Perceived Grading and Student Evaluation of Instruction

Supplemental Materials

These materials were made from the *R* code provided in the attached markdown file, with edits to clean up the document for easier interpretation and reading. Original tables from the manuscript are provided for reference for the statistics presented here.

Table 1.

*Partial Correlations Between Class Ratings of Instructors Across Variations in Course and Semester Pairings*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Evaluation Item | | | | |
|  | Overall | Exams | Fair | Assignments | Grade |
| Semester pair type | Same Course pairing | | | | |
| Same semester  1806 cases | **.32** | **.39** | **.31** | **.27** | **.43** |
| Different semester  41048 cases | <-.01 | -.01 | **.06** | <.01 | **-.18** |
|  | Different course | | | | |
| Same semester  1582 cases | **.05** | **.02** | **.03** | **.02** | **.08** |
| Different semester  75,138 cases | **-.08** | **-.08** | **-.08** | **-.08** | **-.17** |

*Note*. Bolded correlations are significant at *p* < .05

Table 1.1

*t-Test Statistics for each b coefficient (correlation) provided in manuscript Table 1.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Coefficient | *b* | *SE* | *df* | *t* | *p* |
| DD Overall | -0.077 | 0.004 | 75056 | -21.122 | <.001 |
| DD Exams | -0.083 | 0.004 | 75056 | -22.754 | <.001 |
| DD Fair | -0.080 | 0.004 | 75056 | -21.910 | <.001 |
| DD Assignments | -0.084 | 0.004 | 75056 | -23.135 | <.001 |
| DD Grade | -0.174 | 0.004 | 75056 | -48.349 | <.001 |
| DS Overall | 0.050 | 0.005 | 40942 | 10.132 | <.001 |
| DS Exams | 0.022 | 0.005 | 40942 | 4.449 | <.001 |
| DS Fair | 0.027 | 0.005 | 40942 | 5.506 | <.001 |
| DS Assignments | 0.015 | 0.005 | 40942 | 3.021 | .003 |
| DS Grade | 0.076 | 0.005 | 40942 | 15.443 | <.001 |
| SD Overall | -0.005 | 0.025 | 1513 | -0.207 | .836 |
| SD Exams | -0.013 | 0.025 | 1513 | -0.502 | .615 |
| SD Fair | 0.063 | 0.025 | 1513 | 2.493 | .013 |
| SD Assignments | 0.006 | 0.025 | 1513 | 0.224 | .823 |
| SD Grade | -0.184 | 0.025 | 1513 | -7.431 | <.001 |
| SS Overall | 0.321 | 0.021 | 1687 | 14.961 | <.001 |
| SS Exams | 0.390 | 0.021 | 1687 | 18.536 | <.001 |
| SS Fair | 0.305 | 0.022 | 1687 | 13.787 | <.001 |
| SS Assignments | 0.265 | 0.023 | 1687 | 11.737 | <.001 |
| SS Grade | 0.432 | 0.021 | 1687 | 20.729 | <.001 |

*Note.* Letters indicate Different (D) and Same (S) distinction wherein the first letter is for semester and second letter is for course. Therefore, SS indicates same semester – same course, while SD includes same semester – different course.

Table 2.

*Item Correlations Using All Classes and Item Correlations*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Undergraduate Courses | | | | | |
|  | | Overall | Exams | Fair | Assignments | Grade |
| Graduate Courses | Overall | - | .81 | .87 | .93 | .59 |
| Exams | .65 | - | .73 | .68 | .44 |
| Fair | .86 | .61 | - | .68 | .41 |
| Assignments | >.99 | .48 | .66 | - | .44 |
| Grade | .44 | .13\* | .34 | .35 | - |

*Note*. All correlations are significant at *p* < .001, except \* *p* = .092.

Table 2.1

*t-Test Statistics for each b coefficient (correlation) provided in manuscript Table 2.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Coefficient | *b* | *SE* | *df* | *t* | *p* |
| Overall to Exams | 0.813 | 0.016 | 3149 | 50.864 | <.001 |
| Overall to Fair | 0.873 | 0.018 | 3149 | 47.692 | <.001 |
| Overall to Assignments | 0.934 | 0.018 | 3149 | 51.347 | <.001 |
| Overall to Grade | 0.586 | 0.025 | 3149 | 22.993 | <.001 |
| Exams to Fair | 0.734 | 0.015 | 3149 | 50.182 | <.001 |
| Exams to Assignments | 0.681 | 0.016 | 3149 | 42.597 | <.001 |
| Exams to Grade | 0.436 | 0.021 | 3149 | 20.653 | <.001 |
| Fair to Assignments | 0.676 | 0.013 | 3149 | 50.523 | <.001 |
| Fair to Grade | 0.408 | 0.019 | 3149 | 21.689 | <.001 |
| Assignments to Grade | 0.440 | 0.018 | 3149 | 24.341 | <.001 |
| Overall to Exams | 0.647 | 0.050 | 393 | 13.046 | <.001 |
| Overall to Fair | 0.860 | 0.050 | 393 | 17.304 | <.001 |
| Overall to Assignments | 0.995 | 0.049 | 393 | 20.305 | <.001 |
| Overall to Grade | 0.438 | 0.095 | 393 | 4.600 | <.001 |
| Exams to Fair | 0.611 | 0.044 | 393 | 13.965 | <.001 |
| Exams to Assignments | 0.478 | 0.051 | 393 | 9.455 | <.001 |
| Exams to Grade | 0.134 | 0.079 | 393 | 1.691 | .092 |
| Fair to Assignments | 0.658 | 0.039 | 393 | 16.766 | <.001 |
| Fair to Grade | 0.342 | 0.070 | 393 | 4.866 | <.001 |
| Assignments to Grade | 0.353 | 0.066 | 393 | 5.353 | <.001 |

## 

Table 3.

*Student Evaluation in General Education Classes as a Function of the Status of the Course Instructor*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Status of the Course Instructor | | | |
|  | TA  M SD | Per Course  M SD | Instructor  M SD | Ranked  M SD |
| Overall | 4.03 0.52 | 3.95 0.75 | 3.71 0.50 | 3.74 0.47 |
| Exams | 4.48 0.34 | 4.27 0.57 | 4.06 0.36 | 4.11 0.35 |
| Fair | 4.57 0.25 | 4.43 0.45 | 4.35 0.26 | 4.40 0.26 |
| Assignments | 4.31 0.31 | 4.18 0.39 | 4.17 0.30 | 4.03 0.31 |
| Grade | 4.30 0.32 | 4.19 0.33 | 4.02 0.30 | 4.00 0.30 |
|  | | | | |

Table 3.1

*Multilevel Model Statistics for Comparisons of Faculty to Other Instructors supplementing Table 3 from the manuscript.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DV | Comparison Group | *b* | *SE* | *df* | *t* | *p* |
| Overall Score | Teaching Assistant | 0.314 | 0.141 | 466 | 2.222 | .027 |
| Overall Score | Per-Course Faculty | 0.197 | 0.147 | 466 | 1.339 | .181 |
| Overall Score | Instructor | 0.038 | 0.16 | 466 | 0.236 | .814 |
| Exams Match | Teaching Assistant | 0.406 | 0.105 | 466 | 3.866 | <.001 |
| Exams Match | Per-Course Faculty | 0.218 | 0.109 | 466 | 1.989 | .047 |
| Exams Match | Instructor | 0.040 | 0.119 | 466 | 0.332 | .740 |
| Fair Grading | Teaching Assistant | 0.221 | 0.074 | 466 | 2.971 | .003 |
| Fair Grading | Per-Course Faculty | 0.118 | 0.077 | 466 | 1.526 | .128 |
| Fair Grading | Instructor | 0.038 | 0.085 | 466 | 0.444 | .657 |
| Appropriate Assignments | Teaching Assistant | 0.299 | 0.082 | 466 | 3.651 | <.001 |
| Appropriate Assignments | Per-Course Faculty | 0.161 | 0.085 | 466 | 1.888 | .060 |
| Appropriate Assignments | Instructor | 0.167 | 0.093 | 466 | 1.795 | .073 |
| Expected Grade | Teaching Assistant | 0.290 | 0.074 | 466 | 3.904 | <.001 |
| Expected Grade | Per-Course Faculty | 0.156 | 0.077 | 466 | 2.018 | .044 |
| Expected Grade | Instructor | 0.032 | 0.084 | 466 | 0.379 | .705 |

## 

|  |  |
| --- | --- |
| Expected  Grade  Perceived  Grading  Overall Rating  *a* 0.55  *b* 1.37  *c* 0.71  *c'* -0.04  Teaching Assistants | Expected  Grade  Perceived  Grading  Overall  Rating  *a* 0.41  *b* 1.28  *c* 0.41  *c'* -0.10  Per-Course Faculty |
| Expected  Grade  Perceived  Grading  Overall  Rating  *a* 0.45  *b* 1.16  *c* 0.56  *c'* 0.04  Full-Time Instructors | Expected Grade  Perceived Grading  Overall  Rating  *a* 0.21  *b* 1.10  *c* 0.39  *c'* 0.16  Full-Time Faculty |
| *Figure 1.* Mediation models for moderated mediation analysis indicating mediation effects for each type of teacher. Expected grading indicates student entered grade expected in the course, perceived grading is an average score of fairness, appropriateness, and exam grading questions, and overall rating indicates the omnibus rating for a course. | |

Table 4.1

*Overall Multilevel Model Statistics for Moderated Mediation Analyses shown in Figure 1.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| DV | IV | *b* | *SE* | *df* | *t* | *p* |
| Overall Course | Expected Grade | 0.387 | 0.025 | 3517 | 15.433 | <.001 |
| Overall Course | Teaching Assistant | 0.041 | 0.085 | 3517 | 0.482 | .63 |
| Overall Course | Per-Course | 0.118 | 0.089 | 3517 | 1.328 | .184 |
| Overall Course | Instructor | -0.049 | 0.107 | 3517 | -0.458 | .647 |
| Overall Course | EG X TA | 0.313 | 0.172 | 3517 | 1.823 | .068 |
| Overall Course | EG X PC | 0.048 | 0.097 | 3517 | 0.494 | .621 |
| Overall Course | EG X IN | 0.179 | 0.077 | 3517 | 2.319 | .020 |
| Average Grading | Expected Grade | 0.210 | 0.016 | 3517 | 12.964 | <.001 |
| Average Grading | Teaching Assistant | 0.162 | 0.051 | 3517 | 3.215 | .001 |
| Average Grading | Per-Course | 0.087 | 0.052 | 3517 | 1.656 | .098 |
| Average Grading | Instructor | 0.061 | 0.063 | 3517 | 0.969 | .333 |
| Average Grading | EG X TA | 0.349 | 0.107 | 3517 | 3.254 | .001 |
| Average Grading | EG X PC | 0.207 | 0.062 | 3517 | 3.336 | .001 |
| Average Grading | EG X IN | 0.246 | 0.050 | 3517 | 4.929 | <.001 |
| Overall Course | Expected Grade | 0.156 | 0.018 | 3513 | 8.772 | <.001 |
| Overall Course | Teaching Assistant | -0.192 | 0.056 | 3513 | -3.450 | .001 |
| Overall Course | Per-Course | -0.004 | 0.053 | 3513 | -0.069 | .945 |
| Overall Course | Instructor | -0.128 | 0.063 | 3513 | -2.040 | .041 |
| Overall Course | Average Grading | 1.099 | 0.019 | 3513 | 57.144 | <.001 |
| Overall Course | EG X TA | -0.210 | 0.139 | 3513 | -1.504 | .133 |
| Overall Course | EG X PC | -0.276 | 0.072 | 3513 | -3.842 | <.001 |
| Overall Course | EG X IN | -0.125 | 0.061 | 3513 | -2.041 | .041 |
| Overall Course | AG X TA | 0.266 | 0.148 | 3513 | 1.804 | .071 |
| Overall Course | AG X PC | 0.251 | 0.071 | 3513 | 3.526 | <.001 |
| Overall Course | AG X IN | 0.089 | 0.068 | 3513 | 1.320 | .187 |

## 

## Table 5.1

*Statistics for Individual Mediations as follow up to Moderated Mediation for Figure 1.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Group | DV | IV | *b* | *SE* | *df* | *t* | *p* |
| Teaching Assistant | Overall Course | Expected Grade | 0.707 | 0.131 | 114 | 5.390 | <.001 |
| Teaching Assistant | Average Grading | Expected Grade | 0.539 | 0.063 | 114 | 8.499 | <.001 |
| Teaching Assistant | Overall Course | Expected Grade | -0.045 | 0.121 | 113 | -0.369 | 0.713 |
| Teaching Assistant | Overall Course | Average Grading | 1.368 | 0.129 | 113 | 10.637 | <.001 |
| Per-Course | Overall Course | Expected Grade | 0.413 | 0.079 | 276 | 5.217 | <.001 |
| Per-Course | Average Grading | Expected Grade | 0.407 | 0.052 | 276 | 7.879 | <.001 |
| Per-Course | Overall Course | Expected Grade | -0.101 | 0.050 | 275 | -2.027 | 0.044 |
| Per-Course | Overall Course | Average Grading | 1.283 | 0.051 | 275 | 25.384 | <.001 |
| Instructor | Overall Course | Expected Grade | 0.561 | 0.063 | 330 | 8.847 | <.001 |
| Instructor | Average Grading | Expected Grade | 0.454 | 0.041 | 330 | 10.969 | <.001 |
| Instructor | Overall Course | Expected Grade | 0.037 | 0.049 | 329 | 0.752 | 0.453 |
| Instructor | Overall Course | Average Grading | 1.164 | 0.055 | 329 | 21.144 | <.001 |
| Ranked Faculty | Overall Course | Expected Grade | 0.388 | 0.026 | 2789 | 14.965 | <.001 |
| Ranked Faculty | Average Grading | Expected Grade | 0.210 | 0.017 | 2789 | 12.446 | <.001 |
| Ranked Faculty | Overall Course | Expected Grade | 0.156 | 0.019 | 2788 | 8.350 | <.001 |
| Ranked Faculty | Overall Course | Average Grading | 1.098 | 0.020 | 2788 | 54.535 | <.001 |