

Perceptions of Job Advancement Opportunities: A Multilevel Investigation of Race and Gender Effects

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Abstract

Multilevel models are used to investigate gender and racial differences in perceptions of job advancement opportunities among correctional officers at the Federal Bureau of Prisons. Correctional officers evaluate their *own* opportunities for promotion, used to make specific comparisons of minority opportunity, as well as *minority* opportunities for promotion, used to make general comparisons of minority opportunity. Consistent with structural theories of work values, it is found that female and male correctional officers provide similar evaluations of their own chances for job advancement. Officers who are neither black nor white provide similar evaluations to white officers. However, somewhat surprisingly, black correctional officers report *higher* assessments of their own opportunity for job advancement than white correctional officers. Clearly, affirmative action at the Federal Bureau of Prisons has created an atmosphere where females and minorities feel they have at least the same opportunities for job advancement as males and non-minorities. Concerning general minority opportunities, definite gender and racial differences exist. Female correctional officers provide lower evaluations of minority opportunities than male officers, black officers provide lower evaluations of minority opportunities than white officers, and officers who are neither black nor white provide lower evaluations of minority opportunities than white officers.

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Introduction

Affirmative action policy is designed to accomplish two related, but separate goals. First, affirmative action is devised to provide women and minorities with access to occupations from which, historically, they have been excluded. Second, affirmative action is intended to provide women and minorities with equal opportunities for advancing within the occupations they have chosen. The 1972 amendment to Title VII of the 1964 Civil Rights Act extended to public sector employees protections against employment discrimination. This and related court cases opened the door for women to serve in all capacities in an agency where their prior participation was more limited, especially at male-only facilities, the Federal Bureau of Prisons (BOP). In January 1992, the final barrier to full participation by women in the BOP was cleared when policy was implemented to allow women to work as correctional officers at the most secure, male institutions in the BOP housing the most dangerous inmates (Rison, 1994). Minority workers had obtained full participation in the BOP earlier.

In this study, we focus upon the second aspect of affirmative action, the opportunities for job advancement available to women and minority correctional officers in the BOP. We do this with survey data that asks respondents about their own as well as minority chances for job advancement. Concerning their own opportunities for promotion, respondents are asked to evaluate two items measured on 7 point Likert scales, from strongly disagree to strongly agree: “There are job advancement opportunities in this facility for me” and “There are job advancement opportunities in the BOP for me.” We use these items to evaluate what we call

“specific” opportunities for minorities. Since the items do not force the respondent to assess their opportunities with any reference group, they give the respondents “specific” evaluation of their job advancement opportunities which we can then use to make comparisons between minority and non-minority members, and between males and females.

We also examine what we call “general” opportunities for minorities, as there are two items, also measured on Likert scales, that allow respondents to assess, in a “general” sense, the job advancement opportunities available to minorities. These items are: “There are job advancement opportunities for minorities in this facility” and “There are job advancement opportunities for minorities in the BOP.” As the designer of the Prison Social Climate Survey¹, William G. Saylor, Deputy Chief of the Office of Research and Evaluation at the Federal Bureau of Prisons, stated to us in personal communication, he deliberately designed the questionnaire items to allow analysis to move from examining general differences in perceptions of minority opportunity at the Bureau of Prisons to examining more specific evaluations of minority opportunity.

We compare male and female perceptions of job advancement opportunities as well as the perceptions of different racial groups. These comparisons allow us to 1) address the issue of equity, whether male and female, and black and white, correctional officers see similar opportunities for job advancement and 2) examine whether there is any white or male backlash against the promotion opportunities available for minorities at the BOP. *Business*

¹The Prison Social Climate Survey (PSCS) is the source of data for the present analysis. It is discussed in more detail in the next section. We would like to take this opportunity to thank William G. Saylor, and the PSCS group at the BOP, headed by Evan B. Gilman, for use of the excellent PSCS data.

Week, for example, ran an article in January of 1994 in which the author claims that white males are becoming increasingly resentful, frustrated, and afraid in some companies that push diversity programs and affirmative action (Galen, 1994). Caudron, writing in a journal for personnel professionals, goes even further: “The fact is, gender relations in the workplace are worse than they’ve ever been because we’ve patently ignored the real reasons behind gender warfare: Women want more power, and men don’t want to share it” (Caudron, 1995). While we have no reason to believe that gender or racial relations at the BOP are characterized by such tensions, it seems prudent to explore this issue with the data we have at hand. We use multilevel models to check for any aggregate differences in evaluations of job advancement opportunities across correctional facilities.

Relevant Literature

Harlan (1989: 766) notes that job promotions within an organization are an “important mechanism for socioeconomic attainment during the course of individual careers.” She notes that job promotion is a more common means of upward mobility than a career or employer change. Rowe and Snizek (1995), in their examination of the work values of women and men, find that women and men place equal emphasis upon the importance of receiving job promotions. Given the importance of promotions, then, do men and women, and minorities and non-minorities, perceive their opportunities for advancement in a similar fashion? And what types of factors influence their perceptions?

In the sociological literature, there are two approaches for explaining differences in how women and men, and minorities and non-minorities, evaluate their work environment.

The most commonly examined aspect of the work environment is job satisfaction (Gruenberg, 1980; Martin & Hanson, 1985; Martin & Tuch, 1993; Tuch & Martin, 1991), but the arguments have been extended to analyses of other aspects of the work environment, including importance of promotion opportunities (Rowe & Snizek, 1995). The first approach points to the different values held by women and men, and minorities and non-minorities, that arise from differences in socialization and experience. Given the different values placed on work by women and men, and minorities and non-minorities, differences in evaluations of the work environment are a natural byproduct. This approach, often labeled as dispositional or individualistic, has its roots in the Durkheimian tradition in sociology (Gruenberg, 1980). The second approach, often called situational or structural, traces its roots to the Marxian tradition in sociology, and structural analysts postulate that gender or racial differences in workers' evaluations of the work environment are probably due to the different structural positions that workers hold (Gruenberg, 1980). Then, there are analysts who advocate mixing the dispositional and structural approaches (Morris & Villemez, 1992; Mortimer, 1979).

While the evidence is far from complete, there does seem to be quite a bit of support for the structural position in terms of gender (Jurik & Halemba, 1984; Martin & Hanson, 1985) and racial differences (Tuch & Martin, 1991). While not explicitly addressing dispositional or structural theories, previous research on gender and racial differences in evaluations of the work environment for workers at the BOP generally supports the structural position. Wright and Saylor (1991) found no difference between males and females in a 1988 sample of BOP employees in terms of their evaluations of supervision, job satisfaction, and sense of personal efficacy in dealing with inmates. They did find statistically significant, but

small, effects for job-related stress and feelings of safety. Women reported slightly higher levels of stress and felt less safe. Likewise, Wright and Saylor (1992) found that minority and non-minority workers had similar evaluations of supervision and job satisfaction. Blacks and Hispanics, though, did report having a greater sense of efficacy in dealing with inmates, and blacks reported feeling less job-related stress.

Camp and Steiger (1995), analyzing a 1994 sample of BOP correctional officers, also found that there are no consistent differences between male and females in their evaluations of the work environment at the BOP. Males and females provided similar evaluations of commitment to the Bureau of Prisons, commitment to the institution in which they work, the efficiency of institutional operations, efficacy in dealing with inmates, and cynicism developed because of working with inmates (what Wright and Saylor call job-related stress). The only significant differences for gender were for job satisfaction and satisfaction with supervision. Female correctional officers were slightly more satisfied than male correctional officers on these two measures. Likewise, there was not a consistent pattern in race differences in the findings reported by Camp and Steiger (1995). For the same seven measures discussed for gender, only three measures were statistically significant in comparisons of black and white workers. Blacks reported lower levels of institutional commitment and cynicism, but they provided higher evaluations of institutional operations.

In her analysis of job advancement attitudes in a manufacturing firm, Harlan (1989) examines the organizational determinants of promotion attitudes. She notes that, consistent with the structural view, opportunity is usually defined by the structural position workers hold in the firm's internal labor market. However, Harlan's research findings clearly demonstrate

that a second aspect of opportunity, “workers’ perceptions of fairness and accessibility in the administrative system that awards promotions,” is also important (Harlan, 1989: 767).

In this analysis, we use the insights of the structural view to frame our research questions. Given the importance of organizational position, we do not want to examine the expectations about promotions for all workers at the BOP. Instead, we limit our analysis to investigating the attitudes of non-supervisory correctional officers only and thus control for organizational position. By controlling for organizational position, we control for the structural component of opportunity discussed by Harlan. Harlan (1989: 783) notes that in firms where steps are being taken to integrate jobs by gender, “gender-based theories of work attitudes need not hold.” Rowe and Snizek (1995) also de-emphasize the importance of gender in explaining work attitudes, such as the importance placed on promotions. Concerning racial differences, the research reported by analysts such as Tuch and Martin (1991) supports the structural view that racial differences in job satisfaction are due to differences between the races in structural factors related to employment: type of job, industry of employment, and firm type.

We control for the first aspect of opportunity, structural position, and examine in this analysis the second aspect of promotion opportunity, “fairness and accessibility” (Harlan, 1989). Given the importance of structural position in shaping attitudes toward work, and the commitment of the Bureau of Prisons toward affirmative action, we derive the following two hypotheses concerning individual perceptions of job advancement opportunities:

H1: Male and female correctional officers at the Bureau of Prisons should have similar evaluations of the job advancement opportunities available to them,

both within the Bureau of Prisons generally and at their current correctional facility.

H2: Correctional officers of all racial groups at the Bureau of Prisons should have similar evaluations of the job advancement opportunities available to them, both within the Bureau of Prisons generally and at their current correctional facility

In addition to asking respondents about the opportunities available to them, again, what we call the specific evaluation of minority opportunities,² the respondents are also asked to evaluate the opportunities for minority advancement at their current correctional facility and in the BOP generally. As noted earlier, we call this the general evaluation of minority opportunity. Since these evaluations are more general or abstract, we are not as confident that the structural position of the respondents overcomes dispositions brought by the correctional officers into the work setting.

As noted previously, there is concern over white, male backlash in the business and personnel literature. This concern is also reflected in the popular media, and political leaders such as Governor Wilson of California have been very outspoken in their criticisms of affirmative action. Despite this, a recent study by Marylee Taylor (1995) compares white workers who work for employers who do and do not practice affirmative action. Taylor finds that there is no evidence that race-targeted practices create resentment among white workers. To the contrary, Taylor (1995: 1407) finds that: "... affirmative action can do more than

²The term specific evaluation of minority opportunity arises because we can use the responses to the items about respondents own opportunities for job advancement to specifically evaluate differences in how men and women or minorities and non-minorities evaluate their chances for advancement. These items are probably less value-laden than the next items we examine which ask about the opportunities for minorities.

increase the representation of black workers. It may also have a positive effect on attitudes and beliefs of whites—not across the board, but on the particular views and opinions linked to support for this type of intervention.” Even though Taylor’s findings are limited to comparisons of different groups of white workers and do not address how black or minority workers view affirmative action in comparison to white workers, the findings do resonate with the structural view discussed in this analysis which maintains that black-white differences are largely structural. Given this, perhaps we should hypothesize that workers general expectations about the promotion opportunities for minorities are not influenced by race or gender. We are leery of such hypotheses, however. In part, we hesitate because of earlier work done on this issue (Camp and Steiger 1995), as discussed below.

Method of Analysis

Previous research reported by Camp and Steiger (1995) notes that there are no differences between male and female correctional officers in evaluations of opportunities for job advancement at the Federal Bureau of Prisons when the effects of relevant individual and organizational variables are controlled. On the other hand, even controlling for relevant variables, black correctional officers do evaluate their chances for job advancement differently and more favorably than white correctional officers.

There is a potential problem with the analysis presented by Camp and Steiger (1995). Namely, the findings they report are based upon ordinary least squares (OLS) results that do not adequately address the clustering of individual respondents within contexts, in this case, the contexts of different correctional institutions. Generally, it would be expected that

respondents working together in a correctional institution would have a more consistent work history and would provide more similar responses to survey questions about their work experiences than respondents working in different institutions. Traditionally, analysts have dealt with these contextual effects by including variables that are aggregated to the level of the group or which are true global measures of the group (Lazarsfeld & Menzel, 1961) in OLS models. This is the approach taken by Camp and Steiger (1995). As Hox and Kreft (1994) note, though, this is not adequate. The errors of the multilevel OLS models are not independent if there is even a small amount of covariation between observations within groups. In such cases, significance tests are unreliable, and the chance of Type I error is inflated.

Hierarchical linear model (HLM) techniques, on the other hand, begin to address the shortcomings of traditional multilevel analysis (Bryk & Raudenbush, 1992; Mason, Wong, & Entwisle, 1983). HLM allows for a hierarchical representation of the variance existing at different levels in the model, and this allows analysts to move beyond the choice of either conducting analysis at the individual or group level.

The analysis presented here generally replicates the general design of the earlier study by Camp and Steiger (1995), but it uses HLM methods as described by Bryk and Raudenbush (1992). Additionally, different organizational level variables are considered here, and the analysis excludes consideration of one BOP facility, MDC Guaynabo, because it is not located on the U.S. mainland. Guaynabo, a metropolitan detention center, is located in Puerto Rico and may add variance to the model in a manner unrelated to the variables considered here.

Analysis and Results

The univariate statistics for the variables used in this analysis are presented in Table 1. The level-1 data come from the 1994 Prison Social Climate Survey (PSCS). The PSCS has been administered annually since 1988 to a stratified proportional probability sample of Bureau of Prisons staff working in field locations. In this analysis, we select those respondents who self-identify as non-supervisory correctional officers and who complete the items about job opportunities. A more complete description of how the PSCS is designed to allow multilevel analyses is found in Saylor (1984) We use a subset of the 1994 Prison Social Climate Survey data similar to the one described by Camp and Steiger (1995).

The level-2 data are taken from operational data bases used to generate statistical information reported in the Bureau of Prison's Key Indicators/Strategic Support System (KI/SSS). KI/SSS is an interactive management information system that is pressed onto CD-ROM each month and distributed to BOP managers (Gilman, 1991; Saylor, 1988). As can be seen in Table 1, the analysis covers 73 of the 74 institutions that participated in the 1994 administration of the Prison Social Climate Survey. As noted above, MDC Guaynabo is not included in this analysis.

Bivariate Findings for Gender and Race

Table 2 presents bivariate results between the opportunity variables and gender.³ As can be seen, there are both similarities and differences in how males and females evaluate the four job advancement opportunity variables. In terms of similarities, males and females seem to agree that the route for job advancement lies not at the institution but within the larger BOP. The average evaluation of BOP has opportunities for me (BOPOPPME) is at least a point higher than the respective evaluation of institution has opportunities for me (INOPPME) for both females and males. This is not unexpected. Executives at the BOP often tie promotions to relocations. Similarly, both males and females rate the chances of minority opportunities to be greater within the BOP overall than within their specific institution, though the differences here are less dramatic.

In terms of the differences between females and males reflected in Table 2, females and males, on average, rate all of the opportunity variables differently, with the exception of evaluations of opportunities at the institution, where there is no statistically significant difference between males and females. As for job advancement opportunities in the larger BOP, women more strongly agree than men that they have opportunities. Men, on the other hand, more strongly agree than women that minorities have opportunities for advancement at the institution and in the BOP generally.

³Multivariate analyses presented later in the paper use the opportunity variables in a transformed state. However, Tables 2 and 3, which present bivariate statistics for the opportunity variables, are for the opportunity variables in their original state. This eases discussion. Also, reproducing the results in Tables 2 and 3 on the transformed variables does not change the nature of the discussion about the results presented.

Table 3 presents the bivariate results between the opportunity variables and race. Again, there is the similarity that on average blacks, whites, and others evaluate the opportunities for job advancement, both for themselves and minority members, more favorably within the BOP than at their specific institution. This is very pronounced for black and other correctional officers and less true for white correctional officers. In terms of differences demonstrated in Table 3, whites evaluate their opportunities for advancement at the institution and in the BOP *less* favorably than blacks. This finding seems counterintuitive. White staff rate the chances of minority advancement at the institution and in the BOP much more highly than either blacks or the other racial group.

The bivariate results are interesting, and suggest that there are quite important differences between the evaluations of men and women and the different racial groups. It is obviously necessary to see if these relations remain significant with the introduction of appropriate controls in HLM models. Of particular interest is whether or not there are gender and race differences as well as organizational effects that remain unexplained after controlling for relevant characteristics of the individuals and institutions.

Multivariate Results

The strategy employed here for the multivariate analysis is to first estimate the random intercepts models using HLM/2L (Bryk, Raudenbush, & Congdon, 1994). The random intercepts models become the baselines against which to evaluate later models. In the random intercepts models, all of the relevant individual level variables are entered as fixed effects at Level 1, and the intercept for each institution is allowed to randomly vary at level 2 of the models. Given the small sample sizes of correctional officers in several of the BOP facilities,

the data are not suited to testing whether the β coefficients for the other individual level variables vary randomly across the BOP institutions. In the initial random intercepts models, no explanatory variables are entered at level 2, the organizational level. If there is significant variation among the intercepts at level 2 in the initial models, then it is necessary to consider models that attempt to explain the organizational component of the variance, e.g., the variance of the intercepts. This means modeling the intercepts with level 2 or organizational level variables.

The dependent variables in the multivariate analysis are all transformed by taking the square of the variable. This is done to help correct for skew in the dependent variables. Ordinary least squares (OLS) regression results were produced (not reported here) with the dependent variables transformed in several ways. In addition to the square of the variable which stretches out the scale of the dependent variable, transformations to shrink the scale were also tried, especially taking the natural and base 10 logarithms of the dependent variables. Squaring the variable produced the best looking histograms and P-P (proportion-proportion) plots of the standardized residuals (not reported here). Given this preliminary analysis with OLS, the transformed variables were used in the HLM analysis reported below.

Results of Random Intercepts Models

In the analysis of the random intercepts models, the level 1 model is expressed as:

$$Y_{ij} = \beta_{0j} + \beta_{1j}X_{\text{gender}} + \beta_{2j}X_{\text{raceb}} + \beta_{3j}X_{\text{raceo}} + \dots + \beta_{Qj}X_{Qij} + r_{ij}$$

where Y_{ij} is the response for individual i in institution j . The four responses of interest in this analysis are INOPPME (institution has opportunities for me), BOPOPPME (BOP has opportunities for me), INOPPMIN (institution has opportunities for minorities), and BOPOPMIN (BOP has

opportunities for minorities). β_{0j} is the estimated intercept for institution j , and the β_{Qj} are the estimated regression effects of the Q (9 in this analysis) independent variables within institution j . (As shown below, the regression effects of the level-1 explanatory variables are fixed across all institutions in this analysis.) The main variables of interest are GENDER (female coded 1), RACEB (black coded 1), and RACEO (other, not white or black, coded 1). But control variables are included for YEARSALY (gross family income measured in \$10,000 increments from under \$10,000 to over \$70,000, entered into the model grand mean centered), ETHNICITY (Hispanic coded 1), TRANSFER (ever transferred from one BOP facility to another coded 1), L_AGE (natural logarithm of age, entered into the model grand mean centered), L_TENURE (natural logarithm of tenure with the BOP, entered into the model grand mean centered), and COLL_ED (B.S. or higher degree coded 1). The error term for individual i at institution j is represented as r_{ij} .

The variables that are entered into the model as grand mean centered are deviations from the overall mean for all BOP employees, that is $X_{ij} - X_{..}$. Centering the variables around the grand mean allows for a more meaningful interpretation of the intercepts (Bryk & Raudenbush, 1992: 25-29). In this analysis, the intercepts for each institution, the β_{0j} , are the expected score for the typical BOP employee at the institution, with typical being defined by the variables used in this analysis and how they are coded. In this analysis, typical means a white, non-Hispanic male, who is of the average age of all BOP employees, who has tenure

equal to the BOP average, whose family income is the average for the BOP, and who has never transferred with the BOP.⁴

The Level 2 models in the random intercepts model are simply:

$$\begin{aligned}\beta_{0j} &= \gamma_{00} + u_{pj} \\ \beta_{qj} &= \gamma_{q0}\end{aligned}$$

As stated above, other than the intercept, all β coefficients are assumed to be fixed in the random intercepts model. Only the intercepts, the β_{0j} are measured with error, u_{pj} .

The results of the random intercepts models are presented in Table 4. Panel 1 presents the results for the dependent variable measuring institution has opportunities for me (INOPPME). In the random intercepts model of INOPPME, there are several variables that have a significant impact upon assessment of opportunity at the individual level: L_TENURE (negative)—log of respondents' tenure, COLL_ED (negative)—whether the respondent has a college diploma, and most notable for our purposes, RACEB. Black respondents, in comparison to white respondents, rate their opportunities for advancement more favorably.

At the group level, there is a statistically significant effect for the variance in the intercepts of the different institutions. Of the remaining variance in assessment of opportunity, 3.3% is due to the group effect.⁵ This is not a large amount of variance, substantively, but

⁴It is important to note that references to “average” BOP in this description are based upon the data analyzed here, which are for a subset of correctional officers that does not include either supervisors employed at correctional facilities or BOP employees at regional or central headquarters.

⁵The value of τ [the group-level variance] is 3.5939, and the value is statistically significant. In comparison, the value of σ^2 [the individual-level variance] is 104.5799. The percentage of variance attributable to the group level is equal to τ divided by τ plus σ^2 .

there is a clear need to model the level-2 variance if possible to see what it is about the institutions in the BOP that affect a person's assessment of opportunity for job advancement.

Panel 2 presents the HLM random intercept results for BOP has opportunities for me (BOPOPPME). In this model, there are several variables that have a significant impact upon assessment of opportunity at the individual level: YEARSALY (positive)—gross family income, L_TENURE (negative)—log of respondents' tenure, and RACEB. Black respondents, in comparison to white respondents, again rate their opportunities for advancement more favorably, this time within the BOP more generally.

In the random intercept model of BOPOPPME, the effects of gender and ethnicity, though not statistically significant at the conventional $\alpha = .05$ level, do approach statistical significance. Females rate their chances more favorably than males ($\alpha = .058$), and Hispanics rate their chances more favorably than non-Hispanics ($\alpha = .085$). The effect of age is also statistically significant in this model if the alpha level is relaxed to .10.

At the group level, there is no statistically significant effect in the random intercepts model for the variance in the intercepts of the different institutions for the measure BOP has opportunities for me (BOPOPPME).

Panel 3 of Table 4 presents the random intercept results for institution has opportunities for minorities (INOPPMIN). In this model, almost all of the variables except having a college degree (COLL_ED) significantly affect INOPPMIN. Black respondents, in comparison to white respondents, rate the opportunities of minority advancement less favorably. The same is also true of the "other" racial category. Women rate the opportunities

of minority advancement less favorably than males, and Hispanics rate the chances of minority recruitment less favorably than non-Hispanics.

At the group level, there is no statistically significant variance in the intercepts of the different institutions for the outcome measure, institution has opportunities for minorities (INOPPMIN), at the traditional alpha level of .05. The group effect is significant if alpha is relaxed to .10. Given the marginal significance of the group-level variance and since the percentage of variance attributable to the group level is only 2.6%, it does not seem necessary to model the level-2 variance for this model.

Panel 4 of Table 4 presents the random intercept results for BOP has opportunities for minorities (BOPOPMIN). In this model, all of the variables have a significant impact upon the assessment of opportunities for minorities within the BOP with the exceptions of having a college degree (COLL_ED) and having transferred with the BOP (TRANSFER). Black respondents, in comparison to white respondents, rate the opportunities of minority advancement less favorably. The same is also true of the “other” racial category. Hispanics rate the chances of minority recruitment less favorably than non-Hispanics, and women rate the opportunities for minority advancement less favorably than men.

At the group level, there is no statistically significant variance in the intercepts of the different institutions for the measure of BOP has opportunities for minorities (BOPOPMIN).

The findings discussed above suggest that with only one exception, all of the statistically significant variance in the measures modeled here occurs at the individual, or staff, level. The one exception is for the evaluation of INOPPME, institution has opportunities

for me. In this model, 3.3% of the variance occurs because of staff nesting within different institutions. It is clearly desirable to model this variance if possible.

Models of the Group Level Variance in the Intercepts of INOPPME

There are several interesting questions to be addressed about the distinguishing characteristics of institutions where staff, on average, provide different evaluations of their chances for job advancement, even after controlling for individual-level differences. In particular, it is necessary to sort out the effects of organizational variables over which the wardens of the institutions have little or no control, such as the size of the work force or the age of the institution, from those variables over which the wardens do exercise limited control, such as gender, racial, or ethnic composition of the work force.

Given the limited sample sizes within individual institutions, modeling of the level-2 effects is limited to modeling the intercepts, the β_{0j} . In other words, the models consider only the main effects of the organizational level variables in the models and ignore interactions of the group-level variables with the individual-level variables. The random intercepts model, then, is modified only by adding candidate organizational variables at level-2. The level-2 model then becomes:

$$\beta_0 = \gamma_{00} + \gamma_{01}W_{1j} + \dots + \gamma_{0sq}W_{sqj} + u_{pj}$$

The γ_{0sq} are the fixed effects of the W_{sqj} organizational, level-2, variables on the intercept, or as stated previously, the main effects of the group level variables in raising or lowering the intercepts of the equations.

The candidate variables considered for inclusion at the group level are presented in the second half of Table 1. As can be seen from the length of the list, there are quite a few

candidates. In part, this is due to the richness of the information collected by the Bureau of Prisons about its facilities. It is also due, though, to a lack of a firm theory about which organizational variables should be important. The strategy employed here is to look at variables that represent 1) possible compositional effects, that is, the effects of variables included at the individual level above and beyond their individual level effect, such as the proportion of staff in an institution who are female or who have a college degree and 2) variables that represent processes often postulated by BOP wardens and other managers as being important determinants of staff morale.

Concerning the second group of variables, the ones thought to have important effects on morale, the candidate variables include the proportion of staff receiving an outstanding yearly performance appraisal (P_OUTSTD), the natural logarithm of the age of the facility (L_AG_FAC), the median tenure of the staff employed at the facility (MD_TENUR), and the size of the staff at the facility (NOBS). BOP managers, when questioned about issues of staff morale, often point to the overall changing opportunities for job advancement at their institutions. This is especially true for wardens and managers of previously new facilities that have been in operation for a couple of years. The claim is usually put forth that after the startup period at the institution where there are many opportunities for job advancement among the staff and corresponding high staff morale, a more stagnant period follows whereby job advancement opportunities become more limited and staff morale drops off a little as the staff settle into their positions. Given this quite reasonable insight, we decided to include as candidate variables some which control for the “newness” of the institution, in particular, the age of the facility and the median tenure of the staff. Even at physically old facilities, if the

staff have a low median tenure, there may be many opportunities for job advancement. We also include as candidate variables the size of the staff at the facility as a potential measure of job opportunities and the proportion of staff receiving outstanding performance evaluations. The logic for including the outstanding performance evaluations variable is that at institutions with higher percentages of staff receiving outstanding performance evaluations (e.g., higher percentages of “good” staff), the competition for promotions is probably more intense. This competition, then, may have a depressing effect upon evaluations of job advancement opportunities.⁶

Organizational level variables also considered for inclusion indicate the security level of the institution as well as the region it is located in. These variables can also be thought of as opportunity variables, though not in as direct a sense as the organizational variables just discussed. Nonetheless, it is true that many other factors involved in running a prison system are affected by security level of the institution, so we thought it prudent to consider controls for security level here. Also, since high security inmates, housed in high security institutions, are typically thought to be the most difficult inmates to manage, we thought there might be some effect for security level, especially high security, in terms of how staff evaluate their skills as correctional professionals and their corresponding chances for promotion.

The variables considered as checks for compositional effects of variables also included at the level-1 or individual level include the median age of staff at the facility (MD_AGE), the

⁶We recognize that wardens, acting through their supervisors, can manipulate the number of staff receiving outstanding performance evaluations. However, we have no reason to think this is a problem at the BOP. Despite the obvious pressure on supervisors to satisfy staff by giving outstanding performance evaluations, there is strong organizational pressure in the BOP to hold down the number of outstanding performance evaluations awarded.

proportion of staff who are black (P_BLACK), the proportion of staff having at least a bachelors degree (P_COLL), the proportion of staff who are female (P_FEMALE), and the proportion of staff who are of the other racial category used here (P_OTHER). In addition to serving as checks for compositional effects, it is important to note that these are variables over which wardens and BOP policy makers have some control through policy on hiring.

Percentage black in the population has been found to be related to different levels of prejudice in a comparison of European countries (Quillian, 1995) and a comparison of local areas in the United States (Fossett & Kiecolt, 1989). Quillian, following the lead of Blumer (1958), argues that there is a group component to racial prejudice.⁷ Quillian (1995: 587) uses the definition of prejudice provided by Pettigrew (1980); namely, prejudice is an “antipathy accompanied by faulty generalization.” In his multilevel analysis, using methods similar to those employed here, Quillian finds that as the size of a minority racial group increases, the minority group presents more of a competitive threat to the dominant group, and group prejudice on the part of the dominant group increases. It seems reasonable to assume that group threat of African Americans in the BOP may have a similar relationship to evaluations of job advancement opportunities as it does for prejudice, and we can examine it with the data at hand. In addition, we can see if the threats of other groups in addition to blacks, namely females and members of the other racial group, have any effect upon the different average evaluations given by staff at different correctional institutions.⁸ Tomaskovic-Devey (1993a;

⁷Quillian also examines, and makes parallel arguments about, the group component of anti-immigrant prejudices in Europe. We restrict ourselves to his discussion of racial prejudices.

1993b) makes a similar, interest-group type of argument, in his discussion of the importance of race and gender in attempts by dominant group members to limit access of racial minorities and women to favored jobs.

The final model we decided upon is presented in Table 5. It is important to note that this model does not represent a pure test of theory. Given the limits of the data, we could not test the effects of all of the variables simultaneously, even if this were a desirable thing to do.⁹ Instead, our strategy was to start with the organizational-level variables over which wardens do not have reasonable control, enter and select them incrementally, and then consider the compositional effects of the variables over which wardens have some control through hiring policies. As shown in the results for Table 5, though, none of the variables over which wardens have control, again through hiring policies, have any statistically significant effect as they are not listed in the final model.¹⁰ So, no support is provided in this analysis to group

⁸Of course, it is important to note that for the other three dependent variables examined in this analysis, there are no group-level effects. Assuming that the evaluations of job advancement opportunities are influenced by racial prejudices, it is surprising that there is a group effect for only one model. It is probably even more surprising that neither of the models for general minority opportunity show a group effect. General minority opportunity, being a more general or abstract assessment of job advancement opportunity, would seem to be more susceptible to being influenced by racial prejudices.

⁹The correlations among several of the organizational-level variables are quite high. So, a choice has to be made about which variables to include in the models to avoid problems of multicollinearity independent of other considerations related to limiting the number of group-level explanatory variables given the relatively small number of facilities, 73, included in our analysis.

¹⁰This is also true even when we start with the compositional variables, such as proportion of staff who are black (P_BLACK), in the level-2 estimations and exclude the “newness” or institutional opportunity variables. The variables simply have no effect in any of the many models we considered.

threat types of arguments as being important for institutional differences in evaluations of job advancement opportunities, at least for the types of findings reported by Quillian (1995) and Fossett and Kiecolt (1989).

As the results in Table 5 demonstrate, at the group level, the median tenure of staff (MD_TENUR) has a depressing effect on evaluations of opportunities for job advancement. On the other hand, the proportion of staff receiving outstanding performance evaluations (P_OUTSTD) has an unexpected positive effect, although this effect is only statistically significant if alpha is relaxed to .10.¹¹ Working in a high security level institution does significantly increase perceptions of job advancement opportunities in the institution.

With the addition of the level-2 variables, the variance in the intercepts of the individual facilities is no longer statistically significant at the conventional .05 level. This is good news for BOP wardens. It appears that the institutional differences are due to security level, median tenure of staff at the institution, and possibly the percentage of staff receiving outstanding performance evaluations. It is not due, apparently, to anything else going on at the institutions, including the managerial actions of the wardens.

The results for the individual-level variables show that they are largely unchanged with the addition of the group-level effects. The exception is that the effect of having a college degree (COLL_ED) is now only statistically significant at the $\alpha = .10$ level, and having been transferred (TRANSFER) is statistically significant at the $\alpha = .10$ level.

¹¹The positive effect of the proportion of staff receiving favorable evaluations may be due to misspecification of the model at the individual level. We do not have the corresponding individual-level effect of the individual performance evaluations. We simply do not have that data available to this analysis. Therefore, the group effect here may be confounded with the missing individual-level effect.

Discussion of Results

There are some very interesting, and sometimes counterintuitive, findings and non-findings presented in this analysis. Two of the interesting non-findings concern Hypothesis 1. Recall that Hypothesis 1 deals with the specific evaluation of minority opportunities and states that female correctional officers view their opportunities for promotion in a similar fashion to male officers. The results we present in Tables 4 and 5 support Hypothesis 1. In the models of respondents' own opportunity at the institution and in the BOP overall, gender is not statistically significant, as hypothesized. Of course, if we relax the alpha level to .10, gender is significant in the model of opportunity in the BOP overall. However, with 1,107 respondents providing the data for the model of BOP opportunity, we see no reason to relax the alpha level. The effect of gender was also not statistically significant at $\alpha=.05$ in the bivariate results.

The results reported in Tables 4 and 5, though, do not support Hypothesis 2. In Hypothesis 2, it was hypothesized that black and white correctional officers would provide similar evaluations of their promotional opportunities within the institution and within the BOP. In fact, we find that blacks provide more *favorable* evaluations of the chances for job advancement than do white officers. The bivariate results also show that black correctional officers feel they have more opportunity of job advancement within their facility and the BOP. This is contrary to what much of the literature would have us expect about being black, even in a public agency committed to affirmative action. It is not clear why the evaluations of black and white correctional officers differ. We can think of at least three explanations, none

of which we can rule out with the data at hand. First, the job opportunities for black correctional officers may be greater. Second, dispositional factors may be more important for racial differences than they are for gender differences. Third, white correctional officers may be systematically underestimating their opportunities for job advancement. Obviously, the differences between black and white correctional officer evaluations are deserving of further investigation.

We do note, though, that Hypothesis 2 receives partial support in terms of the comparisons of white correctional officer evaluations and the evaluations of the residual race group, other. However, we did not explicitly include the other racial group in Hypothesis 2 given the much larger literature on black-white comparisons. White correctional officer and officers who are neither black nor white do provide similar evaluations of their opportunities for job advancement.

The findings presented in this analysis for the general evaluations of minority opportunity are much more in line with the dispositional theories of work attitudes, although we did not present any specific hypotheses regarding general evaluations in this analysis. Female correctional officers view general minority opportunities less favorably than male officers, black officers view general minority opportunities less favorably than white officers, and the “other” officers view general minority opportunities less favorably than white officers. These evaluations hold for models of both INOPPMIN (institution has opportunity for minorities) and BOPOPMIN (BOP has opportunities for minorities) and are also found in the bivariate results.

There are some interesting questions that arise from these findings for general evaluations of minority opportunities. Though not significant in specific evaluations of minority opportunities, with minority referring to gender in specific comparisons between males and females, gender is significant when correctional officers evaluate the opportunities for minority advancement. However, we do not know whether females include themselves under the designation of minorities when answering these questions. It would be much better for evaluating gender differences in evaluations of specific and general opportunities for *female* job advancement if items were added to the PSCS asking about female opportunities for advancement within the institution and within the BOP.

Another interesting finding is the discrepancy between black correctional officers evaluations of specific and general opportunities. In line with dispositional theorists' expectations given the socialization patterns and experiences of blacks in a racist society, black officers rate the opportunities of job advancement for minorities at their institution and in the BOP substantially less favorably than white officers. But when asked about their own promotional opportunities, black correctional officers give a higher evaluation than white officers. Seemingly, these results are contradictory. Perhaps, though, the solution to the puzzle lies in the levels of abstraction involved in the different items. Items dealing with a respondent's own expectations may be less ideologically laden than items asking about group, racial expectations. Again, we cannot really substantiate this point with the data at hand. It is also possible that black and white correctional officers do not make very good evaluations of their own or minority opportunities for advancement. Research on the objective promotion

patterns of white and black correctional officers would go a long way in resolving the findings discussed here.

The final interesting point we want to mention for the findings on general minority opportunities involves the other racial group. While other correctional officers do not rate their own opportunities less favorably than whites, they do rate general minority opportunities less favorably. As with blacks, perhaps this difference is due to the different levels of abstraction of the items. Or, as with females, perhaps it is due to the reference group used in the respondent's conception of minority. We simply cannot resolve the issue satisfactorily with the given data.

Although hypotheses about the other individual-level variables included here as controls are not part of this analysis, the findings for them reflect the mixed support for the structural and dispositional theories already noted for race and gender. Three variables are included in the models that should be related to respondent disposition. They are: ethnicity, age, and education. Generally speaking, the "disposition" variables are not significant in models of specific minority opportunity, but they are significant in models of general minority opportunity. This is basically the same pattern noted above for gender and race, though the black-white comparison was significant in models of specific minority opportunity. Ethnicity, being Hispanic, does not generally affect the respondent's own evaluation of job opportunities (specific minority opportunity), but it does significantly lower the evaluations of opportunities for minority advancement (general minority opportunity). The effect for age is similar. Age has a statistically significant, negative effect only on evaluations of opportunities for minority advancement (general minority opportunity). Older workers have lower evaluations of the

opportunities available to minorities. Having a college education, though, is not significant in any of the final models presented here. When the group-level variables are included in the model of the institution has opportunity for me, the previously significant, negative effect for college education reported in Table 4 is no longer significant at $\alpha=.05$ (see Table 5).

Tenure, which can be thought of as part of the structural location of the respondent within the BOP, has a mixed effect. More tenure lowers the evaluations of opportunities for the respondent, but improves the evaluations of minority advancement. Having transferred with the BOP has a statistically significant effect in only one model, in the model of institution has opportunities for minorities (INOPPMIN). Those who have transferred evaluate minority opportunities less favorably. Having transferred with the BOP can probably be thought of as a dispositional variable. And gross family income, a general control variable, has a significant, positive effect on evaluations of job advancement opportunities in all models except in the model for institution has opportunity for me (INOPPME).

There are also some interesting findings and non-findings at the group level. First, we have to mention the general lack of a group-level effect in any of the models, with the exception of the model for evaluations of institution has opportunities for me (INOPPME). This finding is not that surprising, given the nature of the items examined here. The Bureau of Prisons, despite having a regional structure due to the growing number of institutions, is a highly centralized agency. Policies related to hiring, firing, and affirmative action are closely monitored by central office staff at the BOP for adherence to BOP policy. As such, we would not expect to find group level effects, especially strong group level effects, if institutions are

operating according to policy. For the most part, we feel that the results presented here argue for conformity across institutions in how staff evaluate their chances of job advancement.

The exception to this general trend of conformity across BOP institutions is for the item institution has opportunities for me (INOPPMIN). For this item, there are some group-level variables that significantly impact upon the models, though the amount of variance the variables have to explain is low. In this model, it was found that the group-level variation is accounted for by variables that wardens do not control through hiring practices, etc. Instead, the group-level process is affected by the median tenure of the staff, by whether the institution is high security or not, and possibly by the number of staff receiving outstanding performance evaluations. With the exception of understanding why staff at high security institutions feel they have better chances of promotion within their institution, these group-level findings do not raise particularly troublesome policy implications for the BOP.

Conclusions

Affirmative action is apparently alive and well at the Federal Bureau of Prisons. Consistent with our expectations and structural theories of work values, females and males in a traditionally male job, correctional officer, view their specific opportunities for job advancement in a similar way. On the other hand, we do not find support for a similarity of views between black and white correctional officers. But, surprisingly, black officers report higher evaluations of job advancement opportunity than white officers. The comparison of the residual racial group of officers to white officers is in keeping with structural theories. And the other independent variables behave in ways generally consistent with structural theories.

In short, the evaluations of the officers regarding specific minority opportunities suggest strongly that affirmative action has been successful at the Bureau of Prisons in creating a sense of opportunity for females and minority members.

The results for evaluations of general minority opportunities are more puzzling. In these two models, the structural effects have not apparently overcome the dispositional effects of being female, black, or of the other racial group. All of these groups provide lower evaluations of general minority opportunities. Do we see this as evidence of white or male backlash against affirmative action policy in the Federal Bureau of Prisons? Possibly, but that is a rather hasty conclusion. We think it is equally possible that the differences in evaluations are due to dispositions imported into the workplace from outside.

In a strong statement, Rowe and Snizek (1995: 228) conclude from their examination of employee work values that: “By dispensing with the myth of gender differences in work values, hiring and promotion in the workplace may be based on achieved, rather than ascribed, worker characteristics.” Though our examination is limited to a relatively homogenous group of workers, correctional officers working for the Federal Bureau of Prisons, we feel that our results temper the conclusion of Rowe and Snizek. When asked about their specific evaluations, presumably based on their own experiences, with job advancement opportunities, male and female correctional officers provide similar evaluations. However, when asked about the chances of minority opportunities—what we call general minority opportunities, an evaluation which we presume relies more upon the values respondents import into the workplace, there are clear gender differences. Rowe and Snizek (1995), we think correctly, point out that previous research has tended to dwell upon the

differences between males and females and to downplay the similarities. But, this difference, regarding the opportunities for minority advancement, seems to be an important one and topical given current concern with affirmative action. Admittedly, our conclusions would be stronger if we were comparing male and female evaluations of general *female* opportunity instead of the more ambiguous, minority opportunity.

Obviously, more research is needed on this important issue to determine why there is such mismatch between males and females, and whites and other racial groups, in evaluations of general minority opportunities. But given the results for specific minority opportunities, we think the Bureau of Prisons should be commended for its continuing efforts to achieve affirmative action.

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Table 1
Univariate Statistics

Level-1 Descriptive Statistics						
Var. Name	Description	N	Mean	S.D.	Min	Max
INOPPME*	institution opportunities for me	1,238	2.94	1.88	0.00	6.00
INOPPMIN*	institution opportunities for minority	1,239	4.40	1.65	0.00	6.00
BOPOPPME*	BOP opportunities for me	1,243	3.97	1.63	0.00	6.00
BOPOPMIN*	BOP opportunities for minority	1,237	4.81	1.34	0.00	6.00
LINOPPME	log of INOPPME	1,238	1.21	0.63	0.00	1.95
LBPOPPME	log of BOPOPPME	1,243	1.51	0.49	0.00	1.95
LIOPPMIN	log of INOPPMIN	1,239	1.61	0.45	0.00	1.95
LBPOPMIN	log of BOPOPMIN	1,237	1.72	0.33	0.00	1.95
COLL_ED	B.S. degree or higher=1	1,250	0.23	0.42	0.00	1.00
ETHNIC	Hispanic=1	1,236	0.11	0.32	0.00	1.00
GENDER	female=1	1,237	0.16	0.37	0.00	1.00
L_AGE	natural logarithm of age	1,237	3.49	0.17	3.00	4.17
L_TENURE	natural logarithm of tenure	1,169	1.22	0.87	-1.79	3.27
RACEO	other race=1	1,250	0.11	0.32	0.00	1.00
RACEB	black=1	1,250	0.19	0.39	0.00	1.00
TRANSFER	ever transferred=1	1,238	0.16	0.37	0.00	1.00
YEARSALY	yearly salary	1,210	3.34	1.46	0.00	7.00

*Measured on a 7 point Likert scale from 0 (strongly disagree) to 6 (strongly agree).

Table 1 - Continued

Level-2 Descriptive Statistics						
Var. Name	Description	N	Mean	S.D.	Min	Max
MD_AGE	median age of staff	73	35.39	1.83	31.00	39.80
P_BLACK	proportion staff black	73	0.18	0.15	0.01	0.61
P_COLL	proportion staff with B.S. or higher	73	0.30	0.06	0.16	0.44
P_FEMALE	proportion staff female	73	0.26	0.09	0.06	0.54
P_OUTSTD	proportion staff evaluated outstanding	73	0.22	0.07	0.03	0.36
L_AG_FAC	natural logarithm of age of facility	73	2.63	1.20	0.69	4.52
MD_TENUR	median tenure of staff (years)	73	4.98	1.62	1.00	8.90
NOBS	number of staff	73	306.59	133.32	78.00	723.00
P_OTHER	proportion staff other race	73	0.13	0.13	0.02	0.66
RGMXR	indicator for Mid-Atlantic region	73	0.00	0.58	-1.00	1.00
RGNCR	indicator for North Central region	73	0.00	0.58	-1.00	1.00
RGNER	indicator for North East region	73	0.04	0.61	-1.00	1.00
RGSCR	indicator for South Central region	73	0.00	0.58	-1.00	1.00
RGSER	indicator for South East region	73	-0.03	0.55	-1.00	1.00
SLHI	indicator for high security	73	-0.05	0.52	-1.00	1.00
SLLO	indicator for low security	73	0.08	0.64	-1.00	1.00
SLMD	indicator for medium security	73	0.12	0.67	-1.00	1.00
SLMN	indicator for minimum security	73	0.03	0.60	-1.00	1.00

Table 2
 Mean Scores For Job Advancement Variables by Gender,
 Line Staff Correctional Officers at the Federal Bureau of Prisons

	Female Mean	Male Mean	Female-Male Difference	p	N
INOPPME	3.07	2.92	—	.2464	1,226
BOPOPPME	4.27	3.92	0.35	.0065	1,226
INOPPMIN	4.09	4.46	-0.33	.0040	1,240
BOPOPMIN	4.59	4.85	-0.26	.0102	1,224

Table 3
 Mean Scores of Job Advancement Variables and Work Environment Scales by Race,
 Line Staff Correctional Officers

	White Mean	Black Mean	Other Mean	W-B* Diff.	W-O Diff.	O-B Diff.	N
INOPPME [†]	2.82	3.29	3.06	-0.47	—	—	1,229
BOPOPPME	3.89	4.19	4.06	-0.30	—	—	1,234
INOPPMIN	4.89	3.12	3.54	1.77	1.35	0.42	1,230
BOPOPMIN	5.12	4.03	4.23	1.09	0.89	—	1,228

* Multiple means comparisons adjusted with Bonferroni correction. Only means significantly different at $\alpha \leq .05$ listed.

Table 4
Random Intercepts Models of Perceptions of Job Advancement Opportunities

Fixed Effects	INOPPME	BOPOPPME	INOPPMIN	BOPOPMIN
	γ_{00}	γ_{00}	γ_{00}	γ_{00}
INTERCEPT	11.5216**	17.6437**	26.5255**	28.1303**
GENDER	0.8831	1.6646*	-2.2265**	-1.6847**
RACEB	3.6455**	2.7860**	-12.5910**	-8.5070**
RACEO	0.7324	-0.3647	-4.8731**	-3.5328**
ETHNIC	1.8110	2.3187*	-5.8511**	-5.0240**
L_AGE	-0.0131	-3.7447*	-5.0191**	-4.9166**
L_TENURE	-2.4327**	-2.7415**	1.1031**	1.1103**
COLL_ED	-1.6148**	-1.1542	-0.0094	-0.4084
TRANSFER	-1.3530	-0.1679	-3.2987**	-1.0876
YEARSALY	0.0927	0.4660**	0.5992**	0.5946**
Random Effects				
σ^2	104.5799	106.2636	105.1315	93.5861
τ	3.5939**	0.3716	2.7989*	0.8465
<hr/>				
N	1,104	1,107	1,104	1,102

* t significant at $\alpha \leq .10$

** t significant at $\alpha \leq .05$

Table 5
Model of Individual- and Group-Level Predictors of INOPPME

Level-1 Fixed Effects	γ_{q0}	Level-2 Fixed Effects	γ_{0sq}
INTERCEPT	11.5421**	P_OUTSTD	11.4404*
GENDER	1.1666	MD_TENUR	-0.7929**
RACEB	3.5327**	SLHI	2.2399**
RACEO	0.7888	SLLO	0.7954
ETHNIC	1.8505	SLMD	-0.1940
L_AGE	0.0430	SLMN	-1.2678
L_TENURE	-2.0553**		
COLL_ED	-1.4906*		
TRANSFER	-1.5459*		
YEARSALY	0.0854		
Random Effects			
σ^2	10.2191		
τ	1.5515*		

* t significant at $\alpha \leq .10$

** t significant at $\alpha \leq .05$