Influence/Voice and Bias/Exclusion among UM Tenure-Track Faculty:

Relations to Gender, Race/Ethnicity, Job Satisfaction, and Thoughts of Leaving UM

Introduction

In this brief, technical report, produced by the UM ADVANCE Program in December 2015, we examined two aspects of the faculty experience: (1) the extent to which faculty members feel they have a voice and influence in the functioning of their departments/units, and (2) the extent to which faculty members have experienced bias and exclusion in the workplace.

Below, we first describe the sample and the creation of the voice/influence and bias/exclusion measures. We then present analyses of those measures as a function of faculty member gender and race/ethnicity. These analyses indicate that female and underrepresented racial/ethnic minority (URM) faculty members feel less voice/influence compared to male and racial/ethnic majority faculty members. The findings also indicate that female and URM faculty members have more experiences with bias and exclusion than do male and racial/ethnic majority faculty members.

Finally, we present evidence that experiences of voice/influence and bias/exclusion have implications for the overall level of job satisfaction experienced by UM faculty members.

Nature of Sample

The sample used for the current analyses was drawn from the ADVANCE Program's cumulative climate assessment data for UM faculty. This data set includes tenure-track faculty from UM departments, schools, and units that took part in ADVANCE climate assessments between 2008 and 2015.

There were 1110 UM faculty in the data set who answered some portion of an ADVANCE departmental climate survey between the years 2008 and 2015. These 1110 faculty were from 43 different UM departments, schools, and units.

Faculty members answered a wide range of questions about job satisfaction, stress, influence, and experiences with bias and other department/unit-level climate issues. Faculty members were also asked about their gender and race/ethnicity. Faculty were free to skip questions; as such, all of the analyses reported below include the sub-sample of faculty members who answered the relevant questions.

Because faculty members self-reported gender and race/ethnicity, we have these demographic data for 904 participants:

- Female underrepresented racial/ethnic minority faculty: n = 63 (7% of sample)
- Male underrepresented racial/ethnic minority faculty: n = 46 (5% of sample)
- Female racial/ethnic majority faculty: n = 281 (31% of sample)
- Male racial/ethnic majority faculty: n = 514 (57% of sample)

Creation of Independent Variables

Creation of Bias and Exclusion Scale

Items in Scale

The following survey six items were used to create the Bias/Exclusion Scale:

- Have you experienced bias or exclusion due to your gender, race or other personal characteristics by:
    - A superior?
    - A colleague?
    - A student?
    - A staff member?
- Please indicate your level of agreement with each of the following statements concerning conditions in the department:
    - I feel excluded from an informal network in my department.
- Please indicate the extent to which each of the following aspects of work has been a source of stress for you over the past year:
    - Bias/discrimination/unfairness in procedures

All items were either answered via 3-point scales or were re-coded to 3-point scales prior to further analyses. The three-point scale represented the following responses: (1) not at all/not an issue; (2) to some extent; (3) to a large extent.

Internal Consistency

Cronbach's alpha is a measure of how closely related a set of items are, with alphas closer to 1.00 indicating that items are highly related and can justifiably be combined to create a composite variable. This measure was computed for the six items listed above. The resulting alpha was high, $\alpha = .80$, indicating that the items were interrelated in the expected manner and were suitable for use in a single, summary scale measuring faculty members' experiences of bias and exclusion.

Scale Computation

In order to ensure that the Bias/Exclusion Scale was computed for a faculty member who answered most but not all of individual questions linked to the scale, a score on the scale was computed for faculty members who answered at least four of the questions listed above. For each faculty member answering 4-6 of the items, a Bias/Exclusion Scale score was computed as the mean of those 4-6 items.

Creation of Influence and Voice Scale

Items in Scale

The following twelve survey items were used to create the Influence/Voice Scale:

- For each item, please check the level that best corresponds to how much influence you feel you have over the following matters in the department:
    - curriculum decisions
    - size of salary increases I receive
    - securing the facilities or equipment I need for my research
    - selecting new graduate students or residents/fellows
    - selecting new faculty members to be hired
    - determining who gets tenure

    - selecting the next unit head
    - affecting the overall unit climate/culture
- Please indicate your level of agreement with each of the following statements concerning conditions in the department
    - I am/was reluctant to bring up issues that concern me for fear that it will/would affect my promotion/tenure.
    - My colleagues expect me to represent "the point of view" of my gender.
    - My colleagues expect me to represent "the point of view" of my race/ethnicity.
    - I feel I am given the opportunity to serve on important departmental committees.

All items were answered via 5-point response scales. Some items were reverse-scored in order to correspond to 5 being the most positive value on the scale (i.e., high degree of influence; voice not tokenized), and 1 being the most negative value on the scale (i.e., low degree of influence; voice tokenized).

Internal Consistency

Cronbach's alpha, a measure of internal consistency, is described above. Cronbach's alpha for the twelve influence/voice items was high, $\alpha = .84$, indicating that the items were suitable for use in a single, summary scale measuring faculty members' experiences of influence and voice.

Scale Computation

In order to ensure that the Influence/Voice Scale was computed for a faculty member who answered most but not all of the individual questions linked to the scale, a score on the scale was computed for faculty members who answered at least eight of the questions listed above. For each faculty member answering 8-12 of the items, an Influence/Voice Scale score was computed as the mean of those 8-12 items.

Descriptive Statistics and Relations between Variables

Below, we provide descriptive statistics for the two newly computed summary scales.

Scale	n	Min	Max	Mean	SD
Bias/Exclusion (possible range: 1-3)	995	1.00	3.00	1.25	.38
Influence/Voice (possible range: 1-5)	1074	1.00	5.00	3.05	.69

The two scales were significantly, negatively correlated: $r(979) = -.50$, $p < .001$. This indicates that, on average, greater numbers of experiences with bias/exclusion were associated with lower levels of influence/voice (and vice versa).

Next, we examined the associations between the two summary scales and (1) demographic variables (gender and URM status), and (2) the key outcome variables (overall job satisfaction and consideration of leaving UM).

Gender Comparisons

Female faculty members reported more experiences with <u>bias and exclusion</u> at the department/unit level ($M = 1.42$) than did male faculty members ($M = 1.14$), $t(418) = -9.64$, $p < .001$.

Male faculty members reported having more <u>influence and voice</u> at the department/unit level ($M = 3.17$) than did female faculty members ($M = 2.90$), $t(888) = 5.87$, $p < .001$.

Race/Ethnicity Comparisons

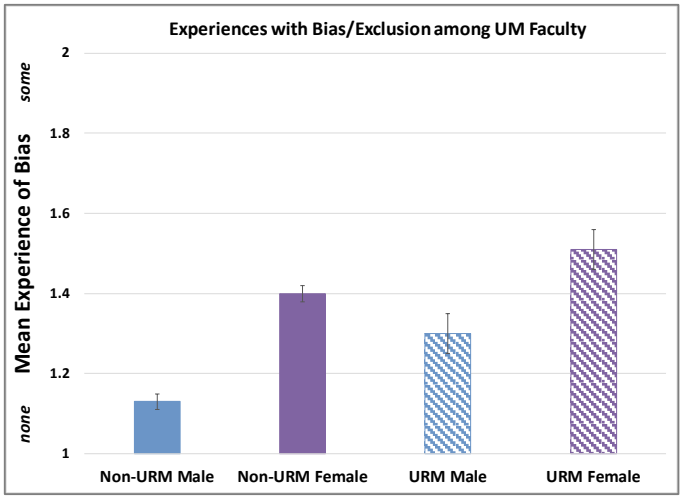
URM faculty members reported more experiences with bias and exclusion at the department/unit level (M = 1.41) than did non-URM faculty members (M = 1.22), $t(120) = -4.24$, $p < .001$.

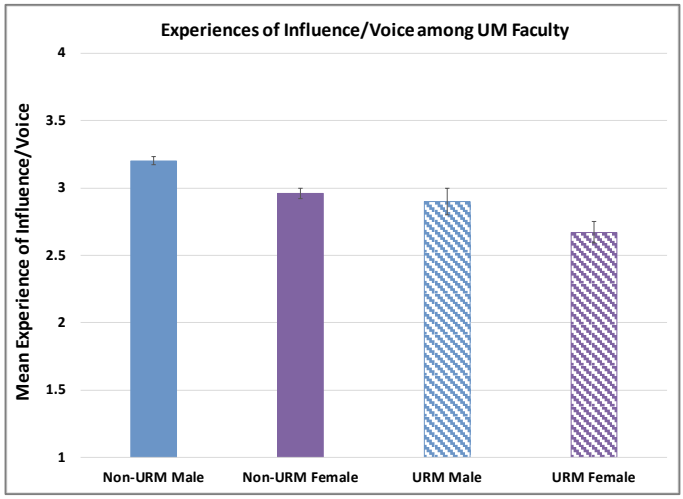
Non-URM faculty members reported having more influence and voice at the department/unit level (M = 3.11) than did URM faculty members (M = 2.78), $t(138) = 4.29$, $p < .001$.

Comparisons of Gender within Race/Ethnicity

In the next set of analyses, we compared men and women who identified as underrepresented minorities. Compared to male URM faculty (M = 1.30), female URM faculty reported more experiences with bias and exclusion (M = 1.51), $t(93) = -2.38$, $p = .02$. The difference between the mean values on the influence and voice scale for male URM faculty (M = 2.90) and female URM faculty (M = 2.67) did not reach significance ($p = .12$).

We conducted the same set of comparisons between men and women who did not indicate that they were underrepresented minorities. Compared to male non-URM faculty (M = 1.13), female non-URM faculty reported more experiences with bias and exclusion (M = 1.40), $t(324) = -8.79$, $p < .001$. Male non-URM faculty members reported having more influence and voice (M = 3.20) than did female non-URM faculty members (M = 2.96), $t(780) = 4.99$, $p < .001$.





Comparisons of Race/Ethnicity within Gender

Next, we compared URM and non-URM faculty members who indicated that they were women. The difference between female non-URM faculty (M = 1.40) and female URM faculty (M = 1.51) on the bias and exclusion measure was not significant ($p = .12$). However, non-URM female faculty members reported having more influence and voice (M = 2.96) than did female URM faculty (M = 2.67), $t(83) = 2.78$, $p = .007$.

We conducted a similar set of comparisons between URM and non-URM faculty members who indicated that they were men. On average, compared to male non-URM faculty (M = 1.13), male URM faculty reported more experiences with bias and exclusion (M = 1.30), $t(45) = -2.91$, $p = .006$. Further, non-URM male faculty members reported having more influence and voice (M = 3.20) than did male URM faculty (M = 2.90), $t(546) = 2.87$, $p = .004$.

Associations with Job Satisfaction and Thoughts of Leaving UM

Job satisfaction

Job satisfaction was measured with a single item: *All things considered, how satisfied are you with your current position in the department?* The response scale ranged from 1 (very dissatisfied) to 5 (very satisfied). The mean score on this scale was 4.03 (SD = 1.15).

The two summary scales were associated with job satisfaction as follows:

- The Bias/Exclusion Scale was significantly and *negatively correlated* with job satisfaction, $r(897) = -.46$, $p < .001$. This indicates that, on average, more experiences with bias and exclusion were associated with lower levels of job satisfaction (and vice versa).
- The Influence/Voice Scale was significantly and *positively correlated* with job satisfaction, $r(946) = .46$, $p < .001$. This indicates that, on average, a greater sense of influence and voice was associated with higher levels of job satisfaction.

Thinking of Leaving UM

Thinking of leaving UM was measured with a single item: *Have you ever considered leaving UM?* Respondents answered either 'yes' or 'no.' Seventy-two percent of the faculty members who answered this question indicated that they had, at some point, considered leaving UM.

The two summary scales were associated with thinking of leaving UM as follows:

- Those who had considered leaving UM had *higher* scores (M = 1.31) on the Bias/Exclusion Scale, on average, compared to those who did not report having thoughts of leaving UM (M = 1.10), $t(938) = -10.77$, $p < .001$.
- Those who had considered leaving UM had *lower* scores (M = 2.98) on the Influence/Voice Scale, on average, compared to those who did not report having thoughts of leaving UM (M = 3.19), $t(1053) = 4.48$, $p < .001$.

Regression Analyses Predicting Job Satisfaction and Thoughts of Leaving UM

As a final step, multiple regression analyses were used to examine the simultaneous associations of multiple predictors with the two outcome variables of interest: job satisfaction and thoughts of leaving UM. Those predictors that emerge as significant in such an analysis (e.g., experiences with bias and exclusion) are those that predict substantial variance in the outcome variable, above and beyond any variance predicted by the other variables in the model (e.g., influence and voice).

Multiple Linear Regression Predicting Job Satisfaction

Four variables were entered into the regression model predicting overall job satisfaction:

- Gender (coded as 0 = male, 1 = female)
- URM status (coded as 0 = non-URM, 1 = URM)
- Bias/Exclusion Scale
- Influence/Voice Scale

The results are presented in the table and summary below.

Predictors	Unstandardized Regression Coefficient (and *SE*)	Standardized Regression Coefficient (β)	*p*-value
Gender	.32 (.08)	.14	< .001
URM status	.12 (.11)	.04	.27
Bias/Exclusion Scale	-1.02 (.11)	-.33	< .001
Influence/Voice Scale	.57 (.06)	.34	< .001

Controlling for all other variables in the model, experiences of bias and exclusion were negatively associated with job satisfaction, and influence/voice was positively associated with job satisfaction. Both associations reached statistical significance.

Multiple Binary Logistic Regression Predicting Thoughts of Leaving UM

Four variables were entered into the regression model predicting thoughts of leaving UM:

- Gender (coded as 0 = male, 1 = female)
- URM status (coded as 0 = non-URM, 1 = URM)
- Bias/Exclusion Scale (standardized for this analysis)
- Influence/Voice Scale (standardized for this analysis)

The results are presented in the table and summary below.

Predictors	Regression Coefficient (and *SE*)	Wald	*p*-value	*Odds Ratio*
Gender	-.09 (.18)	.24	.63	.92
URM status	-.18 (.27)	.45	.50	.84
Bias/Exclusion Scale	.87 (.15)	32.09	<.001	2.35
Influence/Voice Scale	-.05 (.09)	.30	.59	.95

Experiences of bias and exclusion were significantly associated with thoughts of leaving UM. As indicated by the odds ratio (2.35), the odds that a faculty member thought of leaving UM more than doubled with each 1 standard deviation (*SD*) increase on the Bias/Exclusion Scale (on average, controlling for all other variables in the model). Who was likely to be 1 *SD* above the mean on the bias and exclusion measure? In the present sample, 30% of URM survey respondents were 1 *SD* or more above the mean, compared to 15% of non-URM respondents. Similarly, 30% of female respondents were 1 *SD* or more above the mean on the Bias/Exclusion Scale, compared to 8% of male respondents.

Summary

On average, compared to male faculty members, female faculty members had more experiences with bias and exclusion, and reported having less influence and voice at the department level. Likewise, compared to non-URM faculty members, URM faculty members had more experiences with bias and exclusion, and reported having less influence/voice at the department level. These differences – between male and female faculty, and between non-URM and URM faculty – deserve consideration, as the bias/exclusion and influence/voice variables both predicted overall job satisfaction. Experiences of bias and exclusion were negatively associated with job satisfaction, and level of influence and voice was positively associated with job satisfaction. Further, experiences with bias and exclusion significantly predicted thinking about leaving one's position at UM.