High Educ (2016) 71:1–19
DOI 10.1007/s10734-015-9885-7

Student inferences based on facial appearance

Jeanette Morehouse Mendez[1] · **Jesse Perez Mendez**[2]

Published online: 6 May 2015

Abstract This study extends the scope of research that examines the connection between physical attractiveness and student perception through a survey analysis. While other studies concentrate on physical attractiveness alone, we examined not only perceptions of attractiveness but its impact on students' perception of knowledge, approachability and faculty selection in a hypothetical course. Using ordered logistic regression, logistic regression and ordinary least squares regression to examine the interaction between age, attractiveness, knowledge and approachability, our findings show that younger faculty members are perceived as more approachable and more attractive, while older faculty members are perceived as more knowledgeable. Faculty perceived as more attractive are also perceived to be more approachable. Further, we test the impact that these results have on faculty selection in a hypothetical course and find that students are more likely to select an attractive and approachable faculty member to take a course with, regardless of perceived knowledge of the faculty member. Overall, although the perception of beauty may be cursory, its results may not be when considering the primacy effect, role model effect and teaching effectiveness assessment.

Keywords Faculty · Perception · Students · Classroom · Bias · Evaluation

Every semester, millions of American college students enroll in various courses in colleges and universities under faculty where lectures are given and exams are proctored, learning is

✉ Jesse Perez Mendez
jesse.perez.mendez@okstate.edu

Jeanette Morehouse Mendez
jeanette.mendez@okstate.edu

[1] Department of Political Science, Oklahoma State University, 519 Math Science, Stillwater, OK 74078, USA

[2] School of Educational Studies, Oklahoma State University, 202 Willard Hall, Stillwater, OK 74078, USA

facilitated, and exams are proctored. However, the classroom is hardly ever static, and as humans we can be influenced by particular characteristics, physical and perceived. At the end of every semester, students complete teaching evaluations that assess their faculty's teaching ability, approachability and subject knowledge among other attributes. Course enrollments and evaluations of teaching effectiveness, along with students' biases, could potentially have an effect upon administrative actions regarding faculty, such as tenure and promotion (McKeachie 1997). But how do peripheral factors such as physical attractiveness affect student perceptions of faculty?

Several recent studies have examined student assessments of faculty (Basow 2000; Basow et al. 2008; Felton et al. 2004, 2008; Freeman 1994; Goebel and Cashen 1979; Liddle 1997; Otto et al. 2008). Other studies have also found correlations between high evaluation scores and physical attractiveness (Ambady and Rosenthal 1993; Felton et al. 2008, 2004; Goebel and Cashen 1979; Riniolo et al. 2006).

This study extends the scope of the research that examines the connection between physical attractiveness and student perception. While other studies concentrate on physical attractiveness, we extend this line of inquiry by also including inferences about faculty age, knowledge and approachability. We expect these factors to affect perceptions of attractiveness. Further, perceptions of attractiveness have the potential to affect more than course evaluations. We argue attractiveness may not only affect perceptions of knowledge and approachability, but also affect student preference of a faculty for given courses. Students select faculty for given courses for a variety of reasons, such as course evaluations, course worth, grading leniency, perception of useful knowledge, instructor popularity, word of mouth and potential course workload or difficulty (Babad 2001; Babad et al. 1999, 2007; Borgida 1978; Coleman and McKeachie 1982; Milliron 2008; Takeshita and Maeda 1999; Wilhelm 2004). The current generation of college students have unprecedented access to technology. Therefore it is reasonable to suggest these students could utilize online resources such as faculty and department Web sites in the faculty selection process. Given the availability of such information available online to students, including faculty photographs, we examine the biases that might be present in evaluating faculty based on physical appearance.

In this research, we use ordered logistic, logistic and OLS regression analyses to examine the interaction between perceptions of age, attractiveness, knowledge and approachability of students toward faculty. We then test the extent to which these factors might help explain faculty selection in a hypothetical course based on these attributes. We begin with a review of the relevant literature, followed by a discussion of the hypotheses that were tested and describe the data and methods employed in the research and the results. Our findings using a computerized experiment of college students show that physical appearance of faculty affects student perceptions of faculty. Younger faculty members are viewed as more approachable and more attractive, while older faculty members are perceived as more knowledgeable. Further, students prefer to take courses from faculty who are perceived to be attractive and approachable, regardless of perceived knowledge. Our study concludes with a discussion of the research implications on students, faculty members and administrators.

Student evaluations and perception

The literature regarding teacher effectiveness and students evaluation of faculty performance is divided among a variety of themes. Some studies find that students evaluate on the basis of teacher effectiveness (McKeachie 1997) and student learning (Marsh and

Roche 1997). Others look at the reputation for giving low/high grades and the role that students' perceptions of gender, race, age and physical attractiveness play in their assessments of teaching effectiveness (Glick et al. 2005; Gump 2007; Krautman and Sander 1999; Marsh and Roche 1997; McKeachie 1997; Sebastian and Bristow 2008; Zabaleta 2007).

For example, Smith (2009) examined the role race and gender play in student evaluations of courses in the USA. She analyzed 31,768 student evaluations from 2001 to 2004 at a Division I institution (the highest division of universities and colleges in athletics according to the National Collegiate Athletic Association), finding that female faculty across all races received the lowest mean scores in "overall value of course" and "overall teaching ability" compared to male faculty. In addition, Black faculty received lower mean scores on the same two categories than White faculty. On the other hand, male faculty who were listed as "Other" race (in her scheme this meant Asians, Latinos and Native Americans) received the highest mean scores in both those categories.

Does physical attractiveness matter in student assessment of their teacher's performance? Unlike decades past, college students now have unprecedented access to information about potential faculty through departmental Web sites, informal evaluation Web sites such as ratemyprofessor.com, and word of mouth. Ratemyprofessor.com is a Web site that solicits input from students to provide their commentary on the teaching effectiveness of university and college faculty, including rating their physical attractiveness. Using data from ratemyprofessor.com, Felton, Mitchell and Stinson (Felton et al. 2004) found a correlation between faculty competence and attractiveness ratings, suggesting that students are influenced by physical attractiveness of faculty. In a follow-up study, Felton et al. (2008) found that the correlation between teacher quality and "hotness" (i.e., physical attractiveness of a given faculty) on ratemyprofessor.com were "roughly twice as high as those reported in Felton et al. (2004)" (p. 55) with an expanded database. In their research, Riniolo et al. (2006), also using data from ratemyprofessor.com, found that faculty with high attractiveness ratings had higher student evaluation scores. "In real numbers, professors perceived as attractive received higher student evaluations than did nonattractive controls that were matched for both department and gender" (Riniolo et al. 2006). Freng and Webber (2009) found that perceived physical attractiveness accounted for the divergent teaching evaluations when controlling other factors.

Beyond attractiveness, other perceived traits of faculty such as age, rank and personality traits affect student evaluations. In a review of relevant literature, Feldman (1983) argued and explained research showing that the age and experience of the faculty member are inversely related to positive course evaluations. At the same time, academic rank is shown to be positively related to evaluations; bias exists initially toward older faculty members, who are also assumed to have more experience and knowledge. However, actual rank can mitigate these factors and has a positive effect on evaluations. Similar to the literature exploring attractiveness, it seems that students initially form and maintain impressions of faculty based on such attributes regardless of other more substantial factors such as content of the course and overall experience.

Personality traits have also been examined as a potential effect on course evaluations, although the research has been quite mixed. On the one hand, those who support the use of student evaluation of teachers (SET) have presented evidence that refutes any impact of personality traits on evaluations (Boice 1992; Cashin 1995; Felder 1995). In this line of inquiry, personality traits are equated to popularity and the evidence indicates that evaluations are not personality driven, nor are they popularity contests. However, research focusing on student perceptions of personality traits and teaching effectiveness show

different results (Feldman 1986). Several studies have shown strong linkages between personality and course evaluations (Clayson and Haley 1990; Marks 2000; Marsh and Hocevar 1991; Murray 1975; Sherman and Blackburn 1975). In particular, Clayson (1999) found that personality traits biased course evaluations and had a much larger impact on evaluations than perceptions of an instructor's knowledge, fairness or the students' own learning. The personality traits explored cover a range from optimistic, dominant, enthusiastic and likeable. Given the mixed evidence concerning personality traits, there is at least the potential that such traits may influence a student's faculty selection in a hypothetical course.

The current research concerning course selection considers a wide variety of factors.

> Sometimes one salient characteristic overshadows all other aspects (a charismatic or witty instructor, an easy grade, filling a hole in the schedule), and often students ignore the fuller and more valid sources of information, preferring relatively unreliable informal sources instead. In addition, students often lack a clear and explicit understanding of their priorities and goals, and the demands of the schedule are more influential than their substantive considerations. In short, the actual process of CS [course selection] is quite messy and disorganized for many students (Babad 2001, p. 471).

Babad (2001) posited that research on course selection behavior of students should consider other elements that may affect their decision-making process such as student characteristics, course and instructor characteristics, and situational characteristics.

In addition, the literature also highlights the powerful influence of first impressions of professors or instructors by students. Clayson and Sheffet (2006) show that course evaluations made within 5 min of the course, prior to the syllabus being handed out and the objective of the course stated, highly correlate with evaluations made in the same class 16 weeks later. Other studies have shown that students form impressions about the course and the instructor very early in the semester and these impressions hold regardless of additional experiences within the semester (Hewett et al. 1988; Ortineau and Bush 1987; Sauber and Ludlow 1988). Clearly first impressions are made unrelated to the content of the course, the effectiveness of the faculty member, the grade received, etc. Given that these trait inferences occur within moments of seeing the faculty, it makes sense that students might use the same trait inference process upon seeing a faculty photograph or Web site and maintain this inference to guide their selection of courses.

The purpose of this paper is to examine the extent to which trait inferences concerning perceptions of age, attractiveness, knowledge and approachability, previously shown to affect course evaluations, might also affect selection of a given course.

Research methodology

Although the literature demonstrates that students may use attractiveness as a guide in assessing faculty, we speculate that additional factors work and interact with perceptions of attractiveness. We asked ourselves two questions: What might affect perceptions of attractiveness and what effects might attractiveness have on other evaluations of faculty? In reviewing the literature, we identified three interrelated variables: age, knowledge and approachability.

We first hypothesize that age will affect perceptions of attractiveness. Given some evidence that younger faculty are given higher evaluations (Feldman 1983), we posit that age will affect evaluations of attractiveness, as well as evaluations of knowledge and approachability. In terms of attractiveness and approachability, we hypothesize that younger faculty will be perceived as both more attractive and more approachable. However, we also hypothesize that age will predict perceptions of knowledge with older faculty perceived as more knowledgeable. Specifically, we make the following hypotheses:

Hypothesis 1 Younger faculty members will be perceived as more attractive; or in the reverse, older faculty members will be perceived as less attractive.

Hypothesis 2 Older faculty members will be perceived as more knowledgeable.

Hypothesis 3 Younger faculty members will be perceived as more approachable.

Beyond effects on attractiveness, we hypothesize that attractiveness will affect other student evaluations. Research has shown not only that attractiveness affects student evaluations, but that perceptions of attractiveness affect evaluation in teacher perception and expectations of a pupil (Clifford and Walster 1973), perceived leadership qualities for males (Hickson 1993), communication via commercials and advertising (Joseph 1982), adult expectations of the developmental maturity of infants (Ritter et al. 1991) and the assessment of the musical performance of sixth-grade pianists (Wapnick et al. 2000). Using this rationale, we expect attractiveness to affect perceptions of knowledge and approachability. Given the inverse relationship between age and experience on course evaluations and our hypothesis that age will inversely affect attractiveness ratings and positively affect knowledge ratings, we hypothesize that attractiveness will also be inversely related to knowledge. Further, given the premium on attractiveness, we hypothesize that attractiveness will positively affect personality traits, such as approachability. Therefore we advance two additional hypotheses:

Hypothesis 4 Faculty perceived as attractive will also be perceived as less knowledgeable compared to faculty perceived as unattractive.

Hypothesis 5 Faculty perceived as attractive will also be perceived as approachable.

We also hypothesize that perceptions of age, attractiveness, approachability and knowledge will impact faculty selection in a hypothetical course. Drawing from the course evaluation literature, the instructors rated highest tend to be younger, attractive and likeable, while also knowledgeable. We hypothesize that these same biases will also manifest themselves in not only overall course evaluations, but also the selection of faculty from whom to take a hypothetical course. Therefore we expect students to prefer to take courses from younger, attractive, approachable and knowledgeable faculty. However, the effects of knowledge are not clear-cut. Students rate faculty of higher academic rank positively, though age and experience have negative effects. Thus, we expect knowledge to have an effect on the selection of faculty, though we would expect the other factors of attractiveness and approachability to be stronger. With this in mind, we further hypothesize the following:

Hypothesis 6 When given a choice between two faculty members teaching the same hypothetical course, students will prefer the faculty member who is perceived as more approachable.

Hypothesis 7 When given a choice between two faculty members teaching a hypothetical course, students will prefer the faculty member who is perceived as more knowledgeable.

Hypothesis 8 When given a choice between two faculty members teaching a hypothetical course, students will prefer the faculty member who is perceived as more attractive compared to the faculty member perceived as more knowledgeable.

To better understand the interconnections between these concepts and hypotheses, Fig. 1 displays the relationships.

Data and methods

To test our hypotheses, two surveys were conducted at a large university in the Midwest within the USA. Subjects for the surveys came from a required Introduction to American Government course. This course was chosen because as a required course for graduation, the students enrolled represent a cross section of the student body at the University. Therefore we are not self-selecting a sample within a particular major or within a particular year in school. The diversity in the class allows us to draw conclusions across the range of students within this University. Students were offered extra credit for their participation in both surveys. Students were given a Web site address through our *Inquisit* software to access the survey electronically.

In both surveys, students were asked to evaluate a series of photos of faculty members. The photos were found on various publicly accessible Web sites of research universities outside the state where the survey took place. For the purposes of this study, we used 144 photos of faculty. All of the photos have similar backgrounds and overall settings. In addition, the collection provided profiles of faculty members of various ages, ethnic backgrounds and disciplines. The photos were also equally divided across gender. The same photos were used in both surveys; only the requested evaluations were changed.

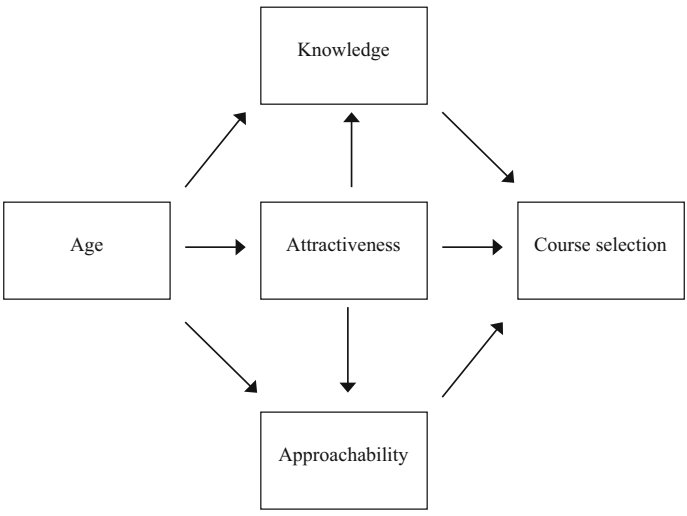

Fig. 1 Path analysis

We asked for evaluations of perceived age and perceived attractiveness in Survey 1 and knowledge and approachability in Survey 2. This was done for two reasons: (1) to avoid fatigue we wanted to avoid exposing the subjects to too many evaluations, and (2) to preserve their first impression of the photos, we only wanted to expose them to any particular photo once. Further, based on the ratings given in Survey 1, we created similarly rated pairs in Survey 2 and asked students to choose among the photos.

Survey 1

In the first survey, the 129 participants were asked to assess the perceived attractiveness and age of given a group of faculty photos. To preserve first impressions and avoid fatigue in rating too many photos across two categories, we divided the photos into two groups (Group A and Group B) and the students into two groups (Group 1 and Group 2). The computer program randomly assigned the groups at the start of the survey creating comparable size groups; Group 1 contained 71 students, and Group 2 contained 58 students. Subjects in Group 1 rated the attractiveness of photos in Group A and the age of Group B photos. Subjects in Group 2 assessed the attractiveness of Group B and the age of Group A. To further preserve first impressions, each photo appeared on the computer screen for only 1.5 s to prevent the subjects from over-thinking their responses or giving a socially acceptable answer.

Attractiveness was assessed using a 5-point scale. Students were told in the instructions that the number 1 indicates "not attractive" and the number 5 indicates "highly attractive." For perceived age, subjects were given three options to assess the age of the faculty member according to the following ranges: 30–44, 45–60 and over 60. In the final section of the survey, students were asked four demographic questions: gender, age, ethnic background and their major.

Survey 2

The second survey was administered to 476 students, none of whom participated in Survey 1. This was done in order to preserve the integrity of each set of evaluations (Riggle et al. 1992; Sigelman et al. 1987). For this survey, students made three evaluations: approachability, knowledge and course selection. Again, students were randomly assigned into one of two groups and asked to evaluate half of the photos for approachability and half for knowledge. The computer assigned these groups randomly meaning that they are comparable in size though not identical. In Group 1, a total of 218 subjects rated the perceived approachability of the Group A of photos and the perceived knowledge of the faculty in Group B. In Group 2, a total of 260 students assessed the perceived approachability of the faculty of Group B and the perceived knowledge of Group A. Again, as with Survey 1, each photo appeared on the computer screen for 1.5 s.

Perceived approachability and knowledge were assessed using a 5-point scale. Students were told the number 1 indicates either "not approachable" or "not knowledgeable" and the number 5 indicates "highly approachable" or "highly knowledgeable."

Following the assessments of knowledge and approachability, students were shown 72 pairs of faculty and asked to select which faculty member they would take a course from. Since our main hypotheses focus on the potential effects of perceived attractiveness on evaluations of faculty, we created the pairs based on the average of perceived attractiveness scores from the first survey. We then paired the faculty with the highest attractiveness score with the faculty with the lowest score and repeated this. Those faculty with mid-

range scores were paired together. In this pairing process, we accounted for the gender and racial characteristics of the faculty to create a similar amount pairs that are mixed gender and same gender as well as mixed race and same race. In the final section of the survey, we asked students four demographic questions: their gender, age, ethnic background and major.

Results of the survey: analytic approach

In considering how best to combine the data from both surveys given that not all students assessed each faculty member across the four evaluative criteria, we employ a unique two-stage analysis process. First, for each of the criteria (age, attractiveness, knowledge and approachability), we analyze the effects of student characteristics (race and gender) on faculty evaluations controlling for faculty race and gender. We combine both groups of students from Survey 1 for their assessments of attractiveness and age, and we combine both groups of students from Survey 2 for their assessments on approachability and knowledge. Based on the results from analyses with these data (described in the next section), we combine the results of both surveys into one dataset and create aggregate mean score across students for each evaluative criteria. Given that we lose individual student characteristics when we collapse the data to a single mean score per faculty, we preserve part of the student characteristics by calculating the mean scores based on subsets of the student characteristics. Thus, we calculate means scores for White male students, White female students, minority[1] male students and minority female students, for each of the four evaluative criteria (perceived age, perceived attractiveness, perceived knowledge and perceived approachability). While the students are different between surveys, we are comfortable with this approach because the students involved in the survey represent a cross section of students at the university. There is no reason to believe that the participants from each survey are different in meaningful ways that would affect the analysis. In fact, demographically the students are similar across surveys. In Survey 1, 74 % of the students are White and 53 % are male and, in Survey 2, 81 % of the students are White and 47 % are male. Given that we control for student characteristics on two levels and because the sample population is drawn from a required university course, we believe the two survey groups are comparable and the results can be used across the surveys. Additionally, this is a common practice in experimental research, as well as survey research (Riggle et al. 1992; Sigelman et al. 1987). Further, we created alpha scores for each faculty member per characteristic to identify whether using the mean is appropriate and across all faculty for each characteristic; the alpha scores are above 0.85.

Results of the survey: individual-level student characteristics

Since we rely both on individual-level student evaluations and on aggregate scores across students, we find it useful first to present the effects of student and faculty characteristics on each of the four evaluative criteria. To do so, we conduct a series of ordered logistic regressions where the evaluative criteria serve as the dependent variables, since they are

[1] We recognize that having only two categories for race is not ideal within the USA; however, our student sample did not have enough minority (or non-White) students to analyze the data with multiple racial categories.

ordered in nature. Given that the students made multiple evaluations, the sample size reflects the number of evaluations made, so we cluster the standard errors across each student. Our first two ordered logistic analyses used perceived age evaluations and perceived attractiveness evaluations (from Survey 1) as the dependent variables in two separate models, and student race, student gender, faculty race and faculty gender as the independent variables. Perceived age was measured on a 3-point scale, with a 1 = 30–44, 2 = 45–59 and 3 = 60+. Perceived attractiveness was scored on a 5-point scale with a 1 = "not attractive" and a 5 = "highly attractive." Gender (both subject and faculty) was coded as a 1 for males and a 0 for females. Race (both student and faculty) was coded as a 1 for White and a 0 for minority. We conducted these analyses for both Group 1 and Group 2 of students separately to identify whether any differences exist across the groups within the survey (Table 1).

Across both groups evaluating perceived age, student race and student gender were statistically significant predictors of perceived age, while faculty race and faculty gender were not. For Group 1, White students evaluated their photos as older than minority students did ($p = 0.00$), while White students in Group 2 evaluated their photos as younger than minority students did ($p = 0.04$). Further, male students in Group 1 evaluated the faculty as younger than female students did ($p = 0.00$), while male students in Group 2 evaluated the faculty as older than females did ($p = 0.00$). We do not believe these differences actually pertain to differences between men and women assigned randomly to Group 1 and Group 2; rather we anticipate these differences reflect the differences between the two sets of 72 photos shown to each of the two groups.

Table 1 Effects of student characteristics on perceived age and perceived attractiveness of faculty

	Age-Group 1	Age-Group 2	Attractiveness-Group 1	Attractiveness-Group 2
Student-White	0.27***	−0.11*	0.22***	0.54***
	(0.05)	(0.05)	(0.04)	(0.05)
Student-Male	−0.26***	0.30***	0.04	−0.37***
	(0.04)	(0.05)	(0.04)	(0.04)
Faculty-White	0.33	0.31	−0.07	0.06
	(0.24)	(0.23)	(0.13)	(0.13)
Faculty-Male	0.18	0.21	0.12	−0.06
	(0.24)	(0.22)	(0.13)	(0.13)
Cutpoint 1	−0.07	−0.25	−0.56	−0.44
	(0.19)	(0.18)	(0.12)	(0.09)
Cutpoint 2	1.97	1.89	0.50	0.97
	(0.21)	(0.19)	(0.13)	(0.11)
N-size	5112	4176	5112	4176
X^2, d*f*, prob > χ^2	75.38, 4, 0.00	40.75, 4, 0.00	54.20, 4, 0.00	199.70, 4, 0.00

Ordered logit analyses; standard errors in parentheses

Age: 3-point scale, 1 = 30–44, 2 = 45–60, 3 = 60+

Attractiveness: 5-point scale, 1 = not attractive, 5 = highly attractive

Faculty-White: 1 if faculty member is White, 0 all others

Faculty-Male: 1 if faculty member is male, 0 if female

Group 1 contained 71 students and 72 faculty photos

Group 2 contained 58 students and 72 faculty photos

*** $p < 0.00$, ** $p < 0.01$, * $p < 0.05$, $^{+}p < 0.10$

With respect to attractiveness, student race and student gender statistically significantly predicted perceptions of attractiveness. White students in both Group 1 and Group 2 evaluated faculty as more attractive than their minority student counterparts ($p = 0.00$ and $p = 0.00$, respectively). And in Group 2, male students evaluated the faculty as less attractive than female students did ($p = 0.00$). Faculty race and faculty gender were statistically insignificant.

For our second set of regression analyses, we used perceived knowledge evaluations and perceived approachability evaluations (from Survey 2) as the dependent variables, and student race, student gender, faculty race and faculty gender as the independent variables. Both perceived knowledge and perceived approachability were coded on a 5-point scale with the number 1 indicating "not knowledgeable/approachable" and the number 5 indicating "highly knowledgeable/approachable." Again we conducted ordered logistic regressions for both Group 1 and Group 2 separately for both knowledge and approachability to identify whether any differences exist across the groups within the survey. Table 2 presents these results.

In terms of knowledge, student race, student gender and faculty gender statistically significantly affected perceptions of knowledge. White students in Group 1 rated faculty as less knowledgeable than minority students in this group did ($p = 0.04$), while the reverse was true in Group 2 ($p = 0.00$). Across both groups, male students were more likely to rate faculty as less knowledgeable than female students did ($p = 0.00$ and $p = 0.05$, respectively). And again, across both groups, male faculty were perceived as statistically

Table 2 Effects of student characteristics on perceived knowledge and perceived approachability of faculty

	Knowledge-Group 1	Knowledge-Group 2	Approachability-Group 1	Approachability-Group 2
Student-White	−0.08* (0.03)	0.12*** (0.02)	−0.16*** (0.03)	−0.10*** (0.02)
Student-Male	−0.09*** (0.02)	−0.07* (0.02)	−0.03 (0.03)	−0.09** (0.03)
Faculty-White	−0.06 (0.07)	0.09 (0.07)	0.14^{+} (0.08)	0.0003 (0.10)
Faculty-Male	0.35*** (0.07)	0.32*** (0.07)	−0.10 (0.08)	0.03 (0.10)
Cutpoint 1	−1.37 (0.06)	1.45 (0.06)	−1.94 (0.07)	−2.07 (0.09)
Cutpoint 2	−0.57 (0.06)	−0.51 (0.06)	−0.84 (0.07)	0.81 (0.09)
N-size	15,696	18,720	15,696	18,720
X^2, d*f*, prob > χ^2	52.56, 4, 0.00	51.64, 4, 0.00	41.24, 4, 0.00	30.82, 4, 0.00

Ordered logit analyses; standard errors in parentheses

Knowledge: 5-point scale, 1 = not knowledgeable, 5 = highly knowledgeable

Approachability: 5-point scale, 1 = not approachable, 5 = highly approachable

Faculty-White: 1 if faculty member is White, 0 all others

Faculty-Male: 1 if faculty member is male, 0 if female

Group 1 contained 218 students and 72 faculty photos

Group 2 contained 260 students and 72 faculty photos

*** $p < 0.00$, ** $p < 0.01$, * $p < 0.05$, $^{+}p < 0.10$

significantly more knowledgeable compared to female faculty ($p = 0.00$ and $p = 0.00$, respectively). Faculty race was statistically insignificant.

For approachability, student race and student gender statistically significantly predicted perceptions of approachability. White students rated faculty as less approachable compared to the evaluations made by minority students ($p = 0.00$ and $p = 0.00$, respectively). Male students also rated faculty as less approachable than female students, though this is only statistically significant for Group 2 ($p = 0.04$). Both faculty race and gender were statistically insignificant.

Overall, some key differences existed across student and faculty demographics with respect to affecting each of the four evaluative criteria. And as explained previously, we believe the differences between groups to be a product of the two groups of photos, not substantive differences within the make-up of the students within the groups.

Results of the study: regression analysis

Our next focus was to directly test our hypotheses, combining both surveys into one dataset. Based in the results previously, having shown that student characteristics at times are statistically significant, we calculated mean scores per faculty based on subsets of students: White male, White females, minority males and minority females. Since we have two surveys and did not have each student rate each photo on all four criteria, the best way to combine our results into data that can be analyzed is through the aggregate means. As explained earlier, though we lose some individual-level data in creating the aggregate mean, we chose to create the means across four groups based on student demographics.

Effects of perceived age

Our first three hypotheses predicted that age affects perceptions of attractiveness, knowledge and approachability, with younger faculty being perceived as more attractive and approachable and older faculty being perceived as more knowledgeable. To test these relationships, we conducted three ordered logistic regression analyses with perceived attractiveness, perceived knowledge and perceived approachability as the dependent variables. Each dependent variable was coded on a 5-point scale and is the individual student evaluation. The main independent variable, perceived age, was coded as the aggregate mean faculty score calculated across each subset of students.[2] In addition, we controlled for the gender and ethnic background of the faculty member. Gender was coded as a 1 for male and a 0 for female. Race was coded as a 1 for White faculty and a 0 for minority faculty. These results are presented in Table 3.

As we hypothesized, perceived age statistically significantly predicted attractiveness, knowledge and approachability. First, younger faculty members were perceived to be more attractive than older faculty, confirming Hypothesis 1. This result is statistically significant ($p = 0.00$). A one-unit increase in age (moving from 30–44 to 45–60 or moving from 45–60 to 60 and over) corresponded to a decrease in perceived attractiveness by 0.80 points. We also found statistically significant effects for student race and student gender. Both White students and female students rated faculty as more attractive ($p = 0.00$ and $p = 0.01$, respectively).

Age was also a statistically significant predictor of perceptions of knowledge. Older faculty members were perceived as more knowledgeable than younger faculty, as we

[2] Separate analyses were conducted for Group 1 and Group 2, but statistically significant differences were not found, so we combined both groups for the rest of the analysis section.

Table 3 Effects of perceived age on perceived attractiveness, perceived knowledge and perceived approachability

	Attractiveness	Knowledge	Approachability
Perceived age	−0.80***	0.19**	−0.29***
	(0.10)	(0.06)	(0.08)
Student-White	0.36***	0.02	−0.12***
	(0.04)	(0.02)	(0.02)
Student-Male	−0.15**	−0.07***	−0.06*
	(0.04)	(0.02)	(0.02)
Faculty-White	0.08	−0.003	0.10
	(0.08)	(0.04)	(0.06)
Faculty-Male	−0.04	0.33***	−0.01
	(0.08)	(0.04)	(0.06)
Cutpoint 1	1.87	−1.09	−2.50
	(0.21)	(0.12)	(0.15)
Cutpoint 2	−0.64	−0.23	−1.32
	(0.22)	(0.12)	(0.15)
N-size	9288	34,418	34,416
X^2, d*f*, prob > χ^2	206.72, 5, 0.00	81.09, 5, 0.00	81.57, 5, 0.00

Ordered logit analyses; standard errors in parentheses

Perceived age: mean score for all students per faculty photo, matched on student characteristics (White male student, White female student, minority male student, minority female student)

Student-White: 1 if student respondent is White, 0 all others

Student-Male: 1 if student respondent is male, 0 if female

Attractiveness group contains 129 students: 71 in Group 1 and 58 in Group 2

Knowledge and Approachability groups contain 478 students: 218 in Group 1 and 260 in Group 2

*** $p < 0.00$, ** $p < 0.01$, * $p < 0.05$, $^{+}p < 0.10$

hypothesized in Hypothesis 2 ($p = 0.004$). In addition, student gender and the gender of the faculty statistically significantly affected perceptions of knowledge. Female students rated faculty as more knowledgeable, and male faculty were rated as more knowledgeable than female faculty ($p = 0.00$ and $p = 0.00$, respectively).

The results also showed that age statistically significantly affected perceptions of approachability negatively, meaning younger faculty were perceived as more approachable than older faculty, supporting Hypothesis 3 ($p = 0.00$). Minority students were also statistically significantly more likely to rate faculty as approachable ($p = 0.00$), and female students were statistically significantly more likely than male students to rate faculty as approachable ($p = 0.01$).

Effects of perceived attractiveness

Our next set of hypotheses addressed the extent to which perceptions of attractiveness affected knowledge and approachability. We hypothesized that faculty perceived as attractive will also be perceived as less knowledgeable (Hypothesis 4) yet more approachable (Hypothesis 5). To model these relationships, perceptions of knowledge and perceptions of approachability served as the dependent variables, measured on a scale from one to five. The main independent variable was perceptions of attractiveness, calculated as the mean aggregate score across students per faculty. Perception of age was excluded from the analysis

Table 4 Effects of perceived attractiveness on perceived knowledge and perceived approachability

	Knowledge	Approachability
Perceived attractiveness	0.04 (0.03)	0.37 (0.28)
Student-White	0.02 (0.02)	−0.19* (0.08)
Student-Male	−0.07*** (0.02)	−0.05 (0.03)
Faculty-White	0.02 (0.05)	0.06 (0.05)
Faculty-Male	0.34*** (0.05)	−0.02 (0.05)
Cutpoint 1	−1.34 (0.07)	−1.24 (0.57)
Cutpoint 2	−0.47 (0.07)	−0.05 (0.57)
N-size	34,118	34,416
X^2, d*f*, prob > χ^2	76.54, 5, 0.00	8, 5, 0.00

Ordered logit analyses; standard errors in parentheses

Perceived attractiveness: mean score for all students per faculty photo, matched on student characteristics (White male student, White female student, minority male student, minority female student)

Knowledge and Approachability groups contain 478 students, 218 in Group 1, 260 in Group 2

*** $p < 0.00$, ** $p < 0.01$, * $p < 0.05$, $^{+}p < 0.10$

because it had been shown to be a predictor of attractiveness and we find the presence of age in the model causes multicollinearity. The gender and race of the faculty and students served as control variables. The results of this analysis are presented in Table 4.

Perceptions of attractiveness did not affect perceptions of knowledge or approachability, contrary to our hypotheses. While we did expect faculty receiving lower attractiveness scores to be considered more knowledgeable, we found this not to be the case when we controlled for characteristics of the students and faculty. Further, while we expected faculty receiving higher attractiveness scores to be perceived as more approachable, we did not find support for this when we control for additional characteristics of the students and faculty. Our control variables did statistically significantly affect perceptions of approachability and knowledge. First, female students showed statistically significant effects in rating faculty as more knowledgeable, but not more approachable ($p = 0.00$). And minority students were statistically significantly more likely to rate faculty as approachable compared to White students ($p = 0.02$). Finally, male faculty members were statistically significantly more likely to be rated as more knowledgeable compared to female faculty ($p = 0.00$).

Determinants of faculty selection in a hypothetical course

Our final concern was the extent to which all of these factors are important in faculty selection in a hypothetical course. We asked students to select among two faculty teaching a hypothetical course. We hypothesized three relationships. First, students will choose the faculty who is perceived as more approachable (Hypothesis 6) and more knowledgeable (Hypothesis 7). However, we expected attractiveness to over-ride the effects of knowledge,

Table 5 Selection of most attractive faculty member

Distance-attractiveness	0.38*** (0.04)
Student-White	0.03 (0.05)
Student-Male	−0.11** (0.04)
Faculty-White	−0.56*** (0.02)
Faculty-Male	0.26*** (0.03)
Most knowledgeable	−0.52*** (0.01)
Most approachable	3.58*** (0.02)
Constant	−1.09 (0.05)
N-size	34,116
Pseudo-*R* squared	0.38

Logit analyses; standard errors in parentheses

Selection of most attractive faculty: 1 if the selected faculty member was the most attractive between the pair of faculty, based on mean student scores, 0 otherwise

Distance-attractiveness is the absolute difference between attractiveness scores for each pair of faculty

Faculty-White: 1 if the chosen faculty member was White, 0 all others

Faculty-Male: 1 if the faculty member chosen was male, 0 if female

Most knowledgeable: 1 if the selected faculty member was the most knowledgeable between the pair of faculty, based on mean student scores, 0 otherwise

Most approachable: 1 if the selected faculty member was the most approachable between the pair of faculty, based on mean student scores, 0 otherwise

*** $p < 0.00$, ** $p < 0.01$, * $p < 0.05$, $^{+}p < 0.10$

considering that students are more likely to choose faculty members who are more attractive, regardless of perceptions of knowledge (Hypothesis 8).

To begin, we first looked at the selection of faculty based on attractiveness. We created a variable coded as a 1 if the faculty member chosen was the most attractive in the pairing (based on the aggregate means scores for attractiveness) and a 0 if the less attractive faculty member was chosen. The results showed that students select the most attractive faculty person 67 % of the time.

To go deeper into this, we modeled the choice of the attractive faculty as a function of the distance between the attractiveness scores of the pair of faculty,[3] student and faculty characteristics and if the faculty selected was also either the most knowledgeable in the pair or most approachable (coded the same as attractiveness with a 1 meaning the faculty selected was the most knowledgeable/approachable in the pair, and a 0 otherwise). We utilized a logistic regression since the dependent variable is binary. The results of these models are presented in Table 5.

[3] Distance between attractiveness scores was used since our pairs contain equally perceived attractive faculty as well as pairs with one faculty on the high end of the perceived attractiveness scale and one of the low end of the perceived attractiveness scale.

Table 6 Effects of perceived attractiveness, perceived knowledge and perceived approachability and faculty selection in a hypothetical course

	Without attractiveness	With attractiveness
Perceived attractiveness		28.97*** (3.89)
Perceived knowledge	−12.72* (5.77)	4.09 (5.38)
Perceived approachability	66.96*** (0.07)	29.32** (6.38)
Faculty-Male	4.29 (2.60)	1.37 (2.23)
Faculty-White	0.72 (2.18)	2.54 (1.86)
Constant	−118.98 (16.23)	2.68 (0.08)
N-size	144	144
R-squared	0.64	0.74

OLS regression analyses; standard errors in parentheses

Faculty selection in a hypothetical course: The percentage of time each faculty was chosen to take a course from

Perceived attractiveness, knowledge and approachability are aggregate mean scores across all students for each faculty member

*** $p < 0.00$, ** $p < 0.01$, * $p < 0.05$, $^{+}p < 0.10$

According to our findings, the distance between the attractiveness scores of the faculty was statistically significant: the more the disparity in perceived attractiveness, the more likely the student is to choose the more attractive faculty member ($p = 0.00$). Second, female students were statistically significantly more likely to choose the attractive faculty member ($p = 0.004$). Further, when the attractive faculty member was chosen, that faculty member was statistically significantly more likely to be male ($p = 0.01$). Lastly, further highlighting the previous relationship between attractiveness, knowledge and approachability, students were statistically significantly more likely to choose the attractive faculty when they were also perceived as more approachable ($p = 0.00$) and less knowledgeable ($p = 0.00$).

As an additional test, and perhaps a more intuitive test of our hypotheses, we relied solely on the mean aggregate scores and created a percentage for each faculty member that represents how often the faculty member was selected among all students. This became our dependent variable. The faculty characteristics and the mean aggregate scores for attractiveness, knowledge and approachability served as our independent variables. We modeled two relationships to test our hypotheses. In the first model, we excluded attractiveness from the analysis, and in the second model attractiveness was included. Since the dependent variable ranges from 0 to 100, we used OLS regression analyses. These results are presented in Table 6.

The first model, without attractiveness, supported both Hypotheses 6 and 7. Both approachability and knowledge statistically significantly affected faculty selection in a hypothetical course ($p = 0.00$ and $p = 0.04$, respectively). Faculty perceived to be more approachable scored 66.96 % higher than faculty perceived as less approachable. But a negative relationship existed between the perception of knowledge and faculty selection in

a hypothetical course ($p = 0.03$). Faculty perceived to be more knowledgeable were less likely, not more likely, to be selected. However, when attractiveness was added to the model, the effects of knowledge disappeared, as hypothesized. Attractiveness was the overriding concern in faculty selection in a hypothetical course, not knowledge ($p = 0.00$). More attractive faculty scored 28.97 points higher than unattractive faculty, roughly the same as approachability in this model (29.32). The results provided support for Hypotheses 6–8.

Discussion and conclusions

Overall, our findings show that physical attractiveness of faculty influences student perception. Students found younger faculty members and more attractive faculty members as more approachable. On the other hand, older faculty members were perceived as more knowledgeable. These elements of physical attractiveness, approachability and perceived knowledge also statistically significantly predicted student selection of faculty in a hypothetical course. Putting a premium on particular attributes, students were more likely to select an attractive and approachable faculty member to take a course with, regardless of perceived knowledge. These results complement the findings of other research, showing that physical attributes of faculty impact student perception of faculty and may ultimately affect course evaluations (Felton et al. 2004, 2008; Freng and Webber 2009; Riniolo et al. 2006).

The findings of this study lead to three main observations. First, the role model effect may be at play in student selection of faculty selection of hypothetical courses, illustrating once again the importance of recruiting and retention of faculty of various racial and ethnic backgrounds (Blackwell 1981; Godfrey 2005). As demonstrated in the findings, minority students perceived minority faculty as more knowledgeable *and more approachable*, but perhaps this was a proxy for a cultural bond that they perceived as sharing with faculty from a similar ethnic background. In addition, female participants had a similar preference for female faculty members. Female students in particular may be able to identify with a female faculty members and seek mentoring opportunities either personally or from afar. According to Rask and Bailey (2002), this role model effect may have benefits outside of student identification and persistence; it may also include recruiting students into a particular field of study. "The proportion of classes taken with a faculty member "like-you" has a positive effect on the probability that a student will choose that major." (p. 99).

Second, administrators and faculty alike should be mindful of the resonating power of first impressions on students. Drawing on previous literature, Goebel and Cashen (1979) defined the primacy effect as "the first impression the teacher names on students influences their future observations in a biased direction" (p. 651). The findings uncovered student's perceptions, showing a link between perceived age and approachability, perceived age and knowledge, and perceptions of females faculty and attractiveness. First, we found that age statistically significantly predicts knowledge that agrees with the findings of Fries and McNingh (2003) that concluded that experience might matter to students. "[S]tudents gave instructors with less than 5 years of experience lower mean scores, more comments, and more critical comments than they did to instructors with more experience." (p. 341). Although young faculty may have years of experience, it may take time for students to realize that faculty youth does not equate to inexperience.

And although age implies knowledge, there are liabilities to age. We found that age affects perceptions of approachability. In other words, faculty perceived as younger are

also perceived as more approachable, and vice versa. However, any liability that age may have for perceived older faculty may be addressed easily by the faculty member's reaching out and making him or herself available to students throughout the duration of the semester.

Perception disparities along gender lines are more provocative. Males in general, and White males specifically, were perceived as more knowledgeable than females, a fact that has been found in other literature. Fries and McNingh (2003) found that "students rank female instructors consistently lower than their male counterparts in all categories while simultaneously giving a higher percentage of negative comments to their female instructors." (p.341). Our findings confirmed the earlier literature in suggesting that female faculty face more challenging obstacles in the classroom than their male counterparts.

Third, the findings indicate that faculty physical attractiveness may skew student perception of other attributes attached to teaching. Although some studies found a correlation between faculty physical attractiveness and performance assessment on ratemyprofessor.com (Felton et al. 2004, 2008), Freng and Webber (2009) specifically found that physical attractiveness explained the 8 % of the variance of student evaluations.

If individual teachers are treated differently because of their physical attractiveness, these biases perceptions could impact potential salaries and thus their career-long earning potential (Hammermesh and Parker 2005), given that a great number of institutions use course evaluations as benchmarks for merit raises, employability and career trajectory. Course evaluations can play a particularly important role in the lives of tenure-track faculty who are making the case for their promotion or setting the stage for employment at another institution.

While the results at face value might appear grim from the perspective of the faculty member, these results can provide unique insights from the perspective of the student, faculty and administrator. First, the results suggest that students might be fickle: choosing younger, attractive faculty members with little regard to knowledge. However, the results showed statistically significant differences between the race and gender of the student. Further, these results might illustrate the current student in today's university setting—one who is technologically savvy and uses faculty profiles and department Web sites to select courses. Future research can explore this connection. Our study tests and confirms that students infer attributes in fleeting seconds that may short-circuit or enhance their pedagogical experience based on physical appearance alone. Further, from the perspective of the faculty, one of the factors that can be easily addressed is approachability. Faculty members can be aware of and take steps to bridge any gaps to become more approachable, be that through office hours, email or a variety of other means.

Lastly, with the interplay between perceived age, approachability, knowledge and physical attractiveness, our findings suggest that assessment administrators need to recognize the limitations of student evaluations. Lower scores were found for female and minority faculty members; however, female and minority students were found to give scores higher than their counterparts. When evaluations are made through multiple-choice scenarios, these differences need to be examined. Low course enrollments and potentially lower course evaluations might be indicative, and administrators will need to take these situations into account when making personnel decisions. Overall, although beauty may be superficial, this study underscores the impact of first impressions based on appearance.

References

Ambady, N., & Rosenthal, R. (1993). Half a minute: Predicting teacher evaluations from thin slices of nonverbal behavior and physical attractiveness. *Journal of Personality and Social Psychology, 64*(3), 431–441.

Babad, E. (2001). Students' course selection: Differential consideration for the first and last course. *Research in Higher Education, 42*(4), 469–492.

Babad, E., Darley, J. M., & Kaplowitz, H. (1999). Developmental aspects in students' course selection. *Journal of Educational Psychology, 91*(1), 157–168.

Babad, E., Icekson, T., & Yelinek, Y. (2007). Antecedents and correlates of course cancellation in a university "drop and add" period. *Research in Higher Education, 49*, 293–316.

Basow, S. A. (2000). Best and worst professors: Gender patterns in students' choices. *Sex Roles, 43*, 407–417.

Basow, S. A., Phelan, J. E., & Capotosto, L. (2008). Gender patterns in college students' choices of their best and worst professors. *Psychology of Women Quarterly, 30*, 26–35.

Blackwell, J. E. (1981). *Mainstreaming outsiders: The production of Black professionals*. Bayside, NY: General Hall.

Boice, R. (1992). Countering common misbeliefs about student evaluation of teaching. *ADE Bulletin, 1010*(Spring), 2–8.

Borgida, E. (1978). Scientific deduction—Evidence is not necessarily informative: A reply to Wells and Harvey. *Journal of Personality and Social Psychology, 36*(5), 477–482.

Cashin, W. E. (1995). Student ratings of teaching: The research revisited. Idea paper no. 32. Center for Faculty Evaluation and Development, Division of Continuing Education, Kansas State University.

Clayson, D. E. (1999). Students' evaluation of teaching effectiveness: Some implication of stability. *Journal of Marketing Education, 21*(1), 69–75.

Clayson, D. E., & Haley, D. A. (1990). Student evaluations in marketing: What is actually being measured? *Journal of Marketing Education, 12*(3), 9–17.

Clayson, D. E., & Sheffet, M. J. (2006). Personality and the student evaluation of teaching. *Journal of Marketing Education, 28*(2), 149–160.

Clifford, M. M., & Walster, E. (1973). The effect of physical attractiveness on teacher expectations. *Sociology of Education, 46*, 248–258.

Coleman, J., & McKeachie, W. J. (1982). Effects of instructor/course evaluations on student course selection. *Journal of Educational Psychology, 73*(2), 224–226.

Felder, R. M. (1995). What do they know anyway? *Chemical Engineering Education, 26*(3), 134–135.

Feldman, K. A. (1983). Seniority and experience of college teachers as related to evaluations they receive from students. *Research in Higher Education, 18*(1), 3–124.

Feldman, K. A. (1986). The perceived instructional effectiveness of college teachers as related to their personality and attitudinal characteristics: A review and synthesis. *Research in Higher Education, 24*(2), 139–213.

Felton, J., Koper, P. T., Mitchell, J., & Stinson, M. (2008). Attractiveness, easiness and other issues: Student evaluations of professors on Ratemyprofessor.com. *Assessment & Evaluation in Higher Education, 33*(1), 45–61.

Felton, J., Mitchell, J., & Stinson, M. (2004). Web-based student evaluations of professors: The relations between perceived quality, easiness and sexiness. *Assessment & Evaluation in Higher Education, 29*(1), 91–108.

Freeman, H. R. (1994). Student evaluations of college instructors: Effects of type of course taught, instructor gender and gender role, and student gender. *Journal of Educational Psychology, 86*(4), 627–630.

Freng, S., & Webber, D. (2009). Turning up the heat on online teaching evaluations: does "hotness" matter? *Teaching of Psychology, 36*, 189–193.

Fries, C. J., & McNingh, R. J. (2003). Signed versus unsigned student evaluations of teaching: A comparison. *Teaching Sociology, 31*(3), 333–344.

Glick, P., Larsen, S., Johnson, C., & Branstiter, H. (2005). Evaluations of sexy women in low- and high-status jobs. *Psychology of Women Quarterly, 25*, 389–395.

Godfrey, C. J. (2005). African American nursing faculty: where are they? *The ABNF Journal, 16*(1), 11–13.

Goebel, B. L., & Cashen, V. M. (1979). Age, sex and attractiveness as factors in student ratings of teachers: A developmental study. *Journal of Educational Psychology, 71*(5), 646–653.

Gump, S. E. (2007). Student evaluations of teaching effectiveness and the leniency hypothesis: A literature review. *Educational Research Quarterly, 30*(3), 55–68.

Hammermesh, D. S., & Parker, A. (2005). Beauty in the classroom: Instructors' pulchritude and putative pedagogical productivity. *Economics of Education Review, 24*, 369–376.

Hewett, L. J., Chastain, G., & Thurber, S. (1988). *Course evaluations: Are students' ratings dictated by first impressions? Paper presented at the Rocky Mountain Psychological Association, April 21–22*. Utah: Snowbird.

Hickson, J. (1993). Differences in influence of physical attractiveness on evaluations of leadership behavior for men and women in higher education. *Journal for Higher Education Management, 9*(1), 65–74.

Joseph, W. B. (1982). The credibility of physically attractive communicators: A review. *Journal of Advertising, 11*(3), 15–24.

Krautman, A. C., & Sander, W. (1999). Grades and student evaluations of teachers. *Economics of Education Review, 18*, 59–63.

Liddle, B. J. (1997). Coming out in class: Disclosure of sexual orientation and teaching evaluations. *Teaching of Psychology, 24*(1), 32–35.

Marks, R. B. (2000). Determinants of student evaluations of global measures of instructor and course value. *Journal of Marketing Education, 22*(2), 108–119.

Marsh, H. W., & Hocevar, D. (1991). Students' evaluation of teaching effectiveness: The stability and mean rating of the same teachers over a 13-year period. *Teaching and Teaching Education, 7*(1), 303–314.

Marsh, H. W., & Roche, L. A. (1997). Making students' evaluations of teaching effectiveness effective: The critical issues of validity, bias, and utility. *American Psychologist, 52*(11), 1187–1197.

McKeachie, W. J. (1997). Student ratings: The validity of use. *American Psychologist, 52*(11), 1218–1225.

Milliron, V. C. (2008). Exploring millennial student values and societal trends: Accounting course selection preferences. *Issues in Accounting Education, 23*(3), 405–419.

Murray, H. G. (1975). Predicting student ratings of college teaching from peer ratings of personality types. *Teaching of Psychology, 2*, 66–70.

Ortineau, D. J., & Bush, R. P. (1987). The propensity of college students to modify course expectations and its impact on course performance information. *Journal of Marketing Education, 9*, 42–52.

Otto, J., Sanford, D. A, Jr, & Ross, D. N. (2008). Does ratemyprofessor.com really rate my professor? *Assessment & Evaluation in Higher Education, 33*(4), 355–368.

Rask, K. N., & Bailey, E. M. (2002). Are faculty role models? Evidence from major choice in an undergraduate institution. *Journal of Economic Education, 33*(2), 99–124.

Riggle, E. D., Ottati, V. C., Wyer, R. S., Kuklinski, J., & Schwarz, N. (1992). Basis of political judgements: The role of stereotypic and nonstereotypic information. *Political Behavior, 14*(1), 67–87.

Riniolo, T. C., Johnson, K. C., Sherman, T. R., & Misso, J. A. (2006). Hot or not: Do professors perceived as physically attractive receive higher educations? *Journal of General Psychology, 133*(1), 19–35.

Ritter, J. M., Casey, R. J., & Langlois, J. H. (1991). Adults' responses to infants varying in appearance of age and attractiveness. *Child Development, 62*(1), 68–82.

Sauber, M. H., & Ludlow, R. R. (1988). Student evaluation stability in marketing: The importance of early class meetings. *The Journal of Midwest Marketing, 3*(1), 41–49.

Sebastian, R. J., & Bristow, D. (2008). Formal or informal? The impact of style of dress and forms of address on business students' perception of professor. *Journal of Education for Business, 83*(4), 196–201.

Sherman, B. R., & Blackburn, R. T. (1975). Personal characteristics and teaching of college faculty. *Journal of Educational Psychology, 67*(1), 124–131.

Sigelman, L., Sigleman, C. K., & Fowler, C. (1987). A bird of a different feather? An experimental investigation of physical attractiveness and the electability of female candidates. *Social Psychology Quarterly, 50*, 32–43.

Smith, B. P. (2009). Student ratings of teaching effectiveness for faculty groups based on race and gender. *Education, 129*(4), 615–624.

Takeshita, T., & Maeda, K. (1999). An integrated web computing application for tasks related to course selection and registration. *Information and Software Technology, 41*, 955–1004.

Wapnick, J., Mazza, J. K., & Darrow, A. A. (2000). Effects of performer attractiveness stage behavior and dress on evaluation of childrens' piano performances. *Journal of Research in Music Education, 48*(4), 323–335.

Wilhelm, W. C. (2004). The relative influence of published teaching evaluations and other instructor attributes on course choice. *Journal of Marketing Education, 27*(1), 17–30.

Zabaleta, F. (2007). The use and misuse of student evaluations of teaching. *Teaching in Higher Education, 12*(1), 55–76.