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The Effect of Professor Ethnicity and Gender on Student Evaluations: Judged Before Met

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Ethnic minority academicians face a number of challenges in the "ivory tower." One set of challenges arises from the racial stereotypes that others hold, and the current research investigates the stereotypes held by students before they even meet such professors. After providing college preparatory students with a CV of a professor (differing in their race—White, Black, or Asian; their gender—male or female; and their academic discipline—Science or Humanities), students evaluated the professor on measures of competence, legitimacy, and interpersonal skills. We found that students evaluated Black professors to be significantly less competent and legitimate than their White and Asian counterparts. Both Black and Asian professors were judged to have significantly less interpersonal skills than White professors. No gender main effects emerged. Professors in science were judged to be more competent and legitimate than professors in humanities. Very few interactions surfaced. We discuss our results in terms of previous stereotype research and the implications our results have for further compounding the challenges that Black professors face in academia.

Keywords: student evaluations, stereotypes, discrimination, professor ethnicity and gender

Significant evidence documents the barriers and marginalization ethnic minorities and women face in academia, some of which include high levels of social isolation, slower rates of advancement, and a greater lack of academic mentors compared to their nonethnic minority and male counterparts (Aguirre, Hernandez, & Martinez, 1994; Nakanishi, 1993; Olivas, 1988; Stanley, 2006; Stein, 1994; Turner, Gonzalez, & Wood, 2008). For example, data from 2007 show that Black, Asian, and White individuals make up 3.37%, 7.06%, and 85.28%, respectively, of full professors in colleges and universities while individuals in these same groups received 6.15%, 5.84%, and 56.21%, respectively, of the doctoral degrees awarded from 2006 to 2007 (Snyder, Dillow, & Hoffman, 2009).

Consequently, racial disparity between the numbers of ethnic minorities and White individuals exists in academia for a number of reasons. For example, research has suggested that differences in responses to graduate school pressures, attraction to industry jobs, preferences and salary expectations, and biases within departments contribute to this gap (Bellas & Toutkoushian, 1999; Camp, 1997; Olsen, Maple, & Stage, 1995; Taylor, 2007; Stanley, 2006). One unexplored contributing factor to this ethnic disparity may be stereotypes that students might hold of academicians. Yet, there is little research that addresses whether students hold stereotypes of professors based on ethnicity and gender and if these stereotypes lead to different judgments of professors. The present study addresses this issue.

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The focus on student judgments of professors is justified because students, either directly or indirectly, are an influence in a professor's career. One of the hallmarks of a successful professor is having students work with them and if negative stereotypes of members of certain groups exist, then students may avoid the classes that those individuals teach. In addition, perceptions of professors can influence teaching evaluations, which are related to promotions, awards, and recognition. Research suggests that when a student does not know a professor, students are likely to use surface cues, such as race/ethnicity and gender, to make judgments about them (Fiske & Neuberg, 1990). As such, the current study examined college preparatory students' evaluations of professors, because these students are yet uninfluenced by a college environment or professors and therefore provide a valuable insight into the preconceptions and notions that influence student decisions.

Occupational Stereotypes: Ethnicity and Gender

One predominant theory to explain these potential barriers and levels of marginalization is that of "occupational stereotyping," described as "a preconceived attitude about a particular occupation, about people who are employed in that occupation, or about one's suitability for that occupation" (Lipton, O'Connor, Terry, & Bellamy, 1991, p. 129). Research has documented the negative effects of occupational stereotyping upon job expectations and hiring processes (Beggs & Doolittle, 1993; Cash, Gillen, & Burns, 1977; Shih, 2002). As such, stereotypes about a certain group (i.e., ethnic minorities) can potentially hinder advancement as individuals may develop unconscious attitudes about the attributes of the members of such groups and as a result negatively evaluate them (Fiske & Taylor, 1991). For example, Caucasian men are more likely to advance from low-paying to higher-paying positions compared to African American men (Hout, 1984; Pomer, 1986). Similarly, Bertrand and Mullainathan (2004) found that African American candidates received fewer callback rates compared to Caucasian candidates with identical credentials. In a study of Caucasian managers' evaluations of resumes, Asian American individuals were evaluated highly and rated as suitable for high-status jobs, regardless of their résumé quality. Caucasian and Hispanic applicants both benefited from a high-quality resume, but African American applicants were evaluated negatively even with strong credentials (King, Madera, Hebl, Knight, & Mendoza, 2006).

Central to understanding how ethnic and gender stereotypes can influence judgments of professors is the stereotyping of occupations based on (a) job responsibilities believed to be linked to ethnicity and gender or (b) the ethnicity and gender of the usual job-holder (Heilman, Block, & Martell, 1995; Lyness & Heilman, 2006). The qualifications and responsibilities of a college professor are based on educational achievements—such as, attaining a higher-education degree, publishing in top journals, and obtaining important grants—which has been historically dominated by Caucasians. Even today, academia remains, numerically, a White male-dominated occupation (Bellas & Toutkoushian, 1999; Camp, 1997; Daley, Wingard, & Reznik, 2006; Jackson, 2004; Lewellen-Williams et al., 2006; Olsen et al., 1995; Stanley, 2006; Turner et al., 2008). Thus, the idea of a professor might engender the mental picture of White man rather than an ethnic minority or woman.

Status characteristics theory describes a similar mechanism through which the impact of stereotyping in the workplace could be generated. According to this theory, people form expectations about the competence of others based on inferences from the status value assigned by the society as a whole to their personal characteristics (Berger, Fisek, & Norman, 1998). An example of such a process in our society is that Caucasian men are frequently in higher status positions compared to other groups—in 2008, Caucasian men accounted for 95% of Fortune 500 chief executive officers (CEO)—therefore, the prototypical CEO is a Caucasian man. The occupation of CEO is a highly paid and valued occupation, and because Caucasian men hold the majority of the CEO positions, Caucasian male ethnicity and gender are linked to this highly valued occupation.

Research also suggests that women can face significant marginalization in academia. Fidell (1970) found that with identical credentials, women were hired at the assistant professor level while men were hired at the associate professor level. Similarly, Steinpreis, Anders, and Ritzke (1999) found that reviewers were

more likely to positively evaluate the research, teaching, and service contributions of a male job applicant than a female job applicant with an identical record. In addition, women in academia receive lower salaries and advance more slowly compared to men in similar situations (Valian, 1998, 2000).

However, even though many studies have documented the existence of multiple barriers for ethnic minorities and women in academia, very few studies have examined the effect of ethnicity and even gender upon student perceptions of professors (Glascock & Ruggiero, 2006; Hendrix, 1998). There is also a dearth of research detailing how students evaluate professors of different departments; more specifically, how students evaluate professors of the physical sciences in relationship to those of the humanities. Thus, the present study takes a multifaceted approach as it seeks to examine the effect of ethnicity, gender, and department upon student perceptions of professors by implementing a more quantitative and measurable means than has been previously performed. Because individuals whose personal beliefs reflect very little bias or discrimination are just as likely to engage stereotypes as those who have very biased or discriminatory beliefs (Bodenhausen & Macrae, 1996; Devine, 1989), understanding student perceptions is important.

The Current Study

The marginalization that ethnic minority faculty face can limit the resources available to them. For example, successful professors and faculty often have research staff and individuals who work with them. In accord, one of the relatively unexplored possibilities for why African American professors are not as prevalent in academics is the extent to which stereotypes may work against them. The present study focuses on how students about to enter college view professors as a function of the professor's ethnicity. Three ethnic groups were specifically selected: White, Asian American, and African American. By providing students from college preparatory private schools with the Curricula Vitae (CVs) of professors and asking them to evaluate manipulated hypothetical CVs on the measures of competence, legitimacy, and interpersonal skills, we assess the ethnic stereotypes held with regard to professors. Additionally, we also examine the extent to which gender and academic discipline might moderate such perceptions.

Stereotypes about African Americans include that they are not legitimate and deserving of their positions, are difficult/aggressive, and are not competent (Devine, 1989; Reyna, Henry, Korfmacher, & Tucker, 2005; Smith, 1990). The extent to which such stereotypes may hinder and marginalize African American professors is therefore very important to understand. Compared to Caucasians, few African Americans are present in academia. Reasons for this disparity may include the "pipeline theory" and occupational stereotyping. In addition, Asian American individuals are seen as "model ethnic minorities" and are stereotyped as highly competent and qualified (Cheryan & Bodenhausen, 2000; King et al., 2006; Ying et al., 2001). This line of reasoning suggests that examining the evaluations of Asians would therefore serve to confirm whether students evaluate professors using the mentioned stereotypes. Therefore, we hypothesized that African American professors would be perceived more negatively on all dimensions compared to Asian American and Caucasian professors, while Asian American professors would be evaluated comparably to Caucasian professors.

We expected that academic discipline would moderate the relationship between professor ethnicity and student evaluations of professors. Ethnic minorities in academia tend to be more visible in the humanities than in the physical sciences (Menges & Exum, 1983), however, physical sciences are perceived to be more prestigious than other disciplines, such as humanities (Kulis, Sicotte, & Collins, 2002; Milner, Ben-zvi, & Hofsein, 1987). Thus, it is likely that students will perceive humanities professors less positively compared to science professors, and that the African American professor in the humanities would be perceived more negatively than the Caucasian professor in science.

In addition to academic discipline moderating the relationship between professor ethnicity and evaluations, we expected that perceived legitimacy of the professor serves as a potential mechanism to explain why African American professors might be evaluated more negatively compared to Asian American and Caucasian professors. Often, ethnic minorities are believed to have accessed higher education through af-

firmative action and that without affirmative action they might have not been able to succeed (Menges & Exum, 1983). In fact, Eberhardt and Fiske (1994) stated that "people commonly perceive affirmative action as preferential treatment that replaces qualified White males with unqualified ethnic minorities" (p. 203). Thus, if a professor is perceived to be illegitimate, then it is likely they will be evaluated negatively. We hypothesized that perceived legitimacy of the professors will mediate the relationships between race and perceptions of interpersonal skills and competence.

Social role theory (Eagly, Wood, & Diekman, 2000), provides a useful framework for understanding why female professors might be evaluated more negatively than male professors. Accordingly, women are expected to behave in communal ways—being concerned with the welfare of other people, being affectionate, kind, and sensitive—whereas men are expected to be agentic—being concerned with getting ahead, being aggressive, assertive, and independent. In the workplace, communal qualities are perceived to be less important and positive than agentic qualities (Eagly & Karua, 2002). The gender differences in perceived communal and agentic qualities provide an explanation for the findings in Steinpreis et al. (1999), which found that CVs labeled "male" were rated higher than those labeled "female," though the vitas were identical. A recent study found that communal attributions were rated as less positive and less important than agentic attributions in selection decisions in academia (Madera, Hebl, & Martin, in press). Furthermore, academia remains a male-dominated occupation (Bellas & Toutkoushian, 1999; Camp, 1997; Olsen et al., 1995; Windall, 1988), therefore it is likely to be perceived more appropriate for man than for a woman. Thus, we hypothesized that female professors would be perceived more negatively on all dimensions compared to male professors.

In addition, women are more visible in nonscience disciplines, such as in the humanities, but research shows that female-dominated fields in academia tend to be undervalued (Bebbington, 2002). Therefore, it is likely that academic discipline will moderate the relationship between professor gender and student evaluations of professors. If women are perceived more negatively than men for academia, and science is perceived to be more valued than most other disciplines, then it is likely that being a woman and a professor of humanities would be perceived more negatively than being a man in science. Thus, we hypothesized that academic discipline would moderate the relationship between professor gender and student evaluations of professors.

We also hypothesized an interaction between professor ethnicity and gender. Specifically, research shows that women of color often face a "double stigma" or "double jeopardy" (Ferdman, 1999; Thomas & Miles, 1995). Women are often stigmatized as are African Americans; therefore, being both a woman and African American presents a double stigma. Therefore, we hypothesized that the African American female professor would be rated lowest on all dimensions compared to the African American male and the female and male Asian American and Caucasian professors.

Method

Sample

The sample included students from two private high schools (9th to 12th grades) in Houston, Texas. We distributed 600 surveys; the participants returned 375 usable surveys, resulting in a response rate of 62.5%. The mean age of the sample was 16.23 years ($SD = 1.02$ years).

Design and Procedure

We used a 2 (Department: humanities or science) $\times$ 2 (Gender: male or female) $\times$ 3 (Ethnicity: African American, Asian American, or Caucasian) between-subjects design using CVs of fictitious college professors to examine students' evaluations. To manipulate the department, we stated that the professor was associated with one of two schools (either "School of Humanities" or "School of Sciences"). To ensure consistency between CVs from the different departments, we used similar titles for descriptions of the professor's courses taught and research interests to fit the professor's corresponding subject matter (i.e., "The Meaning of Modern Humanities" vs. "The Meaning of Modern Sciences").

To manipulate gender, we used the title of "Mr." or "Ms." in conjunction with a gender-tailored first name (see Table 1). There were

Table 1
List of Ethnic and Gender Manipulations on CVs

Ethnicity	Gender	Name	Member of:
African-American	Male	Mr. Tyrone Jackson	National Association of African-American Professors
	Female	Ms. Aisha Jackson	
Asian-American	Male	Mr. Yuan Zhang	National Association of Asian Professors
	Female	Ms. Qiaolian Zhang	
Caucasian	Male	Mr. Brett O'Connor	National Association of Professors
	Female	Ms. Katie O'Connor	

two indicators of ethnicity. First, we used ethnicity-typed names (see Table 1), a manipulation that has been effectively used in past studies (Bertrand & Mullainathan, 2004; King et al., 2006; Young, Kennedy, Newhouse, Browne, & Thiessen, 1993). Second, we included on the CVs participation in a fabricated organization (see Table 1), that also strongly hinted at the participant's ethnic background.

Participants in the study were given a self-report questionnaire that instructed them to imagine themselves in a scenario in which they have received an acceptance letter from their top-choice university and were planning to attend with a full-tuition scholarship. As part of the scholarship, they were required to work with a professor as a research assistant. Participants then read a CV of a professor that included the professor's name (in bold and large type); the department (large type); honors, awards, and memberships; research areas; courses taught; selected publications; selected presentations; and positions that the professor holds. After examining the CV, participants were asked to evaluate the respective professor on multiple scales. To check whether the manipulations were successful, participants were then asked to recall from memory (and without looking back) the professor's department, gender, and ethnicity.

Measures

The present study measured the a) competence, b) legitimacy, and c) interpersonal skills of the professors.

Competence. The scale for competence was adapted from the Source Credibility Measure created by McCroskey and Teven (1999). In particular, perceived competence was assessed by having participants rate, on 7-point Likert-type scales, the extent to which six adjectives (i.e., "intelligent," "untrained," "inexpert," "informed," "incompetent," and "bright") accurately depicted their beliefs about the professor represented on the vitae. To ensure that the scale measured one dimension of fit, a principal component factor analysis with varimax rotation was performed. All of the items loaded onto one factor, which accounted for 53.68% of the variance. The alpha reliability for the scale was 0.81.

Interpersonal skills. The scale for measuring interpersonal skills was adapted and formulated from previous measures (McCroskey & Teven, 1999; Richmond & McCroskey, 1985, 1990). Using 7-point Likert-type scales, participants also indicated the extent to which three descriptions ("honest," "honorable," and "willing to take a stand") accurately reflected their beliefs about the professor depicted on the vitae. A principal components factor analysis with varimax rotation revealed that all the items loaded onto one factor that explained 63.33% of the variance. The alpha reliability for the scale was 0.70.

Legitimacy. The scale for measuring legitimacy was adapted from Choi and Mai-Dalton's scale (1999). Using 7-point Likert-type scales, participants indicated the extent to which three items ("he or she deserves the position of professor," "I would not approve of him/her as a professor," "I want him/her to continue to be a professor of the university") accurately reflected their beliefs about the professor depicted on the vitae. A principal components factor analysis with varimax rotation revealed one factor that explained 65.83% of the variance. The alpha reliability was 0.71 for the scale.

Results

We analyzed the data using a 2 (Academic Discipline: Humanities or Science) × 2 (Gender: Male or Female) × 3 (Ethnicity: African American, Asian American, or Caucasian) multivariate analysis of variance (MANOVA) with Competence, Interpersonal Skills, and Legitimacy as the dependent variables. The means and standard deviations of, and correlations between each scale are displayed in Table 2.

There was a main effect of Ethnicity on all three dimensions measured: Competence, $F(2, 363) = 3.23$, $p < .05$, $\eta^2 = .017$, Interpersonal Skills, $F(2, 363) = 3.49$, $p < .05$, $\eta^2 = .019$, and Legitimacy, $F(2, 363) = 5.12$, $p < .01$, $\eta^2 = .027$. For the measure of Competence, African American professors ($M = 5.46$, $SD = 1.07$) were rated as being less competent than Asian American ($M = 5.66$, $SD = 0.95$) and Caucasian professors ($M = 5.61$, $SD = 0.91$). For the measure of Interpersonal Skills, both African Americans ($M = 4.80$, $SD = 1.20$) and Asian Americans ($M = 4.81$, $SD = 1.17$) were perceived similarly; however, both of these groups were negatively evaluated compared to Caucasian professors ($M = 5.08$, $SD = 1.04$). For the measure of Legitimacy, African Americans ($M = 5.23$, $SD = 1.19$) were rated as less legitimate compared to Asian Americans ($M = 5.44$, $SD = 1.10$) and Caucasians ($M = 5.57$, $SD = 1.05$). In sum, we found support for our hypothesis that African American professors would be perceived more negatively on all dimensions compared to Asian American and Caucasian professors. With the exception of interpersonal skills, Asian American professors were evaluated comparable to Caucasian professors.

There was also a main effect of Academic Discipline on Competence, $F(1, 361) = 12.20$, $p < .01$, $\eta^2 = .033$, and Legitimacy, $F(1, 361) = 7.192$, $p < .01$, $\eta^2 = .019$, but not on Interpersonal Skills, $F(1, 361) = 2.44$, $p > .05$, $\eta^2 = .01$. Science professors ($M = 5.68$, $SD = 0.95$) were rated as more competent than humanities professors ($M = 5.41$, $SD = 1.03$). Similarly, humanities professors ($M = 5.27$, $SD = 1.24$) were rated as less legitimate than science professors ($M = 5.48$, $SD = 1.04$). Thus, we found partial support for the hypothesis that the humanities professors would be perceived more negatively on all dimensions than science professors.

There was a significant interaction between Ethnicity and Academic Discipline on Legitimacy, $F(2, 361) = 3.89$, $p < .05$, $\eta^2 = .021$, but not on Competence, $F(2, 361) = 1.12$, $p > .05$, $\eta^2 = .01$, or Interpersonal Skills, $F(2, 361) = 1.26$, $p > .05$, $\eta^2 = .01$. Simple effect tests were performed for Legitimacy and showed that as expected, the African American professor in the humanities ($M = 4.95$, $SD = 1.24$) was perceived more negatively than the Caucasian professor in science ($M = 6.07$, $SD = .81$), $t(369) = 3.79$, $p < .05$. Thus, we found partial support for the hypothesis that Academic Discipline would moderate the relationship between Ethnicity and Legitimacy, but not Competence and Interpersonal Skills.

There were no Gender main effects on Competence, $F(1, 363) = .94$, $p > .05$, $\eta^2 = .003$; Interpersonal Skills, $F(1, 363) = .22$, $p > .05$, $\eta^2 = .001$; and Legitimacy, $F(1, 363) = .12$, $p > .05$, $\eta^2 = .001$. Thus, we did not find support for the hypothesis that female professors would be perceived more negatively than male professors.

There was a significant interaction between Academic Discipline and gender in the measure of Competence $F(1, 361) = 4.58$, $p < .05$, $\eta^2 = .012$, but not Interpersonal Skills, $F(1,$

Table 2
Correlations and Descriptive Statistics

	M	*SD*	1	2	3	4	5	6
1. Competence	5.57	.99						
2. Legitimacy	5.39	1.13	.57*					
3. Interpersonal skills	4.87	1.16	.49*	.45*				
4. Academic discipline	1.58	0.49	.13*	.09	.01			
5. Professor gender	1.42	0.49	−.11*	−.07	−.02	−.07		
6. Professor ethnicity	1.85	0.79	.07	.12*	.08	−.11*	−.06	

* $p < .05$.

361) = 4.58, $p < .05$, $\eta^2 = .012$, or Legitimacy, $F(1, 361) = 4.58$, $p < .05$, $\eta^2 = .012$. Specifically, participants rated the female professor of humanities ($M = 5.19$, $SD = 1.14$) as less competent than a male professor in science ($M = 5.71$, $SD = 0.85$), $t(371) = 3.43$, $p < .05$. Thus, for the measure of Competence, we found partial support for hypothesis that academic discipline would moderate the relationship between gender and ratings.

There was also a significant interaction between gender and ethnicity in the measures of Competence, $F(2, 363) = 4.71$, $p < .05$, $\eta^2 = .025$, Interpersonal Skills, $F(2, 363) = 3.10$, $p < .05$, $\eta^2 = .02$, and Legitimacy, $F(2, 363) = 3.23$, $p < .05$, $\eta^2 = .02$. Follow-up contrasts showed that participants rated the African American female professor the lowest on Competence ($M = 5.14$, $SD = 1.2$), Interpersonal Skills ($M = 5.01$, $SD = 1.2$), and Legitimacy ($M = 4.61$, $SD = 1.3$), compared to the other conditions.

Mediation Analysis

To test the hypothesis that legitimacy would mediate the relationship between ethnicity and evaluations of competence and interpersonal skills, we used path analysis as proposed by James, Mulaik, and Brett (2006). Path analysis was an appropriate test for the mediation, because the model includes multiple outcome variables that cannot be tested simultaneously using the Baron and Kenny (1986) approach. This approach does not require that the distal variable correlate with the outcome variables (i.e., professor race with interpersonal skills and competence in the current study). In fact, scholars have questioned whether it is necessary to provide evidence for a significant path from the distal variable to the outcome variable to establish mediation (Collins, Graham, & Flaherty, 1998; James et al., 2006; MacKinnon, 2000; MacKinnon, Krull, & Lockwood, 2000; Shrout & Bolger, 2002). Rather, the simultaneous test of the significance of both the path from the distal variable to a mediator and the path from the mediator to the outcome variable (i.e., the SEM approach) provides, relative to other approaches (e.g., Baron and Kenny's steps), the best balance of Type I error rates and statistical power (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002). In light of this literature, we utilized the SEM/path analysis approach for testing the mediation hypothesis.

We used Mplus for the data analysis (Muthén & Muthén, 1998). To determine the fit of the model, four indices were utilized: (1) the χ^2 and degrees of freedom, (2) the comparative fit index (CFI), (3) the incremental index of fit (IFI), and (4) the root-mean-square error of approximation (RMSEA). The mediation model with the African American professor demonstrated adequate fit, $\chi^2 = .43$, $df = 2$, $p > .05$; CFI = .99; IFI = .98; RMSEA = .01 (see Figure 1). The African American professor was rated lower on Legitimacy than was the White professor, $\beta = -.11$, $p < .05$; Legitimacy was positively related to Interpersonal Skills ($\beta = .44$, $p < .05$) and Competence ($\beta = .57$, $p < .05$). The variable in the model explained 20% of the variance in the Interpersonal Skills ratings and 32% of the variance in the Competence ratings. The mediation model that included the Asian American professor did not yield a good fit, $\chi^2 = 45.27$, $df = 2$, $p < .05$; CFI = .84; IFI = .84; RMSEA = .19, indicating that the Asian American professor was rated similarly to the White professor. Thus, the mediation model was supported in the case of African American professors.

Discussion

The results indicate that participants made evaluations based on the ethnicity and gender of the professor. In particular, they rated African

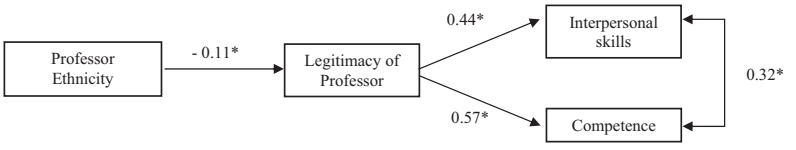

Figure 1. Path analysis mediation model. *Note*. Standardized beta-weights are shown. Professor ethnicity was coded as 0 = Caucasian, 1 = African American. * $p < .05$.

American professors to be less legitimate and competent than Caucasian and Asian American professors. Menges and Exum (1983) and Reyes and Halcon (1988) report that ethnic minority professors are constantly pressured to prove that they are deserving of their positions. Although the intense pressure faced by ethnic minorities from peers and administrators has been known for some time, the results of the current study suggest that the demands faced by ethnic minority professors can be even greater than previously recognized. The negative perceptions that students have of ethnic minority professors, before they even meet them, add another burden that these professors must overcome. Moreover, minority professors express tremendous concern over having their work devalued (Astin, Antonio, Cress, & Astin, 1997; Bourguignon et al., 1987; Reyes & Halcon, 1988). This, in combination with the research that shows that African American faculty often place a premium on teaching (Allen, Epps, Guillory, Suh, & Bonous-Hammarth, 2000) that is not aptly rewarded (Banks, 1984; Blackwell, 1981; Menges & Exum, 1983), illuminates the complex difficulties that African American professors experience in academia.

Moreover, Asian Americans were perceived equally to Caucasians on Competence and Legitimacy, but more negatively on Interpersonal Skills. These results demonstrate that although Asian Americans are frequently regarded as "model ethnic minorities" (Cheryan & Bodenhausen, 2000; Ying et al., 2001), they still encounter stereotypes and negative perceptions in some domains.

The results of the current study also show that female African American professors were rated the lowest on the Competence, Interpersonal Skills, and Legitimacy scales, compared to all other groups. As ethnicity and gender can function in a similar manner (Clark & Corcoran, 1986; Menges & Exum, 1983), the highly negative evaluations toward African American women may be explained by the effect of a "double stigma" or "double jeopardy" theory (Ferdman, 1999; Thomas & Miles, 1995). More specifically, African American women are denigrated for being both women and minorities. Such a "double stigma" may also explain the negative evaluations experienced by female Humanities professors and female Asian American professors. Such results support the idea the double stigma as well as of "occupational stereotyping," in which certain groups are negatively viewed and evaluated within different occupations due to unconscious "stereotyping" (Fiske & Taylor, 1991).

Furthermore, when racial ethnic minorities make up a small percentage of a population, evaluations of ethnic minorities may be likely to be driven by stereotypes more than by objective qualifications (Fiske & Taylor, 1991; Huffcut & Roth, 1998). That is, as African Americans are very underrepresented in academia (Astin, Korn, & Dey, 1991; Blackwell, 1981; Sax, Astin, Arredondo, & Kom, 1996), stereotypes about them may proliferate. Frequently, this underrepresentation is explained by the pipeline problem (Astin, 1982; Bowen & Bok, 1998) suggesting that not enough ethnic minorities navigate through the layers of the academic pipeline to reach professorship and dispel the incorrect stereotypes. Therefore, one correction of this problem lies in increasing the number of ethnic minorities in academia.

Additionally, science professors were viewed as more competent than to humanities professors. Similarly, female science professors were perceived to be more competent than female humanities professors. These effects might be partially explained by the fact that students regard Humanities as less necessary and therefore less legitimate and worthy. Certainly, enhancing this belief is a continued push for sciences within education and a push for science policy (Chopyak & Levesque, 2002; Erickson, 2005), as well as a resilient stereotype that links medicine and other fields of science with societal success. However, this explanation needs to be studied more extensively as there is not a great deal of empirical research on this topic.

Limitations and Future Directions

We drew our sample from a college preparatory institution in which greater than 95% of the student population attends higher learning institutions. One limitation of the study may be, then, that the participants were college preparatory students who may not be able to accurately evaluate college professors. However, it was these particular students in whom we were interested—they are not yet in college and do not already have notions of college professors influenced by direct exposure. Thus, the evalua-

tions of our participants suggests very strongly that the results are driven by students' use of stereotypes.

Research shows that during their college years, students' attitudes toward ethnic minorities tend to become more open, egalitarian, tolerant, and liberal during their college years (Anderson & Smith, 2005; Hurtado, 2005; Jacobs, 1986; Lottes & Kuriloff, 1994; Spence & Hahn, 2006; Van Larr, Sidanius, & Levin, 2008). In a study of an Ivy League institution, students' scores on measures of liberalism, social conscience, and feminist attitudes increased from their freshman to senior years (Hurtado, 2005). Obviously, then, the results may have been different if the sample had been drawn from a college campus. Research using high school students found that students are indeed influenced by teachers' ethnicity when making evaluations (Galguera, 1998). In particular, students had more positive attitudes toward same-ethnicity than different-ethnicity teachers. A longitudinal study investigating the effects of courses with Latino or African American professors on university students' intergroup attitudes showed that Caucasian students had more favorable intergroup attitudes as a function of taking courses with Latino or African American professors (Van Larr et al., 2008). Therefore, it might be the case that attitudes toward ethnic minority professors can become more positive as a function of taking courses with ethnic minority professors. The current study research design was not longitudinal, and thus future research might examine if high school students with negative ethnic-related stereotypes change their attitudes after their college experience.

The current study provides important implications for higher education in that the results show that students may be entering college with ethnic- and gender-related stereotypes that are negative. This presents a challenge for higher education institutions in the United States, and future research might address how such discrimination could be addressed during orientations for incoming freshman. For example, as part of a diversity training program, Syracuse University required all incoming freshman to read a book about racism and held a diversity discussion panel during the orientation week (Bell, 2007). Indeed, there is evidence that such initiatives can have positive outcomes for freshman students during their first year, such as increased interest in poverty, support for diversity initiatives, and acceptance for ethnically diverse students (Hurtado, 2005). This aforementioned research suggests that there is a maturation effect; that is, exposure to campus-sponsored diversity training and the diverse student environment can lead to changes in attitudes.

Moreover, the current research highlights the importance of understanding how students perceive diversity in their faculty. For instance, if there are particular people or groups that student view more negatively than others, then they may avoid the classes and disciplines that those individuals teach. As such, a focus of campus diversity initiatives might include highlighting the benefits of having a diverse faculty and dispelling the occupational stereotypes related to ethnicity and gender.

Conclusion

As women and ethnic minorities continue to enter into academia, it is important to understand the potential barriers that individuals from such groups face. Previous research has pointed to gender, racial, and occupational stereotypes as potential difficulties that such individuals may encounter. The current study similarly found that students' perceptions of university professors are influenced by professors' department, gender, and ethnicity, suggesting that different groups may receive different treatments. Science professors were viewed in a significantly more positive light compared to humanities professors while African American professors were viewed as less competent and legitimate compared to Caucasian professors. These results therefore point to the challenges and obstacles that such groups and others may face in classrooms, research, and academia.

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