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RESEARCH

Factors That Influence Student Completion of Course and Faculty Evaluations

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Objective. To determine if there is a relationship between students' grades, gender, age, or ethnicity and their completion of course and/or faculty evaluations.

Methods. Data were collected and analyzed for relationships among students' gender, age, ethnicity, and course grade on their completion rates of course and faculty evaluations.

Results. The grade a student received in a course was not related to completion rates for course or faculty evaluations. Students born in 1987 or earlier were significantly more likely to complete course or faculty evaluations. Significant differences in completion rates were also found based on the course taken and the gender and ethnicity of the students.

Conclusions. Several demographic characteristics were identified that correlated with the completion of course and/or faculty evaluations. However, no correlation was found with the grade a student receives in a course and completion of either course or faculty evaluations. In order to improve course and faculty evaluation rates, further analysis of the influence of demographics on completion rates is warranted.

Keywords: assessment, faculty evaluation

INTRODUCTION

Student course and faculty evaluations are routinely used in academic institutions and have long been an integral part of colleges and universities in driving curricular change and faculty performance.[1,2] Colleges and schools of pharmacy also rely on student evaluations in their assessment process. In a 2009 study by Barnett and colleagues, 100% of the 89 colleges and schools of pharmacy surveyed applied student evaluations in both the classroom and practice experiences, with only 66% applying both student and peer evaluations to their assessment process.[3]

Student ratings of courses and faculty are a reliable and useful method of evaluating teaching and course effectiveness.[2,4,5] Student evaluations are as reliable as peer evaluations, provided that response rates are good.[5] Therefore, completion of student course evaluations is imperative in evaluating curricular trends and teaching effectiveness, particularly if no other assessment methods are performed.

Achieving good evaluation survey response rates may be difficult and can be driven by many influences. Numerous studies have evaluated what factors impact student response rates on course and faculty evaluations. Higher response rates and higher evaluation scores are routinely seen in courses wherein students were highly motivated and had high grade expectations.[2,6] Students were more likely to respond if they knew how their evaluations would be used and what decisions their responses would influence.[2,7,8] Compared with paper surveys, online evaluations also have been associated with increased response rates.[3,7,9] Incentive-driven or mandatory course and faculty evaluations result in the highest response rates but are not always feasible.

Completion of course and faculty evaluations at the University of Houston College of Pharmacy is voluntary; there are no penalties for students who do not respond. All course and faculty evaluations are collected with CourseEval (ConnectEDU, Boston, MA); they can be completed as early as 2 weeks prior to final examinations, with the process closing at midnight prior to the first final examination. Frequent reminders are generated and e-mailed by CourseEval to students who have not yet completed their evaluations. The number of questions for course and faculty evaluations varies from class to class.

We have previously surveyed students for their perceptions regarding what factors influence whether they complete evaluations. The largest factor for not completing evaluations was that students believed the evaluations

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would not result in change or would not benefit them. Major barriers for course and faculty evaluations included timing of the evaluations during the final examination week, total number of evaluations they had to complete, and how many courses they had to evaluate.[8] This previous study evaluated only the perceptions of students regarding evaluation completion and not the characteristics of the students who completed the evaluations. Students who take the time to complete these voluntary evaluations may be different from those who choose not to complete them.

There are numerous study data/reports regarding whether course grade, gender, age, or ethnicity affects how students rate courses or faculty on evaluations.[1] However, little is known regarding whether any of these variables impact a student's decision of whether to complete course and/or faculty evaluations. The University of Houston College of Pharmacy student population represents a wide variety of ages and ethnicities. Thus, we decided to examine several easily retrievable demographics to determine if course grades or other student factors affect evaluation response rates. The purpose of this study was to determine if there were differences in course grade, age, gender, or ethnicity between students who completed faculty and course evaluations and those who did not. If identified, these variables could be used to target individual groups to achieve higher participation rates in the future.

METHODS

Four courses with high semester credit hours and historically wide grade distributions were chosen for this study. The courses were Pharmacology I (4 semester credit hours), Pharmacology II (4 semester credit hours), Therapeutics I (5 credit hours), and Therapeutics II (5 credit hours). The pharmacology courses are offered the second year of the 4-year pharmacy curriculum, and the therapeutics courses are taken in the third year. All data were collected from the 2009-2011 academic year; however, because of an error in the administration of the Pharmacology II course evaluation in spring 2011, only data from the spring 2010 offering of that course were used. All pharmacy students enrolled in the courses evaluated in this study were included in the analysis.

Questions for course and faculty evaluations are updated and loaded into the CourseEval program annually. The students in each course are then assigned within CourseEval the evaluations they are to complete, based on their course schedule for that semester. The system automatically tracks which students have and have not completed the evaluations. During the time the evaluations are open, periodic e-mail reminders are sent to the students who have not completed their evaluations. Once an evaluation has closed for student input, the program administrator can log in to CourseEval to see which students have and have not completed certain evaluations. The program does not allow the program administrator to determine how any given student answered an evaluation. Data for the courses included in this study were extracted from CourseEval and coded for students who completed both the faculty and course evaluations, those who completed only course evaluations, those who completed only faculty evaluations, and those who did not complete any evaluations.

The University of Houston uses a program called PeopleSoft (Oracle, Redwood Shores, CA) as a repository for course grades and demographic information. This program was used to collect data on course grades for the students from the 4 courses evaluated in this study as well as each student's age, gender, and race/ethnicity. These data were aligned with the data from CourseEval by matching names, after which all data were de-identified for analysis. A unique, de-identified number was assigned to each student's name to allow for the assessment of unique students among the multiple courses. This study was approved by the University of Houston Institutional Review Board.

Data for all the courses were pooled and analyzed in SAS Statistical Software (SAS Institute Inc, Cary, NC). There were 889 surveys available for analysis of course and faculty evaluations. Data were analyzed in 3 groups; both evaluations completed, only course evaluations completed, and only faculty evaluations completed. The group who did not complete any evaluations served as the control group, to which all other groups were compared. All analyses were performed using a logistic regression model that included the unique student identifier as an independent variable. In the first set of analyses, each of the 3 groups was assessed in relation to course name, and student grade, age, gender, and ethnicity. To assess for independent predictors of evaluation completion, multivariate forward logistic regression models for each evaluation group were constructed, including all variables simultaneously. Interaction terms for the unique student identifier and class type or student demographics were also included if the interaction terms were significant or inclusion changed the association of the primary variables by more than 20%. A p value of less than 0.05 was considered significant for all analyses.

RESULTS

Three hundred sixty-eight unique students 28 $\pm$ 4.4 years of age were surveyed during the time period. Sixty-four percent were female; the most common

races/ethnicities were Asian (48%), white (37%), Hispanic (8%), and black (5%).

Completion of survey instruments by course taken and student demographics are presented in Table 1. Completion rates for both evaluations, course evaluations only, and faculty evaluations only ranged from 1.9% to 57.5%. Variables identified as significant for completion of both evaluations, faculty evaluations, and course evaluations included course taken ($p<0.001$) and older age ($p<0.005$). Variables identified as significant for completion of faculty evaluations only included female gender ($p=0.033$), and Caucasian or Asian race/ethnicity ($p=0.017$). Course grade was not a significant predictor of completion of any survey instrument.

All variables were included in 3 separate multivariate logistic regression equations to assess completion of both survey instruments, course survey instrument only, or faculty survey instrument only. No significant interaction terms were identified in any of the models. The only independent variable associated with completion of both survey instruments was course taken ($p<0.001$). Independent variables associated with completion of course survey instruments included course taken and older age (OR= 1.18; 95% CI: 1.01-1.25; $p<0.049$). Independent variables associated with completion of faculty survey instruments included class, ethnicity (OR:1.21; 95% CI: 1.02-1.45; $p=0.029$), female gender (OR= 1.44; 95% CI: 1.07-1.96; $p=0.018$), and younger age (OR: 1.13; 95% CI: 1.0-1.24; $p=0.05$). Course grade was not a significant independent predictor of completion of any survey instrument.

DISCUSSION

Our analysis comparing the course and faculty evaluation completion rates by course taken, age, gender, course grade, and ethnicity of students who completed evaluations revealed several significant findings. With respect to the different courses, several factors could have influenced the completion of course and faculty evaluations, including requests by faculty members, student satisfaction with the course, likeability of the professor, number of professors evaluated for the course, and timing of the evaluations. [4,8]

Table 1. Table 1Percentage of Students who Completed Survey Instrument, by Course and Student Demographics, N=889

Variable	Sample Size, No.	Completed Both Evaluations (n=197), %	Completed Only Course Evaluations (n=120), %	Completed Only Faculty Evaluations (n=97), %
Course taken				
Pharmacology 1 - Fall 2009	133	6.8[a]	11.3[a]	31.6[a]
Pharmacology 1 - Fall 2010	103	1.9	12.6	1.94
Pharmacology 2 – Spring 2010	136	17.7	27.9	36.8
Adv. Therapeutics 1 – Fall 2009	127	29.9	57.5	39.4
Adv. Therapeutics 1 – Fall 2010	134	9.0	38.8	9.7
Advanced Therapeutics 2 – Spring 2010	128	46.1	52.3	57.0
Advanced Therapeutics 2 – Spring 2011	128	41.4	46.1	50.0
Grades				
A	136	14.0	33.1	31.6
B	474	25.0	38.4	35.0
C-D-F-W	279	21.2	32.3	30.5
Gender				
Female	574	23.3	37.5	35.7[b]
Male	315	20.0	32.4	28.3
Age				
Born in 1987 or before	797	23.7[a]	37.5[a]	34.8[b]
Born in 1988 or after	92	8.7	19.6	18.5
Race/Ethnicity				
Asian	428	21.3	34.6	31.5[b]
Black	45	20.0	40.0	28.9
Caucasian	341	24.6	38.1	37.0
Hispanic	74	16.2	27.0	25.7

Abbreviation: W=withdrew.

[a] $P<0.001$; P values represent differing proportion of completers within each variable.

[b] $P<0.05$; P values represent differing proportion of completers within each variable.

Lack of correlation between course and faculty evaluation completion rates and course grades was an interesting finding. The college requests completion of survey instruments prior to posting of grades, perhaps positively influencing these results. Course grades have been shown to influence student evaluations of faculty members and courses, but this study considered only completion rates and not scores given on those evaluations.[10] Additionally, a study by Thorpe found that students who received higher grades in the course were more likely to have completed online evaluations,[9] which was not the case in the current study.

Our analysis found that older student age was significantly related to completion of both course and faculty evaluations, and that female gender and ethnicity were significantly related to completion of faculty evaluations. Gender differences as a significant factor has been documented previously and is supported in the literature. Thorpe's study documented the comparison of Web-based evaluation response rates and found that women completed the evaluation 58% of the time compared with men at 39%.[9] Our study found that students born in 1987 and before were significantly more likely to complete any evaluation in all 4 study groups. Although this finding is not well documented in the literature, 1 study found that upper-level students (juniors and seniors) were more inclined to participate in online evaluations than were lower-level students (freshmen and sophomores); exact age comparisons were not reported.[11]

One explanation for these findings could be that students born before 1987 were more likely to have previously earned a bachelor's or other degree compared with those born after 1988; however, we did not take into consideration whether participants had earned a degree. Our college has a diverse ethnic population, and ethnicity was found to be a factor in differences in completion rates for faculty evaluations. Other studies examining completion rates found no significant differences between minorities and nonminorities.[9] After controlling for these demographic variables, course taken was still the predominant predictor of survey instrument completion for any type of evaluation. Course characteristics such as course content, coordinator, faculty member, or other variables may further predict a higher likelihood of survey instrument completion.

This study has several limitations. It was completed at only 1 college of pharmacy (the University Houston College of Pharmacy), which may not be representative of other colleges and schools of pharmacy with respect to gender, age, and racial/ethnic composition of the student population. Although the 4 courses used for analysis were initially chosen for their high grade dispersions, they represent only a fraction of the curriculum. The error in the course evaluation for the Pharmacology II course in spring 2011 was also an issue. Because of this technical error in the CourseEval system, we did not have data for that course from that semester.

CONCLUSION

Our analysis found that the course taken and older age were significant characteristics leading to completion of any evaluation, and gender and ethnicity differences were found to be significant in those completing faculty evaluations. There was no correlation between student course grade and the likelihood of completing course and/or faculty evaluations. These findings add to the body of evidence regarding characteristics associated with completion of these evaluations by students. While these findings are specific to our college of pharmacy, they may be pertinent to other educational institutions. The influence of gender, age and other demographic factors warrants further analysis to determine to what degree, if any, these factors influence the course and faculty evaluation process.

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