The Impact of Job Applicants' Facial Maturity, Gender, and Academic Achievement on Hiring Recommendations

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Two studies investigated the impact of job applicants' facial maturity, gender, and achievement level on hiring recommendations. The results revealed that discrimination based on gender and facial appearance varies with the type of job for which an applicant is being considered. Applicants who were babyfaced or female were favored for jobs requiring qualities of warmth and submission, whereas those who were maturefaced or male were favored for jobs requiring qualities of shrewdness and leadership. These hiring preferences were most pronounced for high achieving applicants. They were also paralleled by stereotypical perceptions of the job- relevant attributes possessed by the applicants, which suggests that the effects of applicants' gender and facial maturity are mediated by the perceived fit between their assumed attributes and the job requirements. Finally, the jobs for which male and maturefaced applicants were favored were those for which high-achieving applicants were also favored, which suggests that female and babyfaced applicants are most apt to be discriminated against when applying for higher status jobs.

Title VII of the Civil Rights Act of 1964 expressly forbids discri
ination in hiring on the basis of race, color, religion, gender, or natio
origin, and the Rehabilitation Act of 1973 prohibits discrimination on t
basis of physical handicaps. More recently, it has been suggested th
employment discrimination should be also be prohibited on the basis
physical appearance. Specifically, a note in the *Harvard Law Revi*
(Facial discrimination..., 1987) argued that the Rehabilitation Act of 19
"should be construed to protect people against employment discri
ination on the basis of largely immutable aspects of bodily and faci
appearance" (p. 2035).

Although the *Harvard Law Review* cited examples of employment di
crimination based on unattractiveness, height, and obesity, it did n
delineate specific categories of physical appearance to be protecte
Rather, it proposed that administrative agencies and courts use the san

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case-by-case analysis of the individual's impairment and employment situation that is generally used in handicap law. Because a handicap has been broadly interpreted to include people who have "a physical or mental impairment that substantially limits major life activities *only as a result of the attitudes of others toward such impairment*" (*Harvard Law Review*, 1987, p. 2045), systematic investigations of attitudes toward people with a particular physical appearance are crucial to the implementation of this law.

Considerable research has documented the operation of negative attitudes toward women and unattractive individuals in personnel decisions (see Bull & Rumsey, 1988, for a review of this literature). More specifically, job applicants who are male or attractive are ranked higher for managerial jobs than their female or unattractive counterparts with equal scholastic standing (Dipboye, Arvey, & Terpstra, 1977; Dipboye, Fromkin, & Wiback, 1975). These gender and appearance biases are also manifested in assessments of applicants for lower status jobs. Interestingly, however, the bias in favor of males seems to be most pronounced when applicants are highly competent, with less distinction made by employers between males and females who have low or average qualifications (Haefner, 1977; Zikmund, Hitt, & Pickens, 1978). On the other hand, the bias in favor of attractive applicants has not been consistently related to the applicants' level of qualification (Dipboye et al., 1975; Dipboye et al., 1977). Finally, it should be noted that gender discrimination is manifested not only in controlled laboratory experiments, but also in hiring and promotion decisions in real organizations (e.g., Zikmund et al., 1978; Ragins & Sundstrom, 1989). Although there is little research on discrimination against unattractive individuals in real organizations, a pertinent study by Mazur, Mazur, and Keating (1984) found that the military rank of graduating cadets at West Point was correlated with their facial appearance.

In addition to the evidence for a general bias in favor of male or attractive applicants, research has revealed more specific biases whereby particular types of applicants are favored for particular types of jobs. To explain these effects, Heilman (1983) has proposed a "Lack of Fit" model, which holds that an incongruity between the applicant's perceived attributes and the job requirements underlies gender biases in the work world. For example, males were evaluated more favorably than equally qualified females for jobs that had been prerated as "masculine," whereas females were evaluated more favorably than males for "feminine" jobs that had been equated in status to the "masculine"

ones (Cash, Gillen, & Burns, 1977; Cohen & Bunker, 1975). The effects attractiveness also depend upon the nature of the job as well as t gender of the applicant. Attractive women have been evaluated mc favorably for feminine but not for masculine jobs, whereas attracti men tend to be evaluated more favorably for both types of jobs (Ca et al., 1977; Heilman & Saruwatari, 1979). Thus, the advantage of phy cal attractiveness for women is diminished or lost when they seek jo considered inappropriate for their gender.

Research attempting to determine the basis of favoritism toward tractive applicants has provided some evidence to indicate that it refle evaluators' assumptions about job-relevant abilities possessed by tho who are more attractive. In particular, favoritism toward attractive i dividuals is eliminated for jobs that involve little face-to-face conta with others and thus do not require the positive interpersonal chara teristics stereotypically associated with more attractive individua (Beehr & Gilmore, 1982). The fact that the effects of facial attractivene may reflect stereotyped assumptions about the capabilities of attracti individuals rather than a general favoritism toward them suggests th other facial qualities may also influence personnel decisions. Indee Secord, Bevan, and Dukes (1953) found strong consensual stereotyp regarding the physiognomic characteristics of people in various occ pations. Such stereotypes may have a bidirectional effect such that the is also a consensus regarding the occupational suitability of people wi various physiognomic characteristics.

One set of physiognomic characteristics that is likely to influen perceptions of the occupations for which an individual is suited "babyfacedness." Considerable research has revealed that adults wi features that characterize infants, such as large eyes, high eyebrows, large forehead, and a small chin, are perceived to have more childli traits than those with a more mature facial physiognomy. Specifical babyfaced individuals are rated as less shrewd, warmer, and more su missive than their equally attractive maturefaced peers (McArthur Apatow, 1983-84; Berry & McArthur, 1985; Berry & McArthur, 198 Zebrowitz-McArthur & Berry, 1987; Zebrowitz & Montepare, 1990). Tl present research tested the hypothesis that stereotyped assumptio about the traits of babyfaced individuals would cause them to be pe ceived as less qualified than the maturefaced for jobs requiring shrew ness and dominant leadership skills, but more qualified for jo requiring interpersonal warmth and submissiveness. It was further pr dicted that sex stereotypes would yield parallel effects, with femal

perceived as qualified for the same types of jobs as babyfaced individuals and males perceived as qualified for the same jobs as the maturefaced. Although the effects of gender and facial maturity were expected to hold true for applicants with both strong and average qualifications, the aforementioned research on gender biases suggested that they may be most pronounced for those who were highly qualified.

Study 1

Method

Subjects

Thirty-two male and 32 female Brandeis University undergraduates participated in the study to satisfy an introductory course requirement.

Applicant Information

Each subject evaluated 8 applicants on the basis of brief resumes containing a black-and-white photograph of the applicant and some background information, including age, employment experience, high-school and college class ranks, and college grade point average. The gender and facial maturity of the candidates were manipulated by the photograph attached to the resume, which was copied from a school yearbook. Four photos depicted males and four depicted females. All applicants were dark-haired Caucasians with no distinguishing facial characteristics (e.g., facial hair, scars), and they were described as approximately the same age (24 to 26 years). All of the males wore a serious expression, and all of the females were smiling. This difference reflected the paucity of yearbook photographs depicting females with a serious expression. Since this sex difference in facial expression been documented in a study of over 9,000 photographs of graduating seniors from four colleges between 1963 and 1983 (LaFrance, 1985) it reflects a true difference that is likely to be manifested in resume photos in the same fashion as in the present study. Moreover, it should be noted that the predicted effects of applicant gender cannot parsimoniously be explained by differences in expression, since parallel effects are predicted for applicant facial maturity, and babyfaced and maturefaced applicants did not differ in facial expression.

Two of the four applicants of each gender were babyfaced and two

were maturefaced, as established by prior ratings that also had esta lished that the babyfaced and maturefaced applicants were equally tractive. Half of the applicants within each facial maturity and gend were high achievers and half were moderate achievers. Achieveme level was manipulated by varying the applicants' class ranks and gra point averages. The high achievers ranked in the top third of their hi school and college graduating classes and had achieved college gra point averages ranging from 3.45-3.55. The moderate achievers rank in the middle third of their high school and college graduating class and had achieved college grade point averages ranging from 2.95-3.(The face attached to each resume was counterbalanced across subjects control for any idiosyncracies in the resume information.

Job Descriptions

Each subject was given a 1-page description of each of two job ope ings at a Children's Day Care Center—teacher and director. The descri tion of the teacher position called for submissiveness (e.g., "must yie to the decisions made by the director and/or the majority of the oth staff") and warmth (e.g., "is expected to exhibit warmth and enco agement...emotional support to children"), whereas the description the director position called for dominance (e.g., "shall supervi teachers...and make decisions regarding promotions and hiring shrewdness (e.g., "must be a shrewd financial administrator"), and lo warmth (e.g., "must be capable of dismissing staff"). Each subj judged the suitability of all applicants for both of these jobs, referring the job descriptions as often as they wished.

Dependent Measures

Subjects rated how strongly they would recommend each applica for each job on 7-point scales with endpoints labeled "do not reco mend" and "strongly recommend." Next, they rank ordered all of t applicants for each job. Finally, they indicated on a forced choi measure which of the two jobs they would give to each applicant if s/ had to be hired for one of them.

Following the foregoing dependent measures, subjects' rated ea applicant on a series of 7-point bipolar scales designed to ascertain t effectiveness of the facial maturity manipulation: warm/cold; subm sive/dominant; naive/shrewd; attractive/unattractive; and, final babyfaced/maturefaced.

Procedure

Each subject was presented with a folder containing instructions followed by two job descriptions and a series of eight resumes. The instructions to subjects indicated that their task was to give hiring recommendations for each of eight applicants who were being considered for two positions, and the specific measures (i.e., ratings, rankings, and forced choice) were described. They were told that only the first page of each job application was included in the folder because the study was concerned with people's perceptions of job candidates based on very limited information. They were further told that they should feel free to look at the applications and job descriptions as often as they wished while making their recommendations. Finally, they were asked to finish one set of recommendations (e.g., the ratings) before moving on the next (e.g., the rankings). Before participating, subjects were informed that their responses would be anonymous and confidential and, after participating they were fully debriefed.

Results

Manipulation Checks

Analyses of variance on the manipulation checks employed a 2 (Subject Gender) × 2 (Applicant Achievement) × 2 (Applicant Facial Maturity) × 2 (Applicant Gender) factorial design with subject gender as a between-subjects variable and applicant gender, achievement level, and facial maturity as within-subjects variables. The relevant means and F values from these analyses are present in Table 1.

As predicted, the applicants designated as babyfaced were indeed rated as more babyfaced, naive, warm, and submissive than those designated as maturefaced, all $ps < .0001$. There were also significant Facial Maturity × Applicant Gender interaction effects for each of these ratings, which revealed that the effects of facial maturity were stronger for male than female applicants, although all were significant for both genders, all $ps < .01$. Although not explicitly predicted, the finding that female applicants were rated as significantly more babyfaced than males, $p < .0001$, is consistent with known gender differences in facial anatomy (Enlow, 1982), and the tendency for females to be rated as warmer, more naive, and more submissive than males, all $ps < .0001$, is consistent with known gender stereotypes (Basow, 1986). Effects of achievement level on

Table 1

Mean Ratings for Manipulation Checks and Dependent Measures Based on Applicants' Facial Maturity, Gender, and Achievement Level in Study 1

	Face		*F*	Gender		*F*	Achievement		*F*
Ratings of	Baby	Mature	(1, 62)	Female	Male	(1, 62)	High	Moderate	(1, 62)
Babyfacedness	5.07	2.52	374.60	4.13	3.46	34.07	3.67	3.92	6.14
Attractiveness	4.03	4.56	19.36	4.77	3.82	76.12	4.38	4.22	2.47
Warmth	5.57	4.49	93.96	5.88	4.18	233.77	4.97	5.09	2.16
Submissiveness	3.66	4.89	55.43	3.95	4.61	37.75	4.53	4.02	12.70
Naivete	4.06	3.05	58.80	3.80	3.30	34.52	3.13	3.98	53.38
Job rating:									
Teacher	4.74	4.40		4.84	4.30		5.00	4.14	
Director	3.95	4.02		3.93	4.04		4.97	3.00	
Mean job ranking:[a]	(Proportion receiving top rank)								
Teacher	4.35 (.56)	4.65 (.44)		4.03 (.52)	4.97 (.48)		3.75 (.92)	5.25 (.08)	
Director	4.54 (.45)	4.46 (.55)		4.44 (.42)	4.56 (.58)		2.98 (.97)	6.02 (.03)	
Forced choice[b]	1.39	1.48		1.38	1.51		1.63	1.24	

[a] A lower number indicates a higher rank.

[b] For this measure a one indicated the day care teacher job and a two indicated the day care director job.

these manipulation checks were also not explicitly predicted. However, it is not surprising that high achieving candidates were rated as less naive than moderate achievers $p < .0001$. More interesting was the finding that, despite the use of identical faces in both conditions, moderate achievers were rated as more babyfaced than high achievers as well as more submissive and warmer, although the last of these effects was significant only for male applicants, all $ps < .02$.

In contrast to the pretest ratings, facial maturity influenced rated attractiveness with maturefaced applicants rated higher, $p < .0001$. Facial attractiveness also varied with applicant gender with female applicants rated as more attractive than males, $p < .0001$. These main effects were qualified by a significant Applicant Gender × Facial Maturity interaction, $F(1, 62) = 23.87$, $p < .0001$, which revealed that the higher attractiveness ratings for mature faces was significant for male applicants, $t(63) = 7.12$, $p < .0001$, but not for females, $t < 1$, and the higher attractiveness ratings for female faces was stronger for babyfaced than maturefaced applicants, though it was significant in both cases, $ts(63) = 10.04$ and 3.13, $ps < .0001$ and .01, respectively.[2]

Hiring Recommendations

Analyses of variance performed on the forced choice allocation of one job to each applicant employed the same factorial design as the manipulation check measures, whereas analyses of the ratings and rankings of applicants for each job incorporated type of job as an additional within-subject variable. In addition to these analyses of variance, χ^2 analyses were performed on the proportion of subjects who gave each applicant the top rank for each job. Higher means on the rating measure and lower means on the ranking measure reflect more positive recommendations. A higher mean on the forced choice measure reflects more directorship recommendations. The hiring recommendations for each job as function of applicant achievement, facial maturity, and gender are presented in Table 1.

[2]Although facial maturity was positively related to attractiveness for male applicants in the present study, the research literature on the relationship between attractiveness and babyfacedness has yielded mixed results (e.g., Berry & McArthur, 1985; Cunningham, 1990; Keating, 1985; Zebrowitz & Montepare, 1990). Moreover, research has demonstrated that babyfacedness and attractiveness each have an independent effect on trait impressions when the effects of the other are statistically controlled. Thus, the significant effects of facial maturity documented in the present study are unlikely to provide an alternative explanation for previously documented attractiveness effects.

Although the attractiveness of the job applicants varied with th facial maturity and gender, covariance analyses with attractiveness a covariate were not employed due to a failure of the data to meet the sumption of homogeneity of regression (Cohen & Cohen, 1983), should be noted that the only effects that may reflect the operation of attractiveness halo effect are main effects for applicant facial maturity applicant gender and interactions of applicant facial maturity a gender. The interaction effects of applicant facial maturity or applic gender with job type and/or achievement, which test the primary perimental hypotheses, are not influenced by variations in applicant tractiveness and would be unadjusted in a covariance analysis.

Applicant achievement. A significant main effect for applicant achie ment revealed that high-achieving applicants were rated higher for b jobs ($M = 4.98$) than moderate achievers ($M = 3.57$), $F(1, 61) = 155.39$, .0001, and a significant applicant achievement by job type interacti $F(1, 61) = 61.66$, $p < .0001$, revealed that this effect was stronger for director than for the teacher job, although it was highly significant both, $ts(255) = 12.28$ and 28.14, respectively, both $ps < .001$. A similar p tern of results was obtained for the rank order of applicants. Hi achievers received better mean ranks (3.36) than moderate achiev (5.64), $F(1, 61) = 238.39$, $p < .0001$, and they were more likely to rece the top rank, $p < .0001$. An Achievement × Job Type interaction for m rank $F(1, 61) = 51.41$, $p < .0001$, revealed that the preference for the hi achievers was stronger for the director job, although once again it v significant for both jobs, $ts(255) = 14.02$ and 28.41 for the teacher a director jobs, respectively, both $ps < .001$. Subjects' forced choice allo tion of one job to each applicant revealed that high achievers were s nificantly more apt to be given the director job than moderate achiev $F(1, 61) = 107.32$, $p < .0001$.

Applicant facial maturity. As predicted, there was a significant int action between applicant facial maturity and job type, $F(1,61) = 11.$ $p = .001$. Babyfaced applicants were rated higher for the teacher job th were maturefaced applicants, $t(255) = 5.48$, $p < .001$, as expect However, maturefaced applicants were not rated significantly hig than babyfaced applicants for the director job, $t(255) = 1.13$, $p > .10$. T mean rank order of applicants also revealed a Facial Maturity × Type interaction, although the effect was only marginally significa $F(1, 61) = 2.92$, $p = .09$. Planned comparisons revealed that babyfa applicants received significantly better ranks for the teacher job th did maturefaced applicants, $t(255) = 2.19$, $p < .05$, whereas there was

significant difference in the rank ordering of babyfaced and maturefaced applicants for the director job, $t < 1$. There was no significant difference in the likelihood of a babyfaced versus a maturefaced applicant receiving the top rank for each job, although the proportions were in the expected direction, $\chi^2(1) = 1.53, p > .20$. Subjects' forced choice allocation of one job to each applicant revealed that maturefaced applicants were significantly more apt to be given the director job than were babyfaced applicants, $F(1, 61) = 4.21, p = .04$. The foregoing effects of applicants' facial maturity did not interact significantly with their achievement level.

Applicant gender. A significant main effect for applicant gender reflected higher ratings for female ($M = 4.42$) than male ($M = 4.13$) applicants, $F(1, 61) = 10.45, p = .002$. This unpredicted main effect may reflect an attractiveness halo effect, given that the female applicants were perceived as more attractive than the males. There was also a significant interaction between applicant gender and job type, $F(1, 61) = 15.78, p < .001$. As predicted, female applicants were rated significantly higher for the teacher job than were males, $t(255) = 6.52, p < .001$, but contrary to prediction, males were not rated higher for the director job, $t(255) = 1.33, p > .10$, although the means were in the expected direction. The rank order of applicants for the two jobs revealed effects parallel to the applicant ratings. A marginally significant main effect for gender of applicant revealed better rankings for female ($M = 4.24$) than male ($M = 4.76$) applicants, $F(1, 61) = 3.55, p = .06$, and a significant Applicant Gender × Job Type interaction, $F(1, 61) = 7.43, p < .01$, reflected the predicted tendency for females to be ranked higher for the teacher job than males were $t(255) = 6.27, p < .001$, whereas males were not ranked higher for the director job, $t < 1$. There was also no significant difference in the likelihood of a female versus a male applicant receiving the top rank for each job, although the proportions were in the expected direction, $\chi^2(1) = 1.13, p > .20$. Subjects' forced choice allocation of one job to each applicant revealed that males were not significantly more apt to be given the director job than females were, $F(1, 61) = 2.25, p = .14$, although once again the means were in the predicted direction. The foregoing effects of applicants' sex did not interact significantly with their achievement level.

Relative effects of the three predictors. The relative effect sizes of applicant achievement, facial maturity, and gender on hiring recommendations were estimated by calculating η values. For applicant ratings, η was .708 for achievement level, .396 for the Facial Maturity × Job Interaction, and .450 for the Gender × Job Interaction. For applicant rankings, η

was .676 for achievement level, .214 for the Facial Maturity × Job Intera tion, and .329 for the Gender × Job Interaction. For the forced choi measure, η was .799 for achievement level, .253 for facial maturity, a .190 for gender.

Discussion

The results of Study 1 provide strong evidence for an impact of faci maturity on personnel decisions that parallels the impact of applica gender. Moreover, these findings reveal that the effects of applicant a pearance are more complicated than a simple halo effect, whereby pa ticular applicants are evaluated more favorably for all jobs. Unlike hig scholastic achievement, which conferred an advantage for both jobs, t effects of facial maturity and gender depended upon the job for whi the applicant was being evaluated. Applicants who were babyfaced female were favored for the teacher job, which required qualities warmth and submission, whereas there was a nonsignificant tenden to favor applicants who were maturefaced or male for the director jo which required qualities of shrewdness and leadership.

The foregoing pattern of results is consistent with stereotypical a sumptions about job-relevant attributes possessed by those who a female versus those who are male and those who are babyfaced vers maturefaced. Compared with applicants who were male or maturefac female or babyfaced applicants were rated as significantly warmer a more submissive—two qualities that were called for in the job descri tion for the teacher position. Although male and maturefaced applica were rated as significantly more shrewd and dominant, qualities call for in the description of the director position, evaluators did not show significant bias in favor of these applicants for the directorship.[3] Fo possible explanations for this result can be considered.

One explanation concerns the *differential attractiveness* of the a plicants. Because female applicants were rated as more attractive tha the males, one could argue that the failure to favor males for the direct job reflected the countervailing effects of a positive halo effect for t more attractive female applicants. However, this argument cannot a count for the identical pattern of results for applicant facial maturit

[3]Although maturefaced applicants were significantly more apt to be given the direct job on the forced choice measure, this may reflect the tendency to favor babyfaced a plicants for the teacher job as much if not more than any tendency to favor maturefaced a plicants for the director job.

Although maturefaced applicants were rated as more attractive than the babyfaced, they were not favored for the director job, whereas the less attractive babyfaced applicants were favored for the teacher job. These results run counter to attractiveness halo effects, and the differential attractiveness of the applicants is therefore not a parsimonious explanation for the failure to demonstrate a bias in favor of male and maturefaced applicants for the director job.

A second explanation concerns the *differential status* of the two jobs. Specifically, facial maturity and gender may have an impact on the perceived appropriateness of applicants for relatively low status jobs, like a day care teacher, but not for higher status positions, like a day care director. Although this could be true for facial maturity, past research has clearly established a bias against female applicants for certain high status jobs.

A third possible explanation concerns the *job requirements*. Although babyfaced and female applicants are favored for jobs requiring nurturant qualities, they may not be discriminated against for jobs requiring leadership qualities. Again, although this could be true for babyfaced applicants, past research has clearly established a bias against female applicants for managerial positions (e.g., Dipboye et al., 1975, 1977).

A fourth explanation concerns the *feminine setting* for the two jobs. Although the directorship called for leadership qualities that are stereotypically associated with male and maturefaced applicants, this influence on applicant evaluations may have been offset by the nurturant qualities that are stereotypically associated with the setting of a day care center with the net result being no significant effects of gender or facial maturity on the directorship ratings.

Study 2

Study 2 as designed to determine whether facial maturity and gender would influence recommendations for a leadership job when the conditions that may have mitigated against such effects in Study 1 were altered. To this end, Study 1 was replicated with appropriate modifications in the two job descriptions. First, the two jobs for which applicants were evaluated in Study 2 were positions in a bank. This eliminated any tendency for the nurturant setting of a day care center to offset the advantage of maturefaced or male applicants for a leadership job. Second, the status of the two positions for which applicants were evaluated was equated. As in Study 1, one of the job descriptions—the

loan counselor—called for nurturant qualities and the other—the loa officer—called for leadership qualities. It was predicted that babyface or female applicants would be evaluated more favorably for the forme position, and maturefaced or male applicants would be evaluated mor favorably for the latter.

Method

The stimulus materials and experimental design employed in Study were identical to those employed in Study 1 with the exception of th job descriptions. The day care director and teacher jobs were replace with positions for a loan counselor and a loan officer. To equate th status of the two positions, subjects were told that both jobs were entr level positions requiring a bachelor of arts degree and participation in 3-month training program. They were further told that the startin salary for each job was $18,000 per year. Like the teacher job in Study 1 the loan counselor job description stressed those attributes that hav been found to be associated with babyfaced individuals. The descriptio of this position called for submissiveness (e.g., "must yield to ap proval/disapproval decisions of the officers") and warmth (e.g., "mus be a warm and encouraging person, who can understand and determin individuals' needs"), whereas the description of the director positio called for dominance (e.g., "will be responsible for making decision about the authorization of loans"), shrewdness (e.g., "must be a shrew financial administrator"), and low warmth (e.g., "must be willing to dis approve a loan request").

Results

Manipulation Checks

Analyses of variance on the manipulation checks employed the sam design as Study 1. The relevant means and *F* values from these analyse are presented in Table 2.

As predicted, the applicants designated as babyfaced were indee rated as more babyfaced, warmer, more naive, and more submissiv than those designed as maturefaced, all *ps* < .0001. As in Study 1, ther were also significant Facial Maturity × Applicant Gender interaction ef fects for each of these ratings, which revealed that the effects of facia maturity were stronger for male than female applicants, although the

Table 2

Mean Ratings for Manipulation Checks and Dependent Measures Based on Applicants' Facial Maturity, Gender, and Achievement Level in Study 2

	Face		*F*	Sex		*F*	Achievement		*F*
Ratings of	Baby	Mature	(1, 62)	Female	Male	(1, 62)	High	Moderate	(1, 62)
Babyfacedness	5.11	2.56	402.72	4.26	3.42	64.57	3.74	3.93	4.69
Attractiveness	4.01	4.17	1.44	4.51	3.67	38.58	4.15	4.03	<1
Warmth	5.47	4.56	54.86	5.88	4.16	146.59	5.07	4.96	1.05
Submissiveness	4.47	2.82	155.23	4.03	3.27	31.30	3.39	3.91	22.39
Naivete	4.28	3.09	89.89	4.01	3.36	19.51	3.43	3.93	16.62
Job rating:									
Loan counselor	4.86	4.65		4.80	4.72		5.39	4.13	
Loan officer	4.00	4.14		3.92	4.21		5.01	3.12	
Job ranking:[a] (Proportion receiving top rank)									
Loan counselor	4.31 (.58)	4.63 (.42)		4.27 (.61)	4.67 (.39)		3.45 (.88)	5.50 (.12)	
Loan officer	4.56 (.42)	4.38 (.58)		4.67 (.44)	4.27 (.56)		2.99 (.95)	5.96 (.05)	
Forced choice[b]	1.29	1.47		1.26	1.50		1.53	1.22	

[a] A lower number indicates a higher rank.
[b] For this measure a one indicated the loan counselor job and a two indicated the loan officer job.

were significant for both genders, all $ps < .001$. Also as in Study 1, female applicants were rated as significantly more babyfaced, warmer, more naive, and more submissive than males, all $ps < .0001$. And, once again, lower levels of achievement caused applicants to be rated as more babyfaced, more naive, more submissive, and warmer, although the last of these effects was significant only for babyfaced applicants, all $ps < .05$.

A significant Applicant Gender × Facial Maturity interaction effect for attractiveness ratings, $F(1, 62) = 9.64$, $p = .003$, revealed that, as in Study 1, maturefaced males were perceived as more attractive than babyfaced males, $t(63) = 3.18$, $p < .01$, whereas babyfaced and maturefaced females did not differ in attractiveness, $t(63) = 1.21$, $p > .10$. Facial attractiveness also varied with applicant gender with female applicants rated as more attractive than males, $p < .0001$.[4]

Hiring Recommendations

The analyses of variance on the hiring recommendations utilized the same factorial designs as in Study 1.

Applicant achievement. A significant main effect for applicant achievement revealed that high-achieving applicants were rated higher for both jobs ($M = 5.20$) than moderate achievers ($M = 3.62$), $F(1, 61) = 249.06$, $p < .0001$, and a significant Applicant Achievement × Job Type interaction, $F(1, 61) = 12.68$, $p < .001$, revealed that this effect was stronger for the loan officer than for the loan counselor job, although it was highly significant for both, $ts(255) = 14.37$ and 21.55, for the counselor and officer jobs, respectively, both $ps < .001$. A similar pattern of results was obtained for the rank order of applicants. High achievers received higher means ranks ($M = 3.22$) than moderate achievers ($M = 5.73$), $F(1, 61) = 207.13$, $p < .0001$, and they were much more likely to receive the top rank, $p < .0001$. An Achievement × Job Type interaction for mean ranks, $F(1, 61) = 53.93$, $p < .0001$, revealed that the tendency to favor high achieving applicants was stronger for the officer job, although once again it was significant for both jobs, $ts(255) = 20.30$ and 29.40 for the counselor and officer jobs, respectively, both $ps < .001$. Subjects' forced choice allocation of one job to each applicant revealed that high achievers were significantly more apt to be given the officer job than were moderate achievers, $F(1, 61) = 43.40$, $p < .0001$.

[4]Other higher order interaction effects for the manipulation checks will not be reported inasmuch as they did not qualify the predicted effects of facial maturity or gender.

Applicant facial maturity. As predicted, applicant ratings revealed a significant interaction between applicant facial maturity and job type, $F(1, 61) = 6.67$, $p = .01$. Babyfaced applicants were rated higher for the counselor job than were maturefaced applicants, $t(255) = 3.02$, $p < .01$, as expected, and, in contrast to Study 1, maturefaced applicants were also rated significantly higher than babyfaced applicants for the officer job, $t(255) = 2.01$, $p < .05$.

The mean rank order of applicants also revealed a Facial Maturity × Job Type interaction, $F(1, 61) = 3.84$, $p = .05$. Paralleling the results of Study 1, babyfaced applicants received significantly better ranks than the maturefaced for the counselor position, $t(255) = 2.50$, $p < .02$, whereas maturefaced applicants did not receive significantly better ranks for the officer position, $t(255) = 1.41$, $p > .10$, although the means were in the predicted direction. Unlike Study 1, this two-way interaction was qualified by a Facial Maturity × Job Type × Achievement Level triple order interaction, $F(1, 61) = 4.17$, $p = .04$. As predicted, high-achieving applicants who were babyfaced received significantly better ranks for the counselor job ($M = 3.12$) than did those who were maturefaced ($M = 3.68$), $t(127) = 3.62$, $p < .01$, the high-achieving applicants who were maturefaced received better ranks for the officer job ($M = 2.78$) than did those who were babyfaced ($M = 3.20$), $t(127) = 3.23$, $p < .01$. On the other hand, facial maturity had no significant effect on the rank order of low achieving applicants for the counselor or the officer positions, $ts = 1.38$ and <1, respectively, both $ps > .10$. The same pattern of effects was obtained for the top ranked applicants. Babyfaced applicants were more likely to receive the top rank for the counselor job whereas maturefaced applicants were more likely to receive the top rank for the officer job, $\chi^2(1) = 3.13$, $p < .08$, and this overall effect held true for high-achieving applicants, $\chi^2(1) = 3.10$, $p = .08$, but not for low-achieving applicants, $\chi^2 < 1$. Subjects' forced choice allocation of one job to each applicant revealed that maturefaced applicants were significantly more apt to be given the officer job than were babyfaced applicants, $F(1, 61) = 19.42$, $p < .0001$.

Applicant gender. As in Study 1, there was a significant interaction between applicant gender and job type, $F(1, 61) = 6.18$, $p < .02$. However, in contrast to the lack of effect for the directorship in Study 1, male applicants were rated higher for the officer job than females were, as predicted, $t(255) = 4.14$, $p < .01$. Contrary to prediction as well as to the effect for the teacher position in Study 1, females were not rated higher for the counselor job, although the means were in the expected direction, $t(255) = 1.14$, $p > .10$.

The rank order of applicants for the two jobs also revealed a significant Applicant Gender × Job Type interaction, $F(1, 61) = 10.87$, $p < .002$. As predicted, male applicants received better ranks for the officer job than females did, and females received better ranks for the counselor job, both $ts(255) = 3.22$, $ps < .01$. This effect was qualified by a marginally significant Gender × Job Type × Achievement Level triple order interaction, $F(1, 61) = 3.01$, $p = .09$. Male applicants received better ranks than females for the officer position, regardless of their achievement level, $ts(127) = 2.76$ and 3.36, $ps < .01$, for high and low achievers, respectively, whereas only among highly achieving applicants did females receive better ranks than males for the counselor job, $t(127) = 6.22$, $p < .001$ for high achievers, and $t < 1$ for low achievers. The same pattern of effects was obtained for the top ranked applicants. Female applicants were more likely to receive the top rank for the counselor job, whereas male applicants were more likely to receive the top rank for the officer job, $\chi^2(1) = 3.79$, $p = .05$, and this overall effect held true for high achieving applicants, $\chi^2 = 6.46$, $p = .01$, but not for low-achieving applicants, $\chi^2 < 1$.

Subjects' forced choice allocation of one job to each applicant revealed that males were significantly more apt to be given the officer job than females were, $F(1, 61) = 11.33$, $p = .001$. This effect was qualified by a marginally significant interaction between applicant gender and achievement level, $F(1, 61) = 3.32$, $p = .07$. Paralleling subjects' rank ordering of the applicants, the impact of applicants' gender on the job they were given was stronger for high than low achievers, although it was significant for both groups, $ts(127) = 9.31$ and 5.75, respectively, both $ps < .001$.

Relative effects of the three predictors. The effect sizes for applicant achievement, facial maturity, and gender on hiring recommendations were estimated by calculating η values. For applicant ratings, η was .896 for achievement level, .313 for the Facial Maturity × Job Interaction, and .303 for the Gender × Job Interaction. For applicant rankings, η was .879 for achievement level, .243 for the Facial Maturity × Job Interaction, and .388 for the Gender × Job Interaction. For the forced choice measure, η was .645 for achievement level, .491 for facial maturity, and .396 for gender.

Discussion

Whereas male and maturefaced applicants were not favored for the director job in Study 1, they were favored for the loan officer job in

Study 2, which, like the directorship, required shrewdness and dominance. Thus, Study 2 reveals that babyfaced applicants can be discriminated against for a "leadership" job. The change in the pattern of results from Study 1 to Study 2 demonstrates that the failure to favor male applicants for the director job in Study 1 was not due to their lower attractiveness, because male applicants were also rated as less attractive than the females in Study 2. It also suggests that the failure to favor male or maturefaced applicants for the director job was not due to its higher status. Although an effort was made to present the loan counselor and loan officer positions as equal status, the results suggest that the loan officer position was perceived as higher status in Study 2 just as the directorship had been in Study 1. Specifically, high achievers were more often chosen for the officer position than were moderate achievers, paralleling the effects for the directorship.

Whereas the results of Study 2 do not support the differential status explanation for the failure of facial maturity to influence recommendations for the director job in Study 1, they do provide some support for the feminine setting explanation. As noted above, although the directorship called for leadership qualities that are stereotypically associated with male and maturefaced applicants, this effect may have been offset by the nurturant qualities that are stereotypcially associated with the setting of a day care center, with the net result being no significant effects of gender or facial maturity on the directorship ratings. Evidence that the day care setting was viewed as requiring nurturant qualities is provided by the finding that female applicants were rated more favorably overall than males were for the day care jobs in Study 1, whereas there was a nonsignificant tendency for males to be rated more favorably overall for the bank jobs in Study 2. It thus appears that the day care jobs were viewed as relatively "feminine" and the bank jobs as "neutral" or slightly "masculine."

In Study 2, unlike Study 1, the effects of applicant gender and facial maturity on job recommendations varied with their achievement level. The predicted tendency to rank female applicants more positively for the loan counselor job was significant for high, but not moderate achievers, which is consistent with previous evidence that when a bias in favor of males occurs, it is most pronounced for highly competent applicants (e.g., Haefner, 1977; Zikmund et al., 1978). Similarly, the tendency to rank maturefaced applicants more positively for the loan officer job was significant for high, but not moderate, achievers. Although this finding is not paralleled by research documenting biases in favor of

attractive applicants (e.g., Dipboye et al., 1975, 1977), it does appear tha applicants' appearance and gender may have the greatest effect on jo recommendations when evaluators must distinguish among a group o highly qualified individuals.

Although the effect size for applicant achievement was substantiall greater than for the interaction of job type with applicant facial maturit or gender, it should be noted that the latter effects were not trivial Averaging across the three measures in both studies, the values of were .831 for scholastic achievement, a large effect size, .333 for th Facial Maturity × Job Effect, and .352 for the Gender × Job Effect, whic are both medium effect sizes (Cohen, 1977).

In extrapolating the present findings to personnel decisions in th real world, four caveats must be considered. First, those who evaluate job applicants in the present research were college undergraduates, an it is possible that individuals trained in personnel selection would b less subject to gender and appearance biases. Although additional re search utilizing trained personnel workers would be useful, it should b noted that past research comparing gender and appearance biases in th evaluations of professionals and college undergraduates has found parallel effects for the two subject populations (e.g., Dipboye et al. 1975). Moreover, although personnel officers may have become mor sensitive in recent years to gender biases in their decision making, it i unlikely that they are aware of facial appearance biases such as thos demonstrated in the present study.

A second caveat concerns the within-subjects' design of this research It can be argued that the effects of applicant gender and facial maturity will be more pronounced when applicants varying on these dimensions are directly compared than they would be in a between-subjects desig where subjects evaluate applicants of only one gender or facial type. Although this is true, actual personnel decisions typically involve the direct comparison of a series of applicants and, as such, the within-subjects design employed in the present study does have ecological validity.

A third question concerns the generalizability of results based on a small subset of faces that had been rated fairly extremely on the dimension of facial maturity. Although the answer to this question awaits further research, a recent investigation revealed a significant impact of litigant facial maturity on judicial judgments in small claims court, where a wide range of faces was represented, not to mention other stimulus information that one might expect to dilute the effects of

physical appearance (Zebrowitz & McDonald, 1990). There is thus reason to believe that babyfacedness will have a significant impact on personnel decisions involving a more random sample of people who have not been selected for extreme scores on the dimension of facial maturity.

A final caveat concerns the gender difference in facial expression in the resume photographs. Although this gender difference increases the generalizability of the applicant facial maturity effects on hiring recommendations—they obtained both for smiling female job applicants and for serious male job applicants—it may decrease the generalizability of the applicant gender effects. More specifically, one could argue that females were evaluated higher for the teacher and loan counselor jobs and lower for the loan officer not because of their gender, but rather because they were smiling, whereas males were not. In evaluating the implications of this confound, it is important to consider the fact that research has consistently documented that females are more likely to smile than males. This is true not only in portrait photographs (LaFrance, 1985; Mills, 1984; Morse, 1982; Ragan, 1982), but also in social interactions between two unacquainted individuals of either the same or opposite gender (Frances, 1979; Halberstadt, Hayes, & Pike, 1988; Mackey, 1976) as well as in other social situations (see Hall, 1984, for a comprehensive review). It is therefore likely that smiling is actually more frequent in the resume photographs and interview behaviors of female than male applicants who are being considered for real jobs, and the results of the present study therefore generalize to actual employment settings.

The question still remains of the extent to which gender differences in smiling contributed to the gender bias documented in this study as well as in past research. Past research using photographs to document gender biases in personnel decisions has not published any information regarding the facial expressions of the male and female applicants (e.g., Cash et al., 1977; Dipboye et al., 1975, 1977; Heilman & Saruwatari, 1979). Given the evidence that women are much more likely than men to smile in photographs, it is quite possible that facial expression and sex were also confounded in these studies.[5] On the other hand, several studies have documented gender biases when written information about job applicants identified them as male or female in the absence of any

[5]It is also possible that facial expression and attractiveness were confounded in these studies, since people are judged to be more attractive when they smile (e.g., Mueser, Grau, Sussmann, & Rosen, 1984).

photograph (Cohen & Bunker, 1975; Haefner, 1977; Zikmund et al., 1978). It thus appears that gender differences in facial expression are not a necessary condition for gender biases in personnel decisions. Nevertheless, additional research to systematically investigate whether gender biases are diminished when facial expressions are equated would be desirable, especially given that there is evidence to indicate that the absence of a smile has a negative impact on impressions of women but not on impressions of men (Deutsch, LeBaron, & Fryer, 1987; Schulman & Hoskins, 1986). These findings suggest that there may be a "Catch 22" for women applying for leadership jobs. If they smile, they may be passed over because they do not look sufficiently dominant for the job and if they don't smile, they may be passed over because they are perceived more negatively on other dimensions.

Conclusions

Although Title VII of the Civil Rights Act of 1964 forbids discrimination in hiring on the basis of gender and the Rehabilitation Act of 1973 can be construed as prohibiting discrimination on the basis of facial appearance, the present findings suggest that both forms of discrimination may occur. They further indicate that the effects of applicant gender and facial appearance are not global ones, but rather vary with the nature of the job. These results support Heilman's (1983) Lack of Fit model and they illustrate the model's relevance to appearance bias as well as gender bias.

The implication of these findings for cases of employment discrimination is that the courts must be sensitive to the interaction of applicant gender or appearance with job type. Males and maturefaced applicants are perceived as shrewder and more dominant than female and babyfaced applicants, and they are consequently favored for jobs that require such qualities. Female and babyfaced applicants, on the other hand, are perceived as warmer and more submissive than their male or maturefaced counterparts, and they are consequently favored for jobs that require these qualities. The fact that the jobs for which male and maturefaced applicants were favored were those for which high-achieving applicants were also favored suggests that female and babyfaced applicants are most apt to be discriminated against when applying for higher status jobs. Moreover, the interactions between applicant gender or facial maturity and achievement level suggest that this discrimination will be most marked for high-achieving applicants.

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