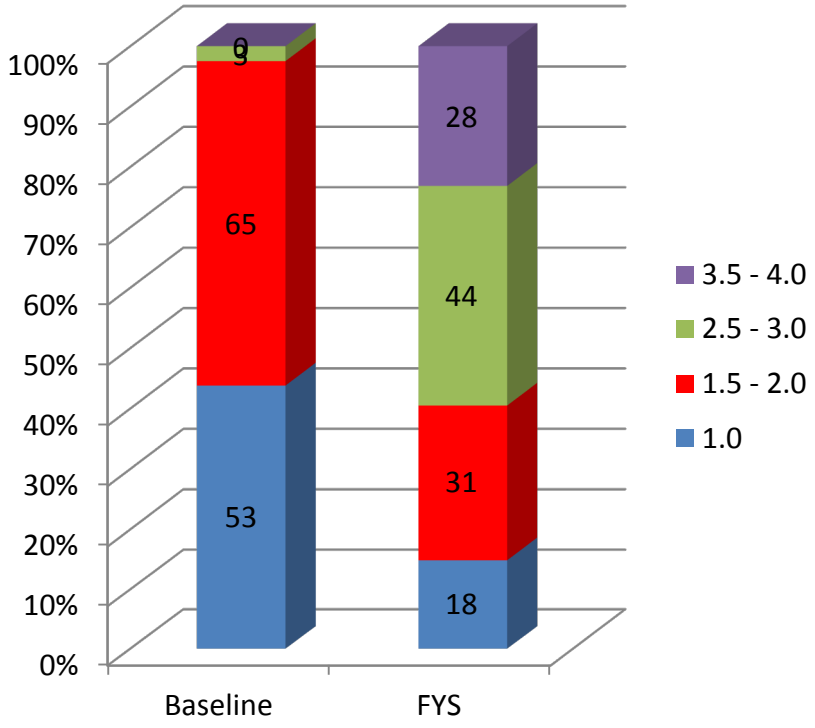
Freshman Baseline/FYS Comparisons

n = 129 for *Information Needed* and 121 for *Acknowledgment of Sources*

Information Needed



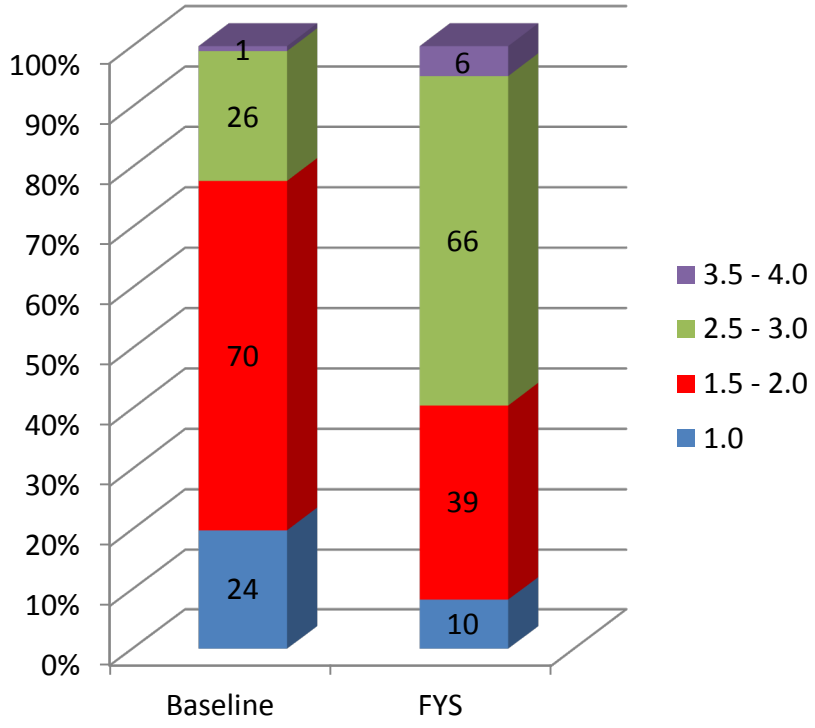
Acknowledgment of Sources



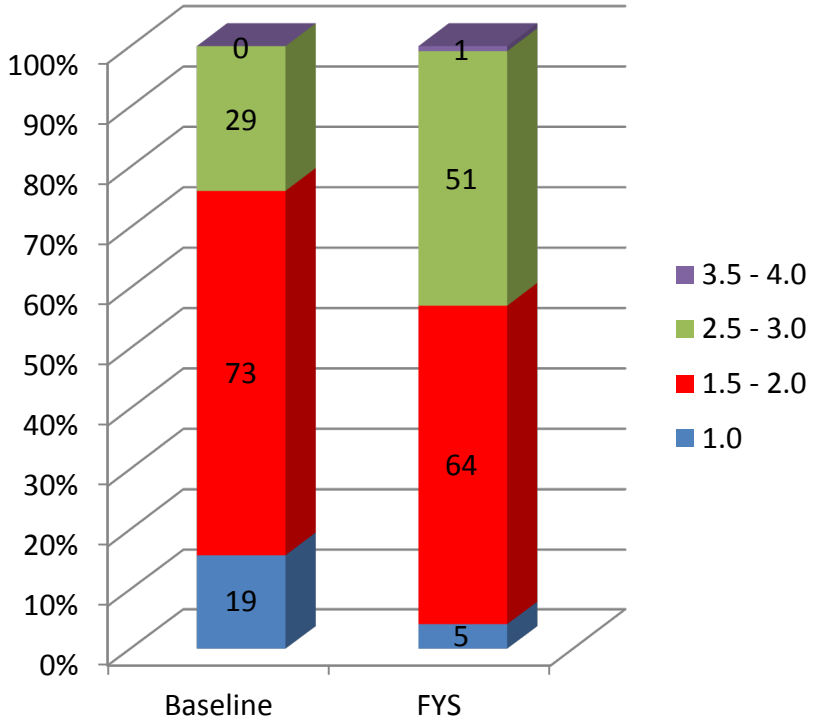
Freshman Baseline/FYS Comparisons

n = 121

Evidence



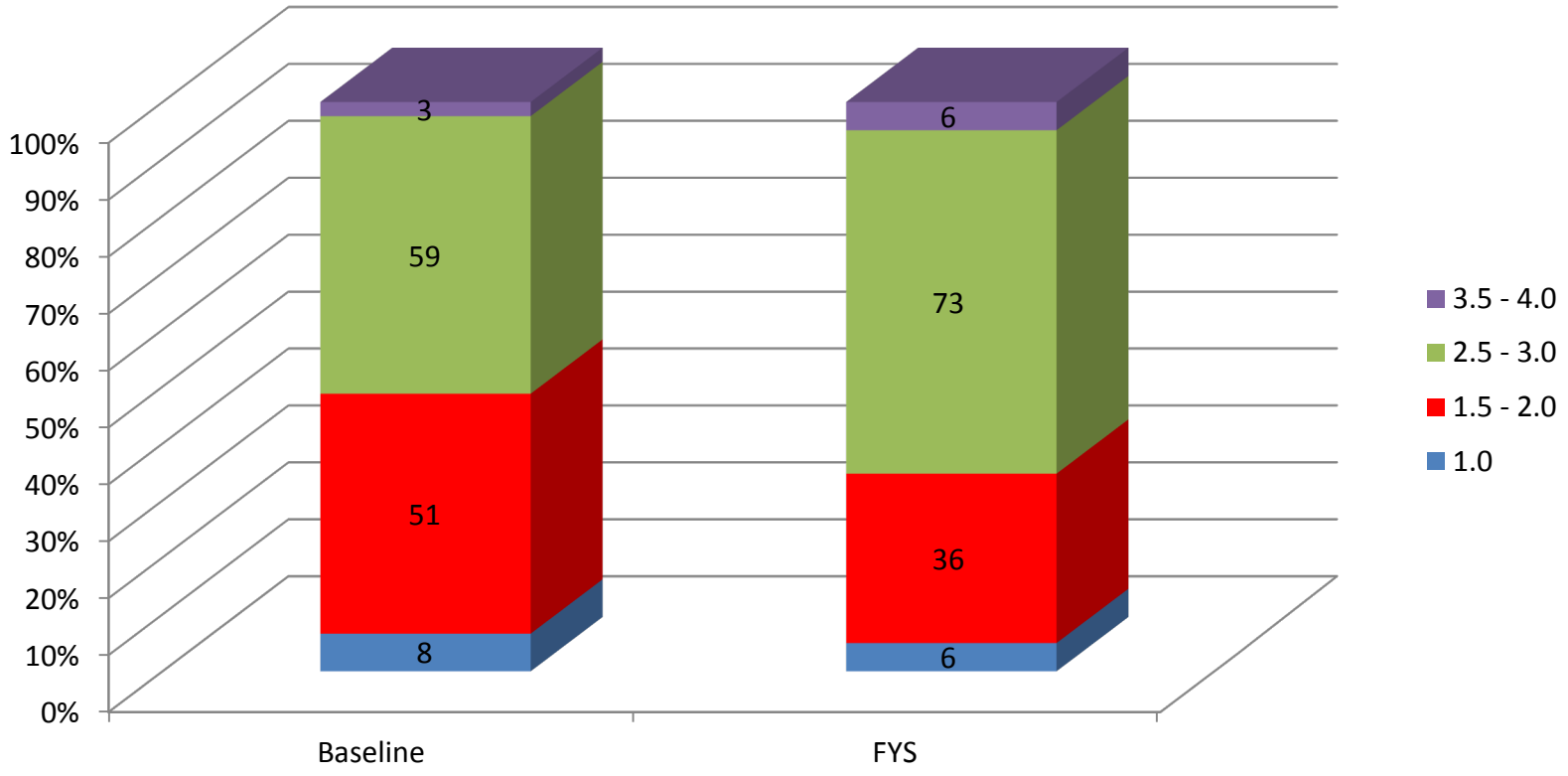
Viewpoints



Freshman Baseline/FYS Comparisons

n = 121

Recommendations



Baseline Inter-Rater Agreement Results

Trait/ Agreement	Info Needed : Cohen's Liberal Kappa = .950	Acknowledgment of Sources: Cohen's Liberal Kappa = 1.00	Evidence: Cohen's Liberal Kappa = .959	Viewpoints: Cohen's Liberal Kappa = .944	Recommendations: Cohen's Liberal Kappa = .923
Agree on score	105 (59%)	97 (60%)	84 (52%)	82 (50%)	89 (55%)
Difference = 1 point	65 (37%)	66 (40%)	74 (45%)	74 (45%)	64 (39%)
Difference = 2 points	7 (4%)	0	5 (3%)	7 (4%)	9 (6%)
Difference = 3 points	0	0	0	0	1 (1%)
Total	**177 (100%)**	**163 (100%)**	**163 (100%)**	**163 (100%)**	**163 (100%)**

FYS Inter-Rater Agreement Results

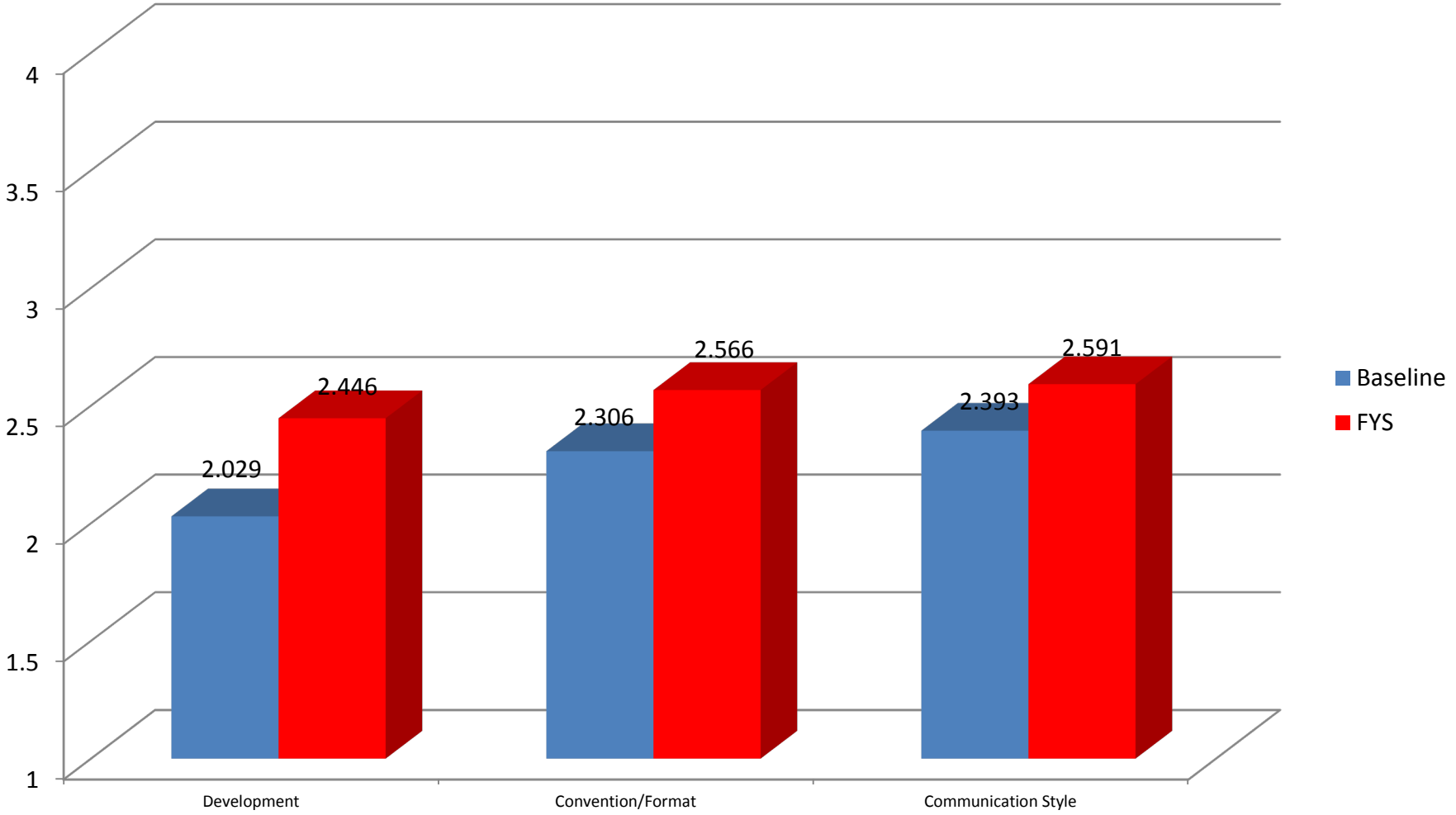
Trait/ Agreement	Info Needed : Cohen's Liberal Kappa = .936	Acknowledgment of Sources: Cohen's Liberal Kappa = .966	Evidence: Cohen's Liberal Kappa = .928	Viewpoints: Cohen's Liberal Kappa = .960	Recommendations: Cohen's Liberal Kappa = .925
Agree on score	76 (53%)	77 (54%)	76 (53%)	81 (57%)	89 (62%)
Difference = 1 point	60 (42%)	62 (43%)	59 (41%)	58 (40%)	46 (32%)
Difference = 2 points	6 (4%)	4 (3%)	8 (6%)	4 (3%)	7 (5%)
Difference = 3 points	1 (1%)	0	0	0	1 (1%)
Total	**143 (100%)**	**143 (100%)**	**143 (100%)**	**143 (100%)**	**143 (100%)**

Freshman Baseline/FYS Comparisons

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

n = 121 for all traits

All mean differences are statistically significant.



Freshman Baseline/FYS Comparisons

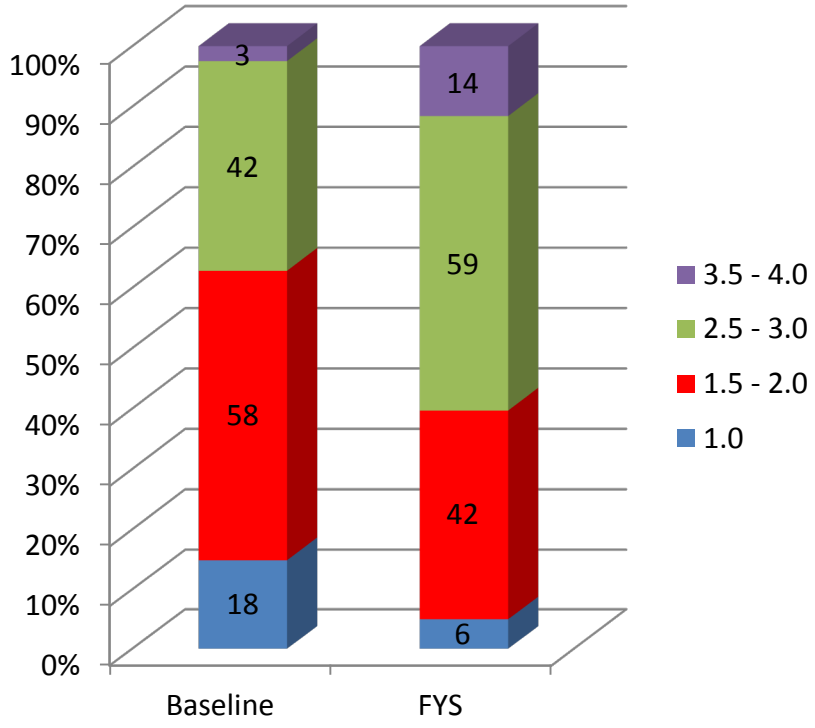
n = 121

Trait/ Performance Level	Development	Convention/Format	Communication Style
1.0 Baseline	18 (15%)	17 (14%)	1 (1%)
1.0 FYS	6 (5%)	8 (7%)	3 (2%)
1.5 – 2.0 Baseline	58 (48%)	35 (29%)	56 (46%)
1.5 – 2.0 FYS	42 (35%)	31 (26%)	26 (21%)
2.5 – 3.0 Baseline	42 (35%)	55 (45%)	56 (46%)
2.5 – 3.0 FYS	59 (49%)	58 (48%)	79 (65%)
3.5 – 4.0 Baseline	3 (2%)	14 (12%)	8 (7%)
3.5 – 4.0 FYS	14 (12%)	24 (20%)	13 (11%)
Grand Total Baseline	**121 (100%)**	**121 (100%)**	**121 (100%)**
Grand Total FYS	**121 (100%)**	**121 (100%)**	**121 (100%)**

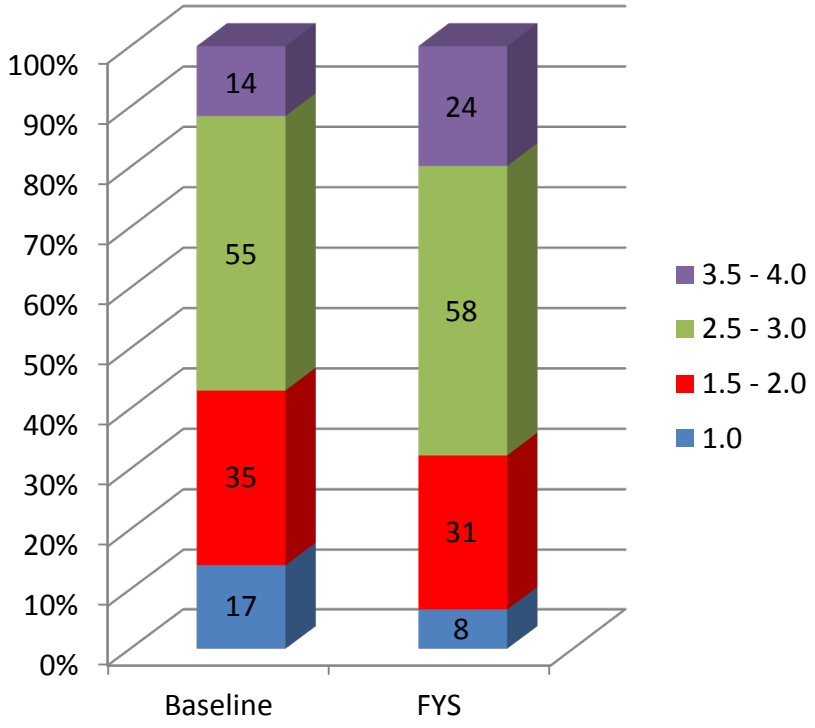
Freshman Baseline/FYS Comparisons

n = 121

Development



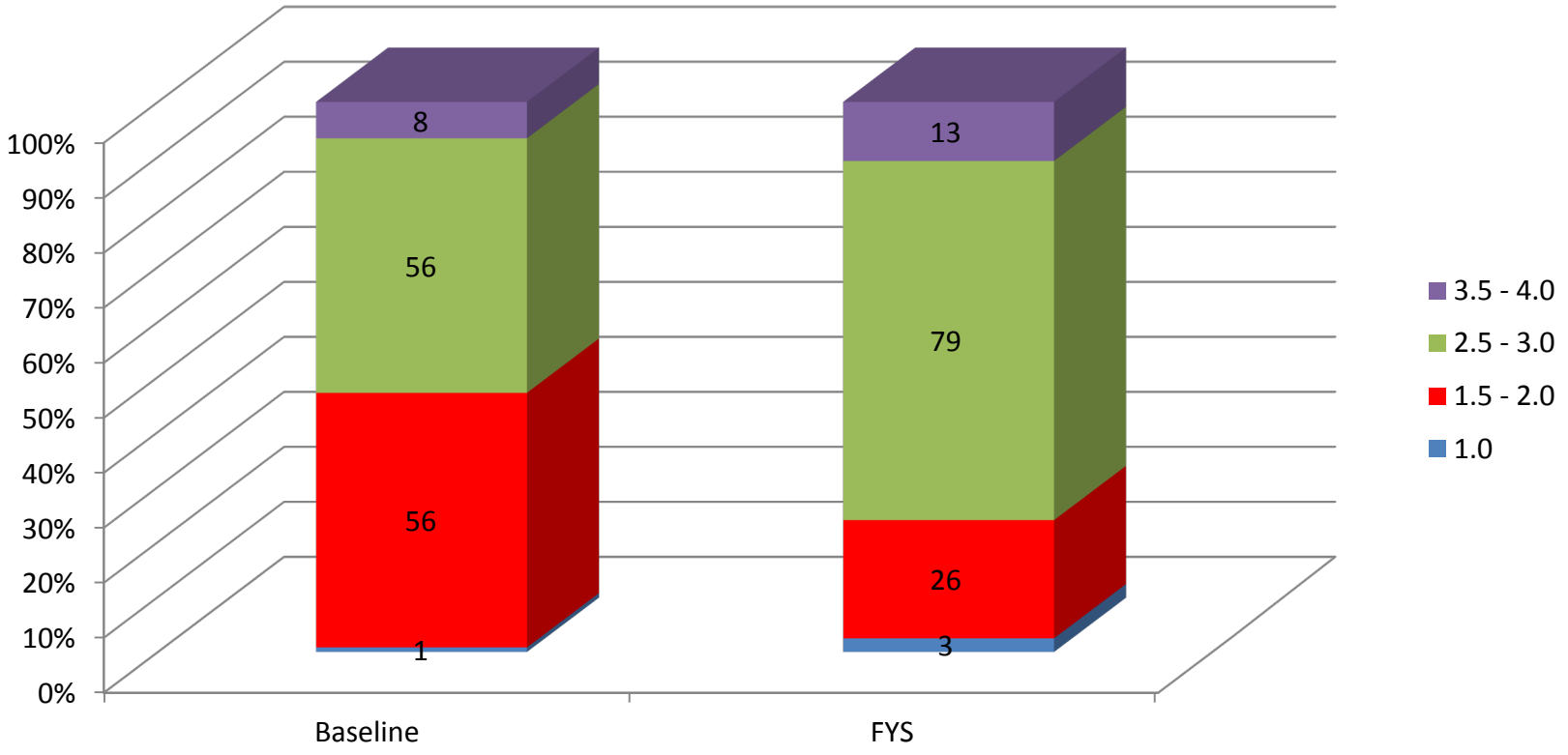
Convention/Format



Freshman Baseline/FYS Comparisons

n = 121

Communication Style



Baseline Inter-Rater Agreement Results

Trait/ Agreement	Development: Cohen's Liberal Kappa = 1.00	Convention/Format: Cohen's Liberal Kappa = .963	Communication Style: Cohen's Liberal Kappa = .959
Agree on score	94 (58%)	83 (51%)	98 (60%)
Difference = 1 point	69 (42%)	75 (46%)	60 (37%)
Difference = 2 points	0	5 (3%)	5 (3%)
Difference = 3 points	0	0	0
Total	**153 (100%)**	**163 (100%)**	**163 (100%)**

FYS Inter-Rater Agreement Results

Trait/ Agreement	Development: Cohen's Liberal Kappa = .965	Convention/Format: Cohen's Liberal Kappa = .858	Communication Style: Cohen's Liberal Kappa = .962
Agree on score	79 (55%)	64 (45%)	70 (49%)
Difference = 1 point	60 (42%)	62 (43%)	69 (48%)
Difference = 2 points	4 (3%)	16 (11%)	4 (3%)
Difference = 3 points	0	1 (1%)	0
Total	**143 (100%)**	**143 (100%)**	**143 (100%)**

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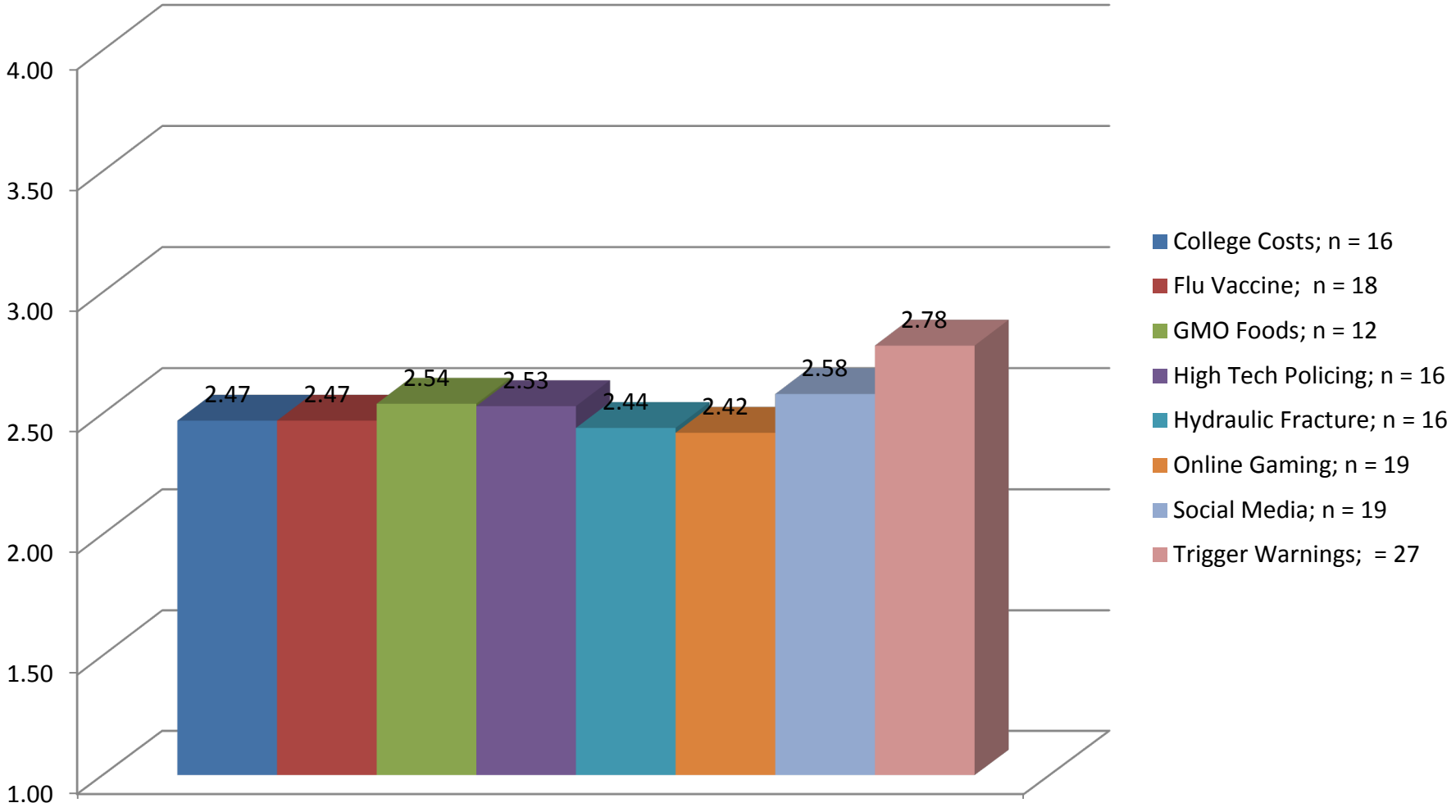
Comparison of FYS Results for Each Trait by Scenario

Academic Year 2019 - 2020

FYS Comparisons by Scenario for IL: Information Needed

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

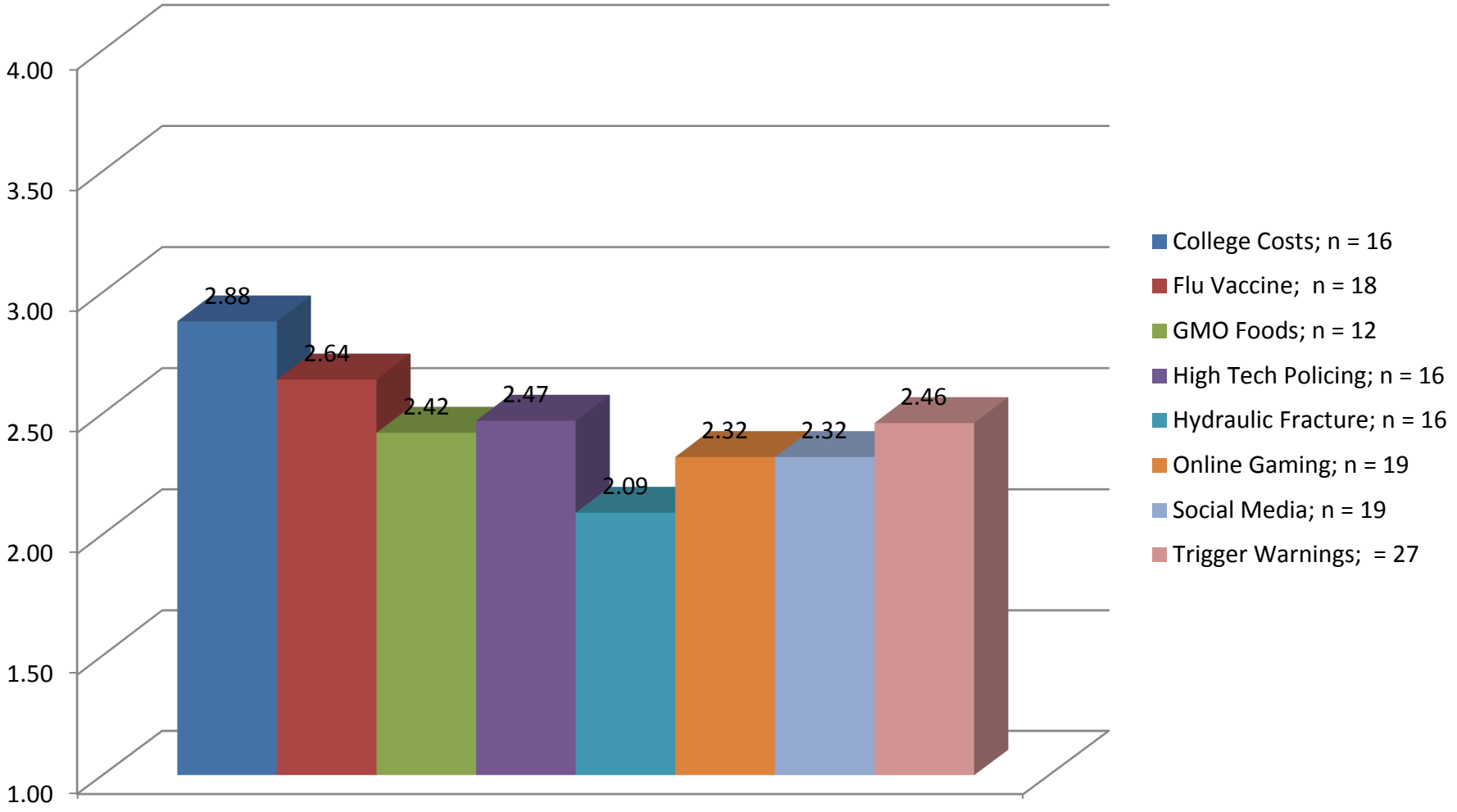
A One-Way ANOVA did not reveal any statistically significant differences in means across the scenarios.



FYS Comparisons by Scenario for IL: Source Acknowledgment

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

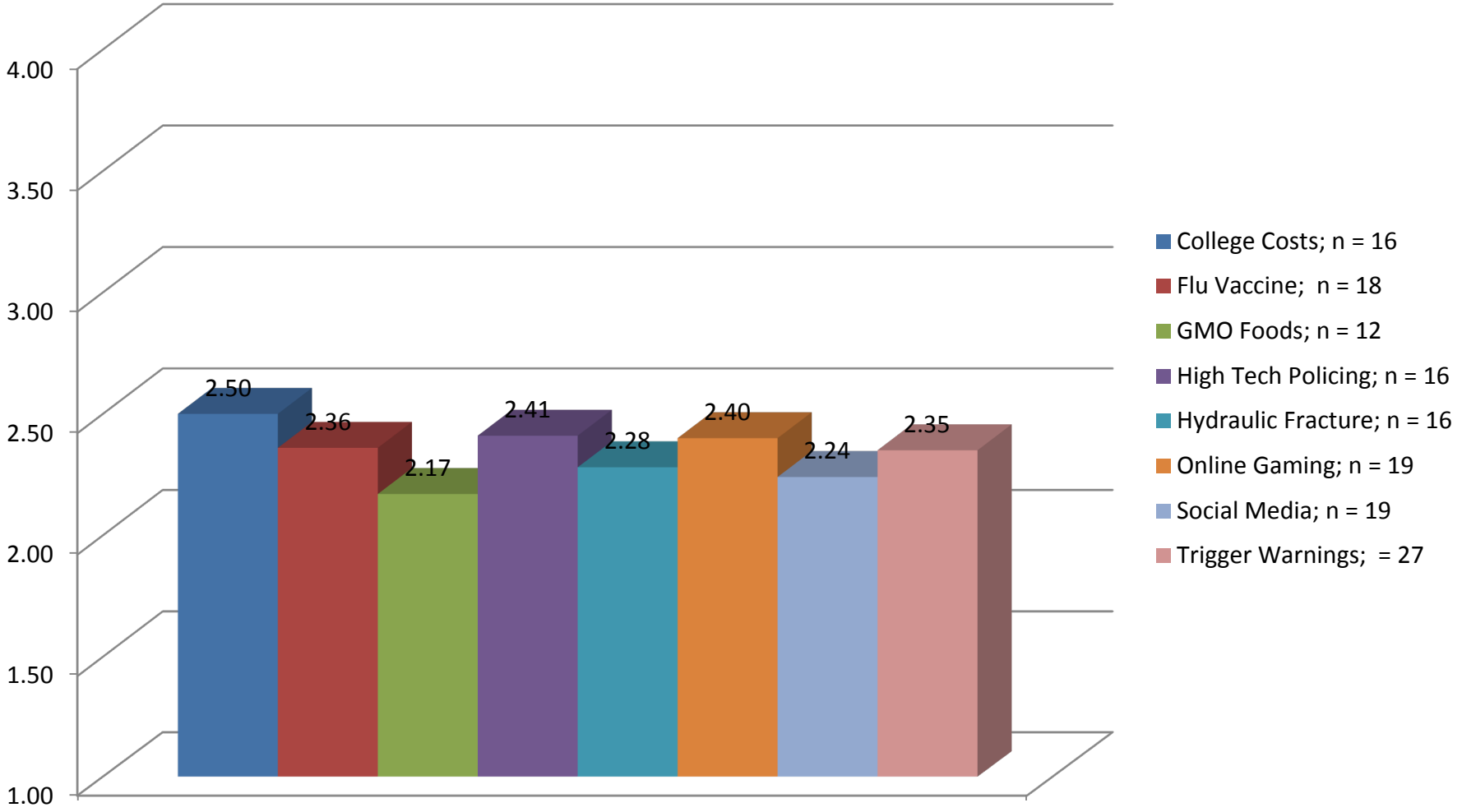
A One-Way ANOVA did not reveal any statistically significant differences in means across the scenarios.



FYS Comparisons by Scenario for IBT: Evidence

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

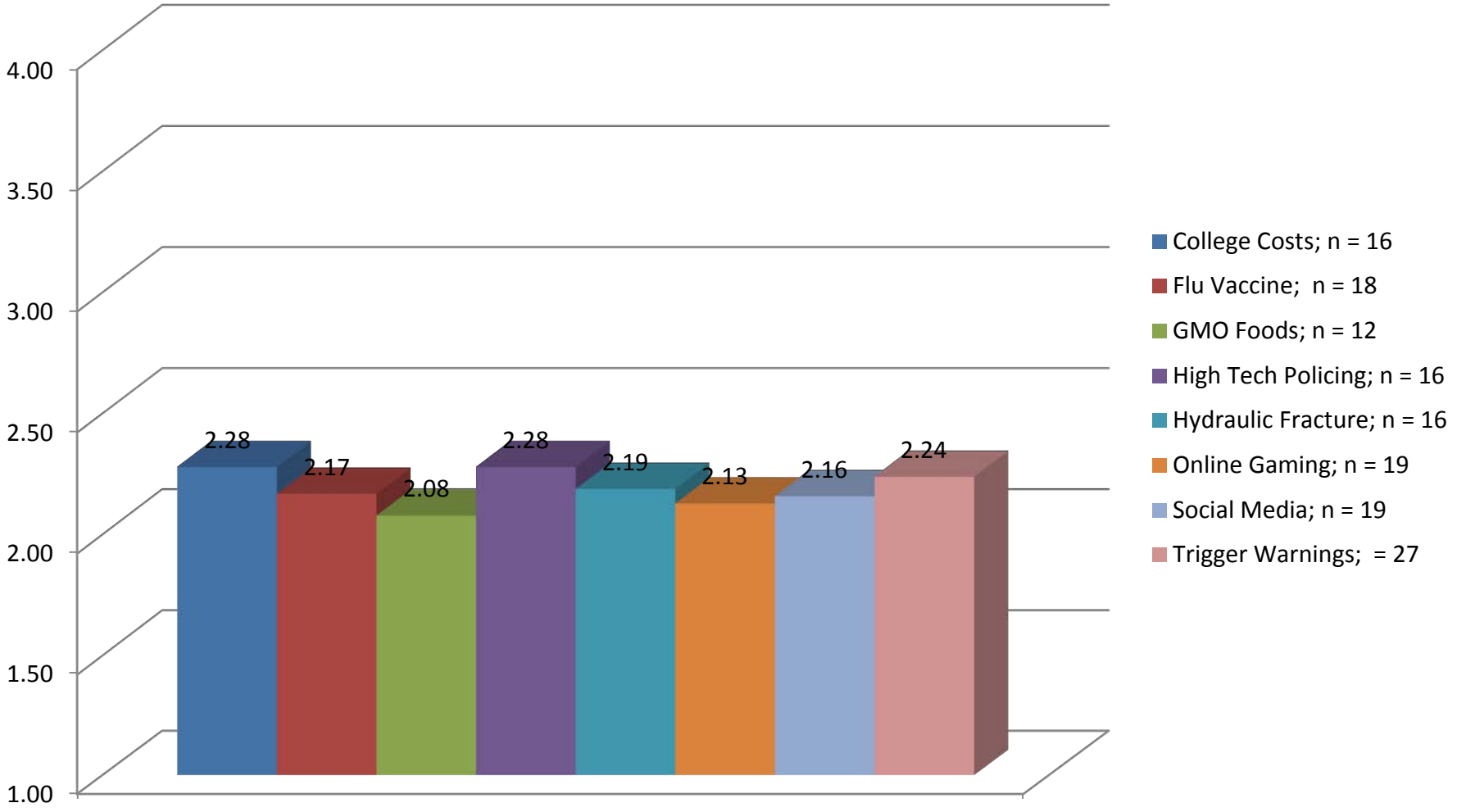
A One-Way ANOVA did not reveal any statistically significant differences in means across the scenarios.



FYS Comparisons by Scenario for IBT: Viewpoints

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

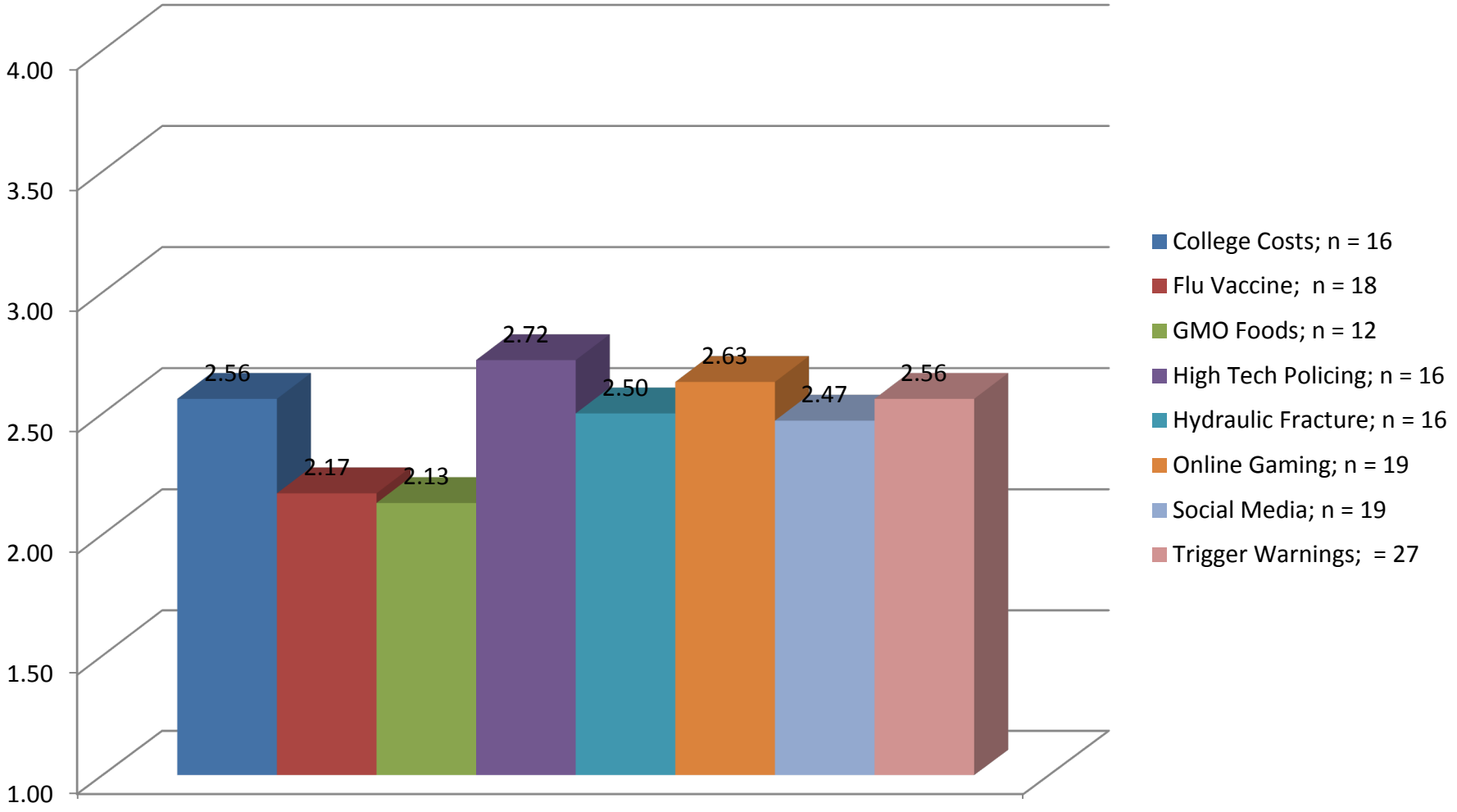
A One-Way ANOVA did not reveal any statistically significant differences in means across the scenarios.



FYS Comparisons by Scenario for IBT: Recommendation/Position

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

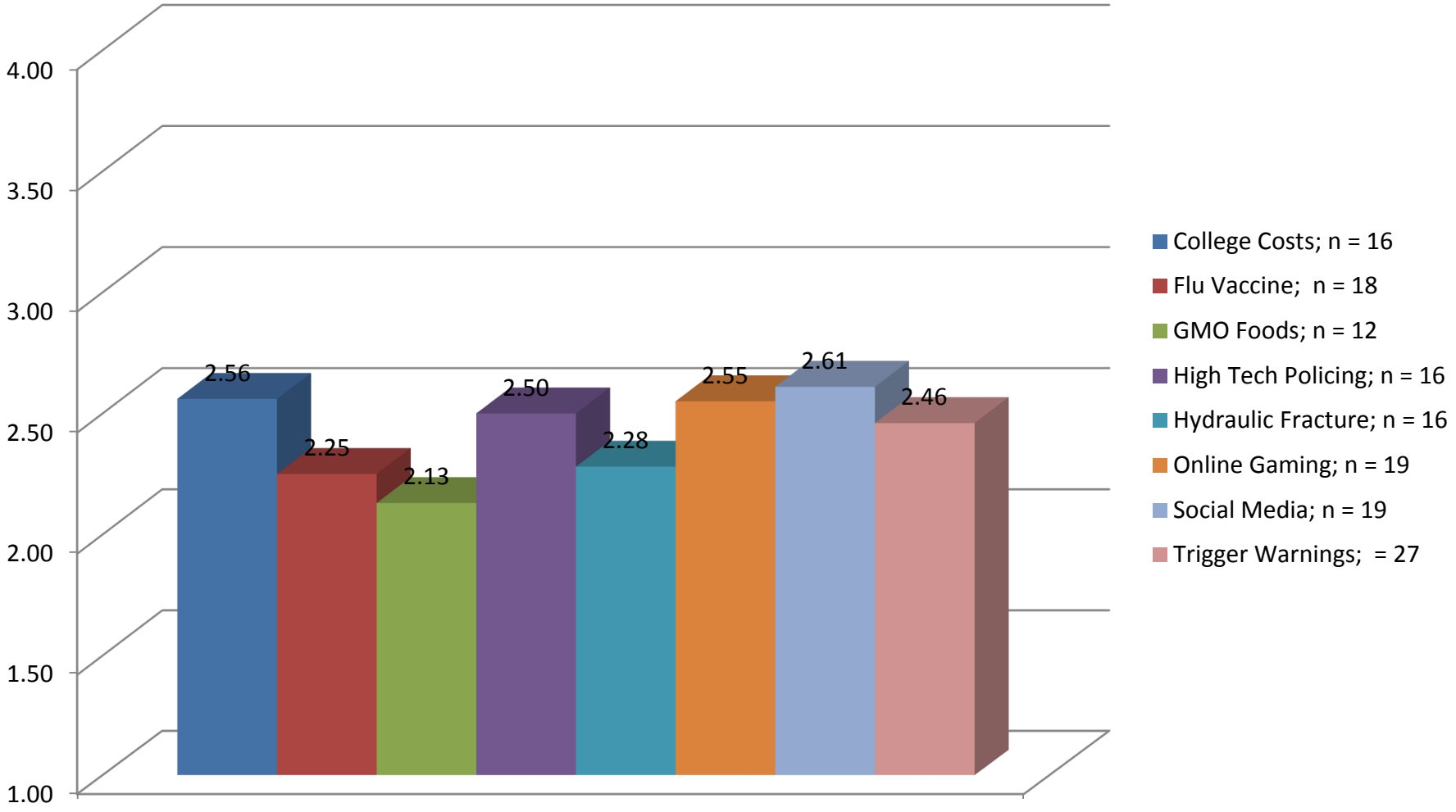
A One-Way ANOVA did not reveal any statistically significant differences in means across the scenarios.



FYS Comparisons by Scenario for CF: Development

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

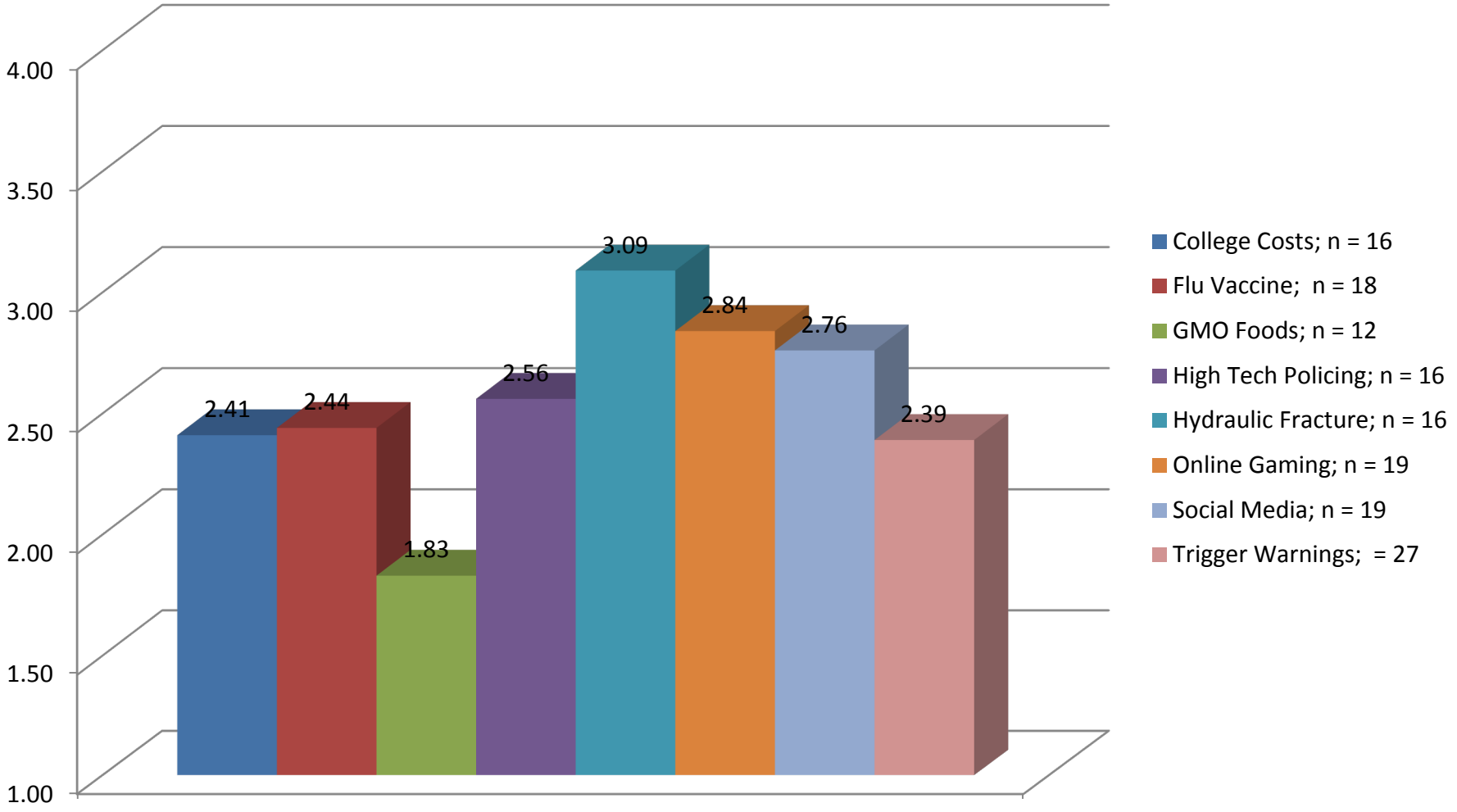
A One-Way ANOVA did not reveal any statistically significant differences in means across the scenarios.



FYS Comparisons by Scenario for CF: Convention/Format

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

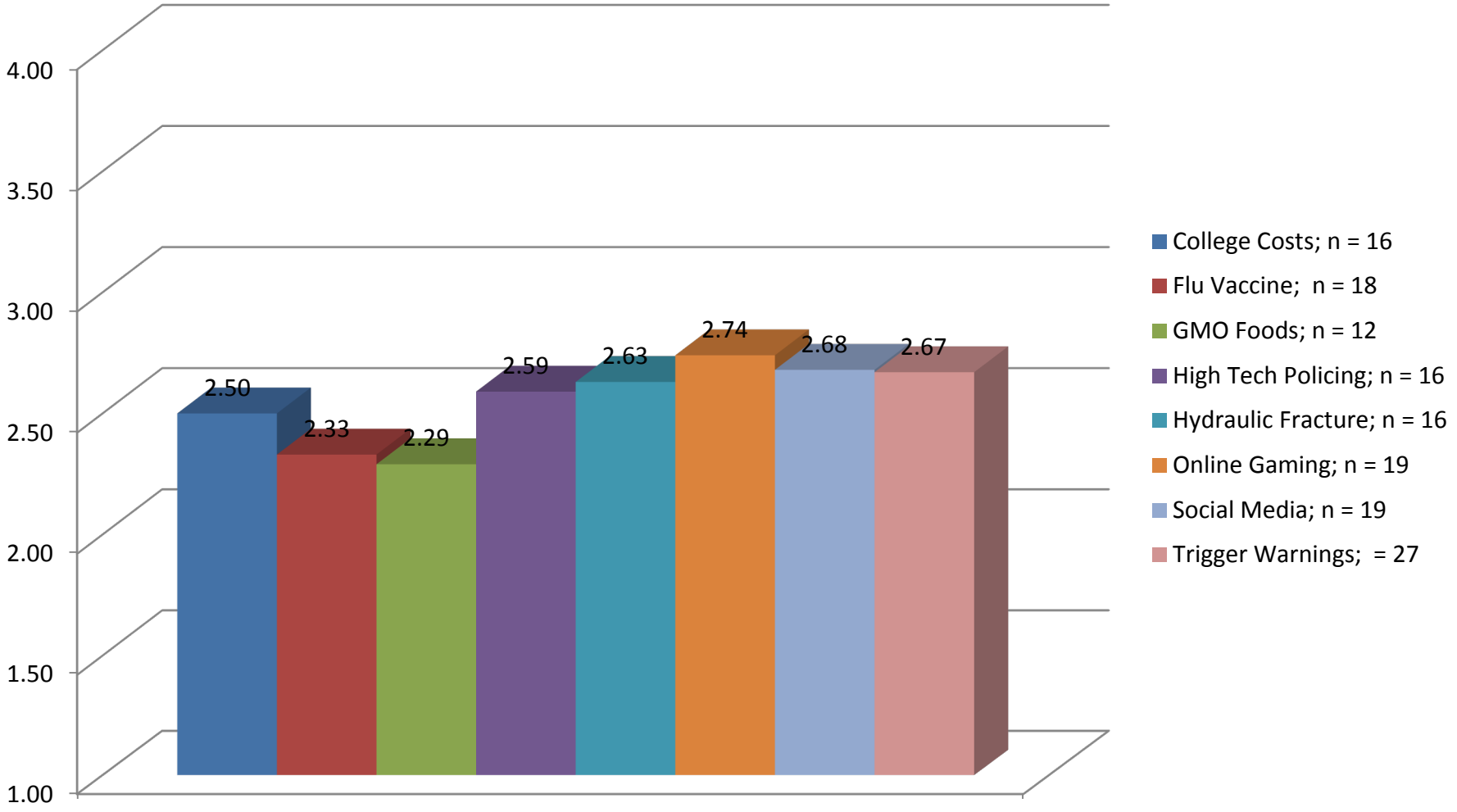
A One-Way ANOVA revealed statistically significant differences across scenarios. Post-Hoc analysis showed that students performed more poorly on GMO Foods than on Hydraulic Fracture, Online Gaming, and Social Media.



FYS Comparisons by Scenario for CF: Communication Style

Mean Scores on a scale of 1 – 4, with 4 being the highest possible score

A One-Way ANOVA did not reveal any statistically significant differences in means across the scenarios.



MARSHALL UNIVERSITY®

Comparison of Baseline to FYS Mean Gain Score for Each Trait by Semester of FYS

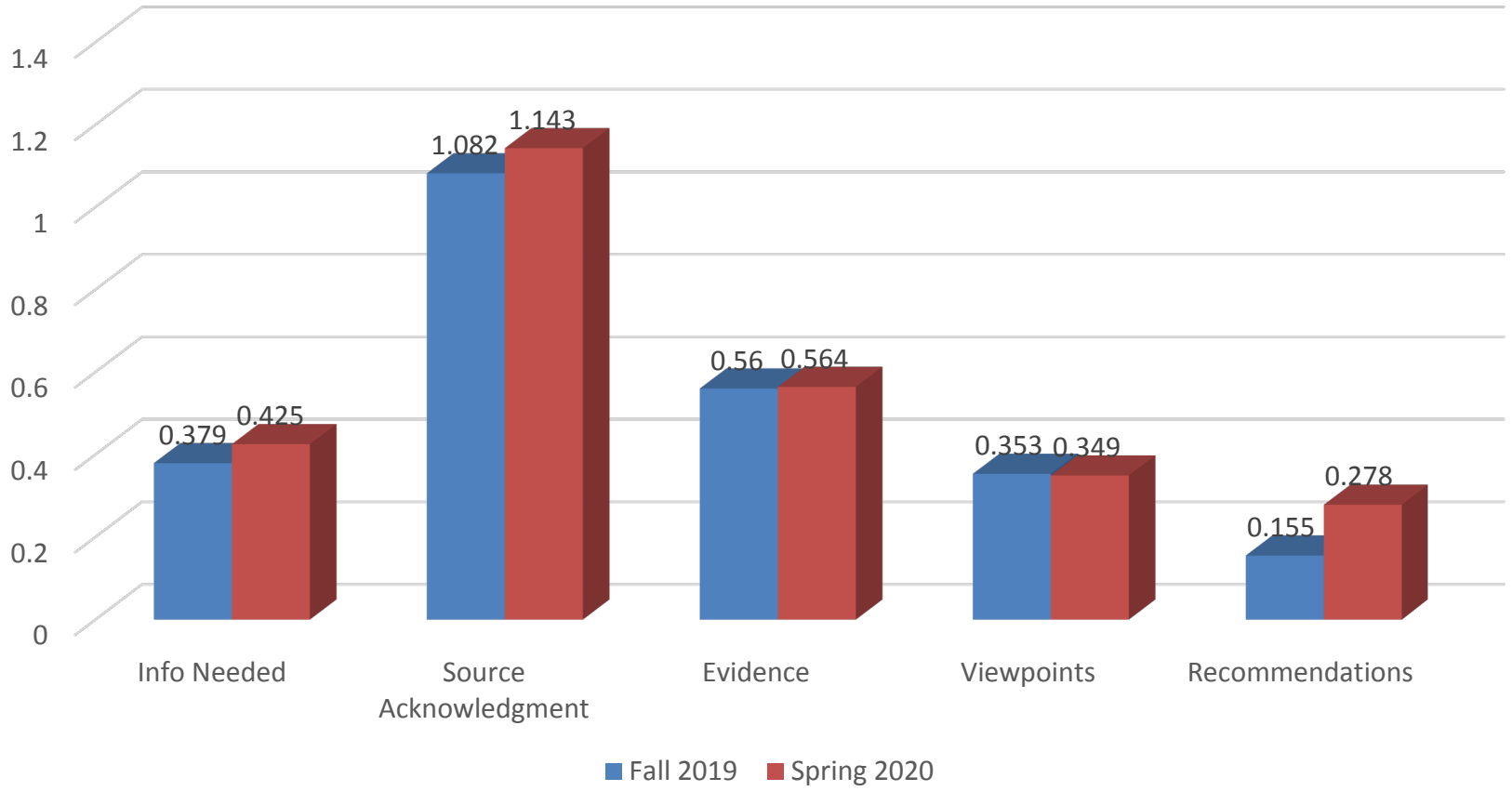
Academic Year 2019 - 2020

Baseline to FYS Mean Gain Scores for Each Trait

n = 62 in fall and 67 in spring for IL: Information Needed

n = 58 in fall and 63 in spring for all other traits

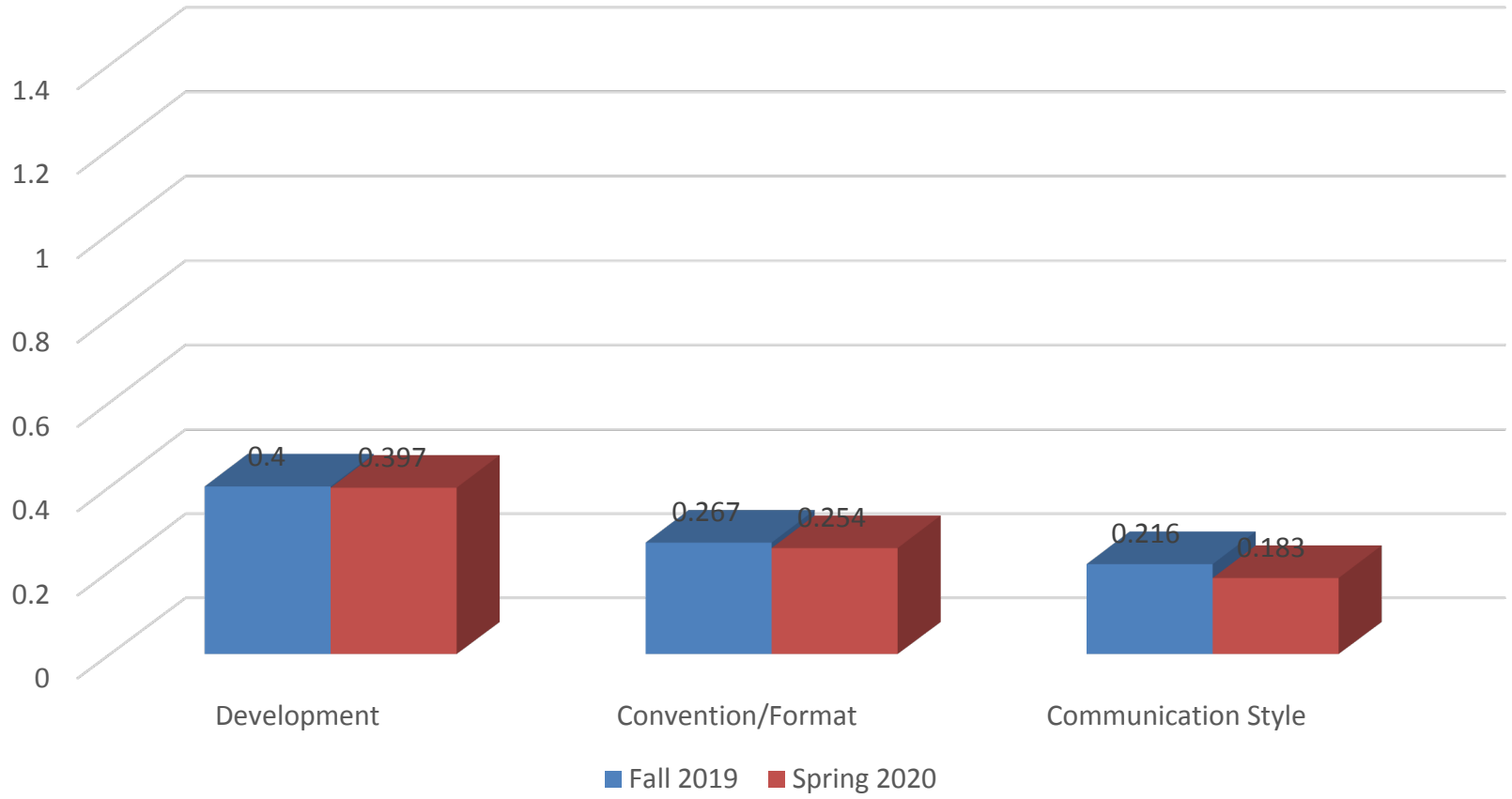
(Differences between fall and spring were not statistically significant)



Baseline to FYS Mean Gain Scores for Each Trait

n = 58 in fall and 63 in spring

(Differences between fall and spring were not statistically significant)



Reference

Stellmack, M.A., Kohneim-Kalkstein, Y. L, Manor, J. E., Massey, A. R., & Schmitz, J. A. P. (2009). An assessment of reliability and validity of a rubric for grading APA-style introductions. *Teaching of Psychology*, *36*, 102-107.