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The Effect of Instructor Title on Student Instructional Expectations

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Abstract

This study investigated undergraduate pre-semester instructional expectations of two types of introductory biology course instructors based on four titles (faculty member [FM], graduate teaching assistant [GTA], lecture instructor, laboratory instructor). Data were collected via an online survey administered before students had met their instructors. All students enrolled in first-semester non-majors and majors introductory biology were invited to participate, and 199 students completed the survey. Results identified different instructional expectations for instructors based on the four titles. Significantly, students anticipated differences between FMs and lecture instructors, and GTAs and lab instructors, despite these being the same individual. These results suggest that instructors can enhance student instructional expectations and associated perceptions of learning through the use of particular titles.

Keywords

Teaching, Expectations, Graduate Teaching Assistants, Faculty, Laboratory, Lecture

Cover Page Footnote

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Introduction

Nationally, instruction in introductory science courses is conducted by a variety of instructor types, including tenure-track faculty members (FMs) as well as contingent instructors such as lecturers, post-doctoral fellows, and graduate teaching assistants (GTAs; Rushin et al., 1997; Sundberg et al., 2005; Jaeger, 2008; Baldwin & Wawrzynski, 2011). At many institutions, these introductory courses consist of large lecture sections taught by FMs with smaller laboratory sections taught by GTAs (Rushin et al., 1997; Sundberg et al., 2005).

Research exploring these different instructor types suggests that undergraduates have different instructional perceptions of them (Park, 2002; Muzaka, 2009; Kendall & Schussler, 2012). For example, students consider GTAs to be nervous, uncertain, understanding, relatable, and able to personalize instruction while FMs are considered confident, distant, strict, knowledgeable, experienced, and respected (Park, 2002; Muzaka, 2009; Kendall & Schussler, 2012). The importance of these perceptions is that they are related to student perceptions of whether the instructor is an effective or ineffective teacher (Arnon & Reichel, 2007; Helterbran, 2008; Pattison et al., 2011; Kendall & Schussler, 2013b). Pattison et al. (2011), for example, documented instructional behaviors students found indicative of excellent teaching (e.g., enthusiasm and respect) and others that hindered learning (e.g., lack of organization and preparedness). Helterbran (2008) noted that studying student perception of positive and negative teaching behaviors are essential for informing classroom learning. In fact, research by Umbach and Wawrzynski (2005) indicates that faculty instructional behavior, and its subsequent impact on class culture, is likely the most important factor in student learning.

Initial perceptions of instructors are often generated quickly, and accurately (Ambady & Rosenthal, 1992), based on previous experiences, stereotypes, categorization, and reputations (Zarate & Smith, 1990; Quinn & Macrae, 2005; Buchert et al., 2008; Harnish & Bridges, 2011). Students use a

wide array of cues to form these impressions of their instructors, for instance, professional title, gender, age, and personality. One study found that teaching experience and communication style were most important for initial perceptions (Birch et al., 2012), while another study indicated that course materials (e.g., syllabi) can also impact student impressions of an instructor (Harnish & Bridges, 2011).

There is some debate, however, about the relationship between initial and final perceptions. In one study, student perceptions of FMs and GTAs evolved over a semester, with GTAs gaining in positive instructional behaviors such as understanding, confidence, respect, and engagement, while FMs became more uncertain and boring (Kendall & Schussler, 2013a). A study by Buchert et al. (2008) suggests that these shifts occur quickly, with pre-semester expectations changing to final semester perceptions as early as two weeks into the semester. A study by Griffin (2001), however, found that pre-semester reputation impacts end-of-term evaluations of an instructor (e.g., a positive reputation resulted in higher instructor and course ratings than having a negative reputation), meaning that these initial expectations influenced subsequent perceptions. Indeed, these studies suggest that student expectations at all time points matter in college classrooms (Horn, Lox, & Labrador, 2001).

In addition to different instructor types, there are different titles that may be used for the same instructor type. A faculty member may be called a lecturer, instructor, lecture instructor, tenure track faculty member, professor, etc. It is possible that each title may differentially impact student perception of the same faculty member's instruction. In a similar vein, GTAs may be called instructors, lab instructors, teaching assistants, or graduate students, which may also engender different instructional perceptions. We have reported that students perceive instructional differences between their faculty instructors and GTAs (Kendall & Schussler, 2013a), but will students perceive instructional differences solely based on title?

Project Rationale

The objective of this study was to document students' pre-semester instructional expectations of two instructor types, based on two different titles for each. Since even brief instructor introductions have the potential to impact student perceptions (Ambady & Rosenthal, 1992), this study was conducted completely online, before students had met their instructors. Therefore, this study documented what teaching attributes students *expected* from their introductory biology instructors, based on their titles, without confounding influences such as instructor behavior or appearance. Our hypothesis was that student perceptions would differ not only between instructor types, but also between instructor titles.

Methods

Data Collection

This study was conducted at a research university in the Southeastern United States. An online survey was deployed in fall 2012 to students registered for nine first-semester non-majors and majors introductory biology classes (each with lecture and lab) one week prior to the start of classes. Survey polling was closed prior to the first class meeting. The survey was sent to students by the faculty instructor of each course through the university course management system. This email outlined the objective of the study, but only revealed that the purpose was to explore what students expected from their Biology instructors. The email also included a link to the online survey (hosted by surveymonkey.com), contact information for the researcher, and a statement that the survey was anonymous and the results would not be reported to the instructors.

Students responded to one of two survey versions based on their day of birth (even versus odd): one had students compare their "lecture" and "laboratory" instructors, while the other compared "faculty members" and "graduate teaching assistants". Each are commonly used titles at the institution where the survey was deployed. All surveys contained the same informed consent information, demographic questions, and instructional expectation questions (e.g., whether the instructor

would be engaging, relaxed, strict, enthusiastic, boring, etc.; Table 1); the only difference was the instructor type and title. The instructional expectation questions were based on previous research on student perceptions of FMs and GTAs (Kendall & Schussler, 2012; 2013a). The demographic questions asked students to generate a survey code (birth month, birth day, and the last four letters of their mothers maiden name; e.g., 0226SMIT), if they were over the age of 18, their gender, current enrollment status, major, native language, previous biology courses completed, birth date (even or odd), and day/time of their current biology course. No incentives were offered for participation, and all procedures were approved by the Institutional Review Board.

Data Analysis

Wilcoxon signed rank tests were conducted to evaluate whether student ratings on the surveys differed based on instructor type ($\alpha = 0.05$; FM versus GTA, and lecture versus laboratory instructor). These data were paired because they were on the same survey. Mann-Whitney U tests were used to determine if student ratings differed based on instructor title ($\alpha = 0.05$; GTA versus laboratory instructor, and FM versus lecture instructor). These data were not paired (FM and lecture instructor were on different survey versions).

Kruskal-Wallis one-way ANOVA tests were performed on each instructor title data set to determine if student demographics (e.g., gender, current biology course, native language, or enrollment year) affected student instructional expectations ($\alpha = 0.05$). Significant results underwent pairwise comparisons (Mann-Whitney U tests, with Bonferroni approach to control for Type I error; α reported in results where applicable).

Table 1. Survey of student instructional expectations, using a rating scale of: strongly disagree, disagree, slightly disagree, slightly agree, agree, strongly agree. This table shows survey version one, which asked students to rate a "lecture" versus "laboratory" instructor. Survey version two was the same as version one except it replaced the words "lecture instructor" and "laboratory instructor" with the words "faculty member" and "graduate teaching assistant."

In your Biology course this semester, the lecture portion of the course will be taught by a different instructor than the laboratory section. Please indicate your expectations for EACH instructor in the following questions.

I expect my LECTURE instructor to be boring.
 I expect my LECTURE instructor to be confident.
 I expect my LECTURE instructor to be distant.
 I expect my LECTURE instructor to be engaging.
 I expect my LECTURE instructor to be enthusiastic.
 I expect my LECTURE instructor to be nervous.
 I expect my LECTURE instructor to be organized.
 I expect to relate to my LECTURE instructor.
 I expect my LECTURE instructor to be relaxed.
 I expect to respect my LECTURE instructor.
 I expect my LECTURE instructor to be strict.
 I expect my LECTURE instructor to be uncertain.
 I expect my LECTURE instructor to be understanding.

I expect my LABORATORY instructor to be boring.
 I expect my LABORATORY instructor to be confident.
 I expect my LABORATORY instructor to be distant.
 I expect my LABORATORY instructor to be engaging.
 I expect my LABORATORY instructor to be enthusiastic.
 I expect my LABORATORY instructor to be nervous.
 I expect my LABORATORY instructor to be organized.
 I expect to relate to my LABORATORY instructor.
 I expect my LABORATORY instructor to be relaxed.
 I expect to respect my LABORATORY instructor.
 I expect my LABORATORY instructor to be strict.
 I expect my LABORATORY instructor to be uncertain.
 I expect my LABORATORY instructor to be understanding.

Results

Participants

Undergraduate students. The surveys were delivered to 2,000 students in nine introductory biology courses (six non-majors classes and three majors classes). One hundred and ninety-nine students (9.95%) completed the survey; 90 completing version one and 109 version two. Given the voluntary nature of this pre-semester survey, a non-random sample had been anticipated.

The majority of survey participants were enrolled in the non-majors introductory course (61%), while the remaining students were in the majors biodiversity course (39%). Respondents were primarily female (74%) and native English speakers (98%). The actual percent female in each class was 67% and 58% in the non-majors and majors courses, respectively. First-year students comprised 72% of respondents, while second-, third-, and fourth-year and beyond students comprised 18%, 5%, and 5%, respectively. This was the first biology course 87% of respondents had taken at the university.

Expectations Based on Instructor Type and Title

Analysis of these data revealed differences in student instructional expectations based on instructor title and type. Results for each statistical comparison, and a summary of these results, are shown in Table 2.

Table 2. Mean descriptive statistics and p-values of statistical comparisons for each instructor type and title (mean \pm standard error) for each of the instructional expectation descriptor. The rating scale was coded so "strongly disagree" was equivalent to "1" and "strongly agree" was equivalent to "6" with a continuum between. Comparisons shown are based on Wilcoxon signed rank (within survey comparisons) or Mann-Whitney U tests (cross survey comparisons). Significant differences are shaded in light gray ($\alpha = 0.05$).

	Mean \pm Standard Error				Within Survey Comparisons		Cross Survey Comparisons	
	FM	GTA	Lecture	Laboratory	FM-GTA	Lec-Lab	FM-Lec	GTA-Lab
Boring	2.67 \pm 0.10	2.63 \pm 0.11	2.82 \pm 0.13	2.34 \pm 0.12	0.665	<0.001	0.362	0.033
Confident	5.09 \pm 0.08	4.42 \pm 0.11	5.26 \pm 0.07	5.22 \pm 0.07	<0.001	0.513	0.295	<0.001
Distant	2.88 \pm 0.11	2.72 \pm 0.11	2.83 \pm 0.15	2.39 \pm 0.11	0.068	<0.001	0.666	0.087
Engaging	4.67 \pm 0.10	4.52 \pm 0.10	4.66 \pm 0.12	5.00 \pm 0.11	0.085	<0.001	0.951	0.001
Enthusiastic	4.62 \pm 0.11	4.63 \pm 0.10	4.58 \pm 0.13	4.87 \pm 0.12	0.983	0.004	0.765	0.075
Nervous	1.82 \pm 0.08	3.53 \pm 0.13	1.96 \pm 0.10	2.03 \pm 0.10	<0.001	0.405	0.326	<0.001
Organized	5.06 \pm 0.09	4.80 \pm 0.10	5.16 \pm 0.10	4.99 \pm 0.12	<0.001	0.112	0.381	0.084
Relatable	3.64 \pm 0.11	4.41 \pm 0.10	3.89 \pm 0.15	3.93 \pm 0.12	<0.001	0.726	0.326	0.001
Relaxed	4.45 \pm 0.08	3.99 \pm 0.11	4.68 \pm 0.11	4.51 \pm 0.12	<0.001	0.078	0.082	0.001
Respect	5.55 \pm 0.06	5.08 \pm 0.09	5.39 \pm 0.09	5.43 \pm 0.08	<0.001	0.475	0.237	0.003
Strict	3.98 \pm 0.11	3.08 \pm 0.11	3.84 \pm 0.11	4.03 \pm 0.12	<0.001	0.041	0.329	<0.001
Uncertain	1.83 \pm 0.09	2.59 \pm 0.10	1.58 \pm 0.08	1.67 \pm 0.08	<0.001	0.132	0.023	<0.001
Understanding	4.50 \pm 0.11	4.93 \pm 0.09	4.48 \pm 0.14	4.49 \pm 0.13	<0.001	0.818	0.944	0.014

GTA versus FM. Student instructional expectations of a “GTA” versus a “FM” differed for the following descriptors: confident ($Z = -5.353$, $p < 0.001$), nervous ($Z = -7.917$, $p < 0.001$), organized ($Z = -3.717$, $p < 0.001$), relate ($Z = -6.208$, $p < 0.001$), relaxed ($Z = -3.736$, $p < 0.001$), respect ($Z = -5.207$, $p < 0.001$), strict ($Z = -6.519$, $p < 0.001$), uncertain ($Z = -5.422$, $p < 0.001$), and understanding ($Z = -4.618$, $p < 0.001$). Students expected FMs to be more confident, organized, relaxed, respected, and strict, while GTAs were expected to be more nervous, relatable, uncertain, and understanding (Figure 1).

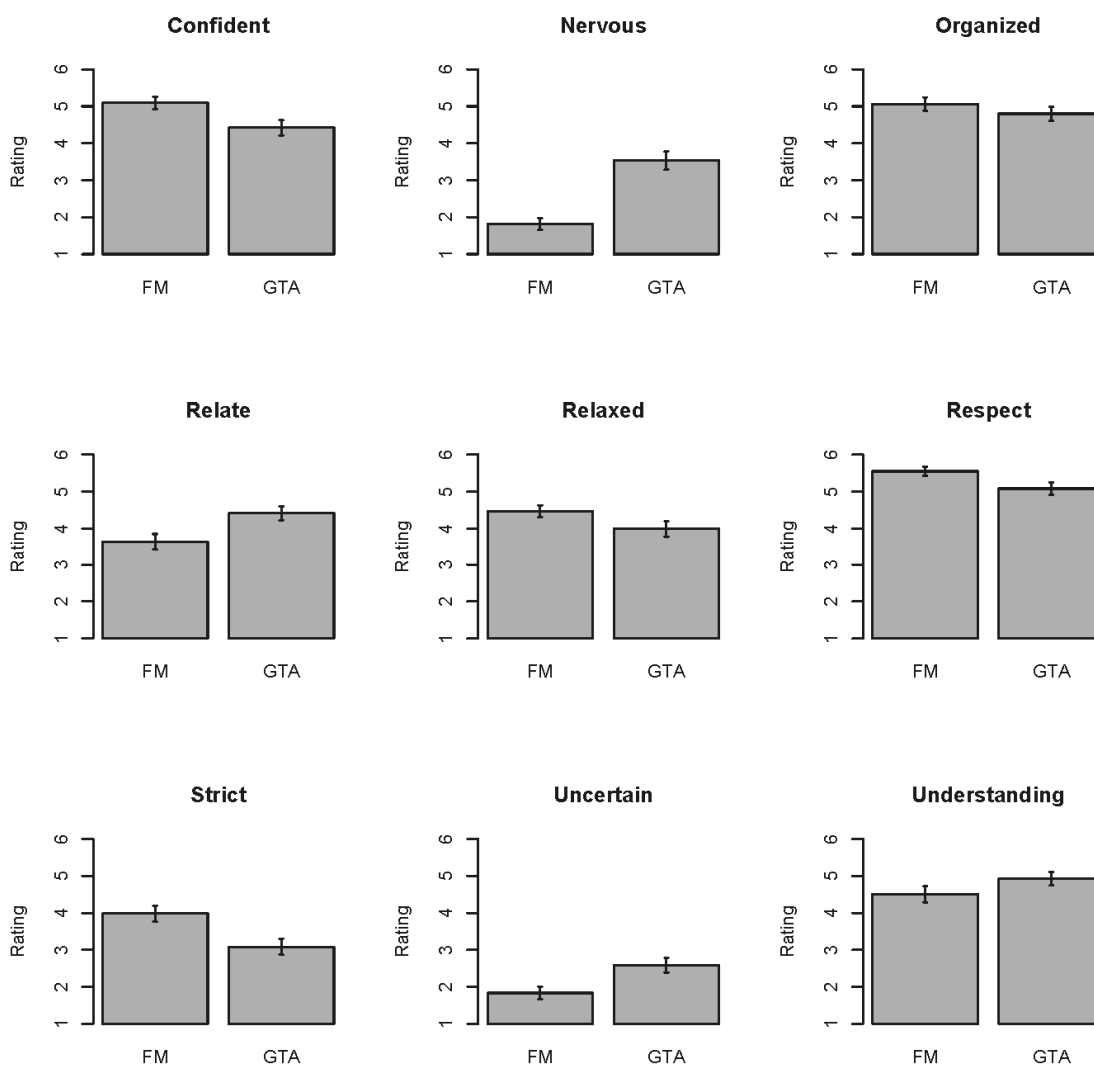


Figure 1. Mean \pm standard error for descriptors (alphabetical order) in which student instructional expectations differed for GTAs versus FMs (Wilcoxon signed-rank tests [$\alpha = 0.05$]).

Laboratory versus lecture instructor. Students also expected differences for “laboratory” versus “lecture” instructors, specifically: boring ($Z = -3.875$, $p < 0.001$), distant ($Z = -3.722$, $p < 0.001$), engaging ($Z = -3.771$, $p < 0.001$), enthusiastic ($Z = -2.861$, $p = 0.004$), and strict ($Z = -2.040$, $p = 0.041$). Students expected lecture instructors to be more boring and distant, and laboratory instructors to be more engaging, enthusiastic, and strict (Figure 2).

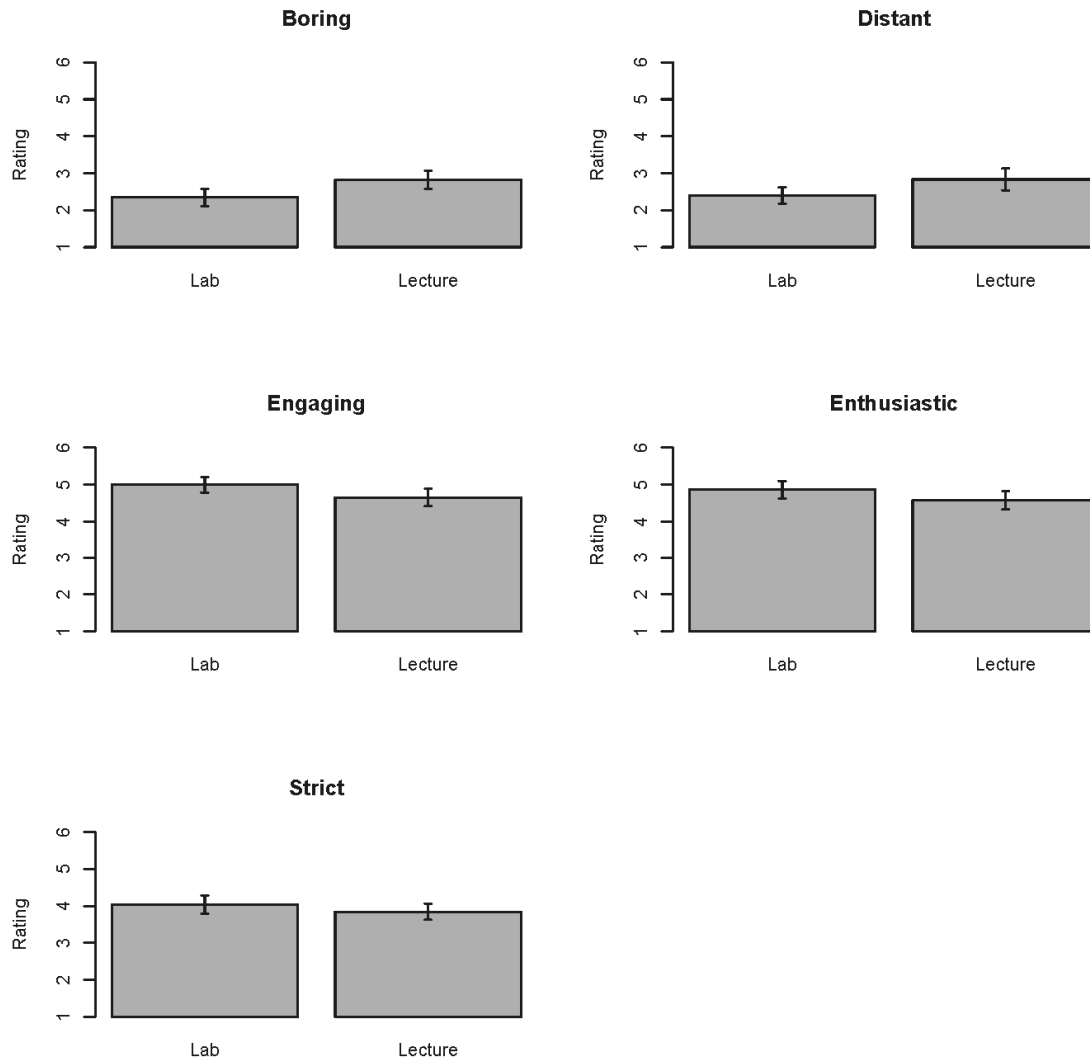


Figure 2. Mean \pm standard error for descriptors (alphabetical order) in which student instructional expectations differed for lecture versus laboratory instructors (Wilcoxon signed-rank tests [$\alpha = 0.05$]).

FM versus lecture instructor. Cross-survey comparisons found that students expected FMs to be more uncertain than lecture instructors ($U = 4066.000$, $Z = -2.266$, $p = 0.023$; Figure 3).

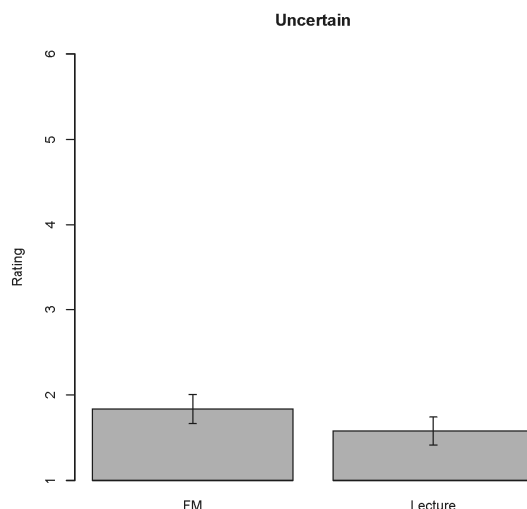


Figure 3. Mean \pm standard error for descriptor in which student instructional expectations differed for FMs versus lecture instructors (Mann-Whitney U [$\alpha = 0.05$]).

GTAs versus laboratory instructor. Cross-survey comparisons also found that student instructional expectations differed between GTAs and laboratory instructors for: boring ($U = 4082.500$, $Z = -2.134$, $p = 0.033$), confident ($U = 2837.000$, $Z = -5.401$, $p < 0.001$), engaging ($U = 3625.500$, $Z = -3.305$, $p = 0.001$), nervous ($U = 1901.500$, $Z = -7.623$, $p < 0.001$), relate ($U = 3628.500$, $Z = -3.276$, $p = 0.001$), respect ($U = 3787.500$, $Z = -3.018$, $p = 0.003$), strict ($U = 2759.000$, $Z = -5.450$, $p < 0.001$), uncertain ($U = 2546.000$, $Z = -6.111$, $p < 0.001$), and understanding ($U = 3949.000$, $Z = -2.456$, $p = 0.014$). Students expected GTAs to be more boring, nervous, relatable, uncertain, and understanding, while they expected laboratory instructors to be more confident, engaging, respected, and strict (Figure 4).

Influence of student demographics. Current biology course enrollment (majors versus non-majors), student native language, and number of completed biology courses did not impact student instructional expectations. Student enrollment year had no impact on student instructional expectations for any title except FMs ($\chi^2 = 10.715$, $df = 4$, $p = 0.030$) where first-year students said they would respect FMs more than second-year students (Mann-Whitney U, Bonferroni correction $\alpha = 0.005$, $U = 572.000$, $Z = -2.961$, $p = 0.003$). Gender did not impact student

instructional expectations of lecture instructors; yet differences were found for FM understanding ($U = 906.000$, $z = -2.023$, $p = 0.043$), laboratory instructor enthusiasm ($U = 448.500$, $Z = -2.407$, $p = 0.016$), GTA enthusiasm ($U = 858.500$, $Z = -2.397$, $p = 0.017$), GTA organization ($U = 889.000$, $Z = -2.193$, $p = 0.028$), and GTA understanding ($U = 918.500$, $Z = -1.968$, $p = 0.049$). Female students had higher instructional expectations than their male counterparts for all of these differences.

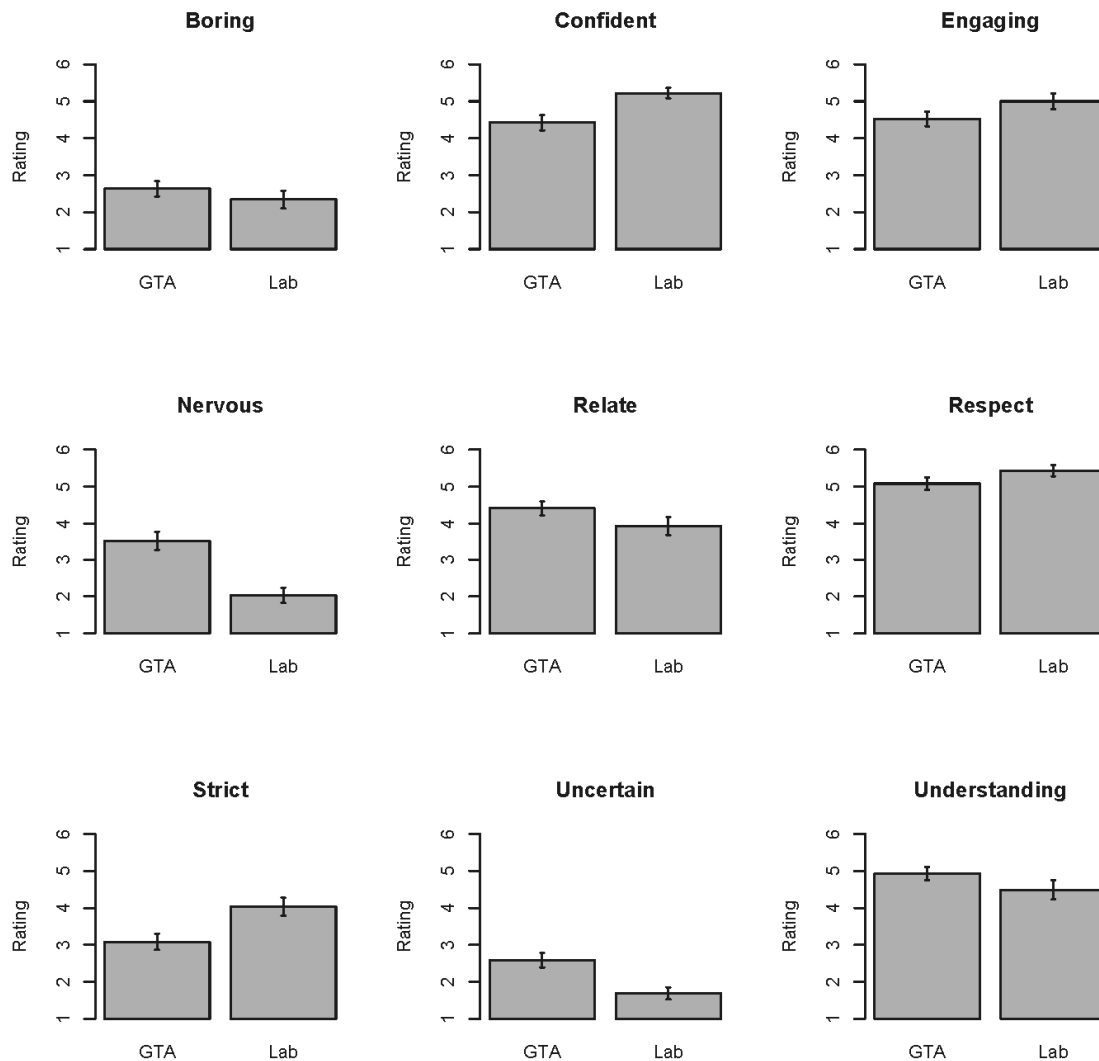


Figure 4. Mean \pm standard error for descriptors in which student instructional expectations differed for GTAs versus laboratory instructors (Mann-Whitney U [$\alpha = 0.05$]).

Discussion

Consistent with our hypothesis, we found that student instructional expectations differed among all four instructor types and titles despite students never having met the instructors. Interestingly, student perceptions differed even when the instructor title was for the same instructor type, e.g. a faculty member versus a lecture instructor. These differences were particularly striking when comparing the title of GTA and laboratory instructor, which suggests that students would be primed with different instructional expectations linked to more positive or negative perceptions of learning (Arnon & Reichel, 2007; Helterbran, 2008; Pattison et al., 2011), based on title alone. Given that GTAs often start the semester with lower student instructional expectations (yet gain over time; Kendall & Schussler, 2013a), using a title of "laboratory instructor" may confer more positive initial instructional perceptions, which could influence all future instructional interactions (Griffin, 2001; Horn, Lox, & Labrador, 2001).

Students have different instructional expectations for FMs and lecture instructors as well as GTAs and laboratory instructors even though FMs teach lecture sections and GTAs teach laboratory sections at this university. Since 72% of the respondents were first semester freshman, it is likely that many were naïve regarding the types, titles, and typical responsibilities of academic instructors at the institution. Consequently, it may be that undergraduates use keywords in each title to guide their perceptions, perhaps using title as a proxy for perception of teaching experience (Birch et al., 2012). For instance, students may see "assistant" in the title of GTAs and consider them less experienced, or see "lecture" in a title and think the instructor must have higher content knowledge.

Differences in students' instructional expectations for FMs versus GTAs are similar, but not identical, to work previously conducted at this university. Kendall and Schussler (2012) asked students to rate and describe differences between hypothetical professors and GTAs, approximately one month into a semester-long course. Similar to that study, students in this study expected faculty members to be more confident, organized, respected, and strict while GTAs were described as more nervous, relatable, uncertain, and understanding. However, unlike the previous study, we found in this study that students expected faculty members to be more relaxed than GTAs. These results suggest that title is a significant factor in student perception of differences between these instructor types, but also that the nature of these perceptions is consistent even after students have met actual examples of each type. This may lend support to the fact that these initial expectations influence subsequent perceptions of each instructor type (Griffin, 2001; Horn, Lox, & Labrador, 2001).

Students may also have preconceived notions about lecture and lab that influence instructional expectations when these words are used in the titles. For instance, students may expect laboratory instructors to be more engaging and enthusiastic due to the hands-on and small class environment of most laboratory classes. The perception of strict may be because of the rules and regulations for laboratory safety. By the same token, students may have a preconceived notion of large lecture classes being boring and the instructor being distant because of the class size. Future work could conduct interviews with students to probe their thinking about instructor titles to gain insight into what creates these instructional perceptions.

Several trends in the results of this study may suggest future areas of research related to student instructional expectations and instructor titles. For example, regardless of whether "laboratory instructors" were compared to "lecture instructors" or "GTAs", we consistently found that laboratory instructors were rated significantly higher for instructional behaviors of being engaging, enthusiastic, and strict, and were also seen as less boring. As mentioned previously, this could be because of student perception of lab versus lecture classes, yet this perception seems to lead students to attribute certain instructional characteristics to any teacher with the term "laboratory" in their title, even though GTAs typically teach laboratories at the university where this study was conducted. In a similar vein, "GTAs" were expected to be more nervous and uncertain and less respected and confident, regardless of whether they were compared to "FM"s or "laboratory instructors". These expectations could be due to the term "assistant" in their title, which implies that they have less experience than someone called an "instructor" or "faculty member". Interestingly, the term "instructor" is often used generically at the institution where this study was conducted, and could be applied to any teacher from a GTA to an Emeritus Professor. It may be that the use of this term for all teachers may help eliminate preconceived notions that may negatively impact GTAs in particular.

It is unknown at this time how these pre-semester student instructional expectations relate to perception of instructors once they are in the classroom. Ambady and Rosenthal (1992) documented that individuals quickly make accurate judgments of others, but it has also been reported that student perceptions of instructors change over a semester (Kendall & Schussler, 2013a). Given the research suggesting that initial expectations influence future interactions (Griffin, 2001; Horn, Lox, & Labrador, 2001), however, it seems possible that the different initial perceptions for the four titles of this study could differentially impact the future trajectories of student perceptions. Therefore, future work should determine to what degree instructional expectations impact student perception of instructor

types with different titles over time, and whether this is related to differences in perceived student learning.

Student characteristics clearly also play a role in instructional expectations, with student enrollment year and gender impacting the results in this study. First year students were more likely to rate FMs higher for respect than second year students. Although instructors must earn student respect (Kendall & Schussler, 2013b), it appears that first semester freshman are more likely to pre-confer respect on FMs than other instructors. However, much like the decreasing perception of respect for FMs over the semester (Kendall & Schussler, 2013a), this perception decreases by sophomore year. Future work should probe why this decrease occurs and what FMs can do to maintain it. Finally, female students have higher instructional expectations for their teachers than male students, as reported in previous studies (Basow, 1995; Centra & Gaubatz, 2000). Females may be more likely to reserve pre-semester instructional judgment than males, or perhaps be more optimistic about their instructors' teaching abilities, but these hypotheses should be investigated.

Limitations

Participants of this study were enrolled in first-semester introductory courses in a single discipline at one institution, consequently it is unknown if these results are generalizable to a larger population. Students may have different instructional expectations for instructors teaching different disciplines (e.g., biology versus physics), at different institution types (e.g., public versus private), or different course levels (e.g., introductory versus upper level). Moreover, student participants in this study were self-selected anonymous respondents comprising 10% of the potential student population, therefore it not a representative sample of even the target study group. Further research reproducing these results with a wider population of students would strengthen the inferences that could be made, and for that reason we have included the survey instrument for others to use.

Implications and Conclusion

This study highlights the importance of instructors carefully considering the title they use with their students because of its potential early impacts on student instructional expectations. Although these perceptions may be fleeting, the documented impact of instructor behaviors on student learning suggest that they are vitally important and understudied aspects of university classrooms (Umbach & Wawrzynski, 2005; Pattison et al., 2011; Kendall & Schussler, 2013a). Instructors may use this study to select an instructor title that confers specific instructional expectations such as a GTA choosing to use the title "laboratory instructor" to increase student perception of "respect". Universities could also use these results to educate

undergraduates about not only instructor types but also instructor titles. For instance, undergraduate orientations could help GTAs by explaining to students that they are graduate students with extensive content knowledge, gaining teaching experience prior to becoming faculty members, who often serve as laboratory instructors (Austin, 2002). These strategies may help instructors to enhance the instructional expectations of undergraduates in ways that improve student perception of the teaching and learning environment.

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