

Perceptions of Academic Departmental Climate by Men and Women and the Effects of Such Perceptions on Research Productivity

Kim Quaile Hill, *Texas A&M University, USA*

Patricia Ann Hurley, *Texas A&M University, USA*

ABSTRACT

We demonstrate how men and women political scientists in PhD-granting departments perceive the professional climates there. We find remarkable differences in how men and women perceive the “cultural” climates of their departments, such as the degree to which it is sexist, but not in how they perceive strictly collegial aspects of climate. We also demonstrate that these patterns characterize the perceptions of men and women at both junior and senior ranks. Contrary to some past research, we also find that climate perceptions do not have a general effect on faculty research productivity. Further, perceptions of high departmental sexism by women scholars does not degrade their research productivity.


Departmental climate matters. Political scientists have explored this topic systematically and anecdotally, and they conclude that climate affects faculty attitudes and behaviors in various ways. The effects of climate on female faculty are especially pronounced, at times threatening “the advancement of women in the profession” (APSA 2005, 6).


Hesli and Burrell (1995) found that women are more likely than men to cite a hostile climate or harassment as motivation for seeking alternative employment, and that junior women and those in fields that might fit under the rubric of “women’s studies” are more likely to perceive unequal or hostile treatment relative to men. Hesli and Lee (2013) reported that more positive collegial climates and greater success in publication are associated with greater job satisfaction for both men and women and that experiencing discrimination suppresses job satisfaction. It is important that they found that women and racial minorities were more likely than male or non-minority faculty to have

encountered discrimination. Tolleson-Rinehart and Carroll (2006, 511) and the “Report on the APSA Workshop on the Advancement of Women in Academic Political Science” (APSA 2005) also summarized considerable empirical evidence about inhospitable climate effects on women in the profession, as well as abundant personal testimony about such effects.

In related work, Hesli and Lee (2011) found that women have fewer publications than men after controlling for a number of rival explanatory variables, including the “collegiality” of the departmental climate. They do not parse the effects of climate by gender, yet their aggregate analysis reveals that faculty who experience more positive departmental climates publish less than those in more antagonistic environments.

These findings present a mixed picture for the effects of departmental climate. Some evidence indicates that faculty in positive climates and those who publish more have greater job satisfaction, whereas other evidence indicates that faculty in challenging climates publish more. Moreover, there is considerable evidence that women often face difficult professional climates in their department and university. Yet, the effects of departmental climate on women’s publication success—a key indicator of their “advancement in the discipline”—have not been investigated.

Kim Quaile Hill  is emeritus professor of political science and a Presidential Professor for Teaching Excellence at Texas A&M University. He can be reached at kimhill@tamu.edu.

Patricia Ann Hurley  is emerita professor of political science at Texas A&M University. She can be reached at pat-hurley@tamu.edu.

© The Author(s), 2021. Published by Cambridge University Press on behalf of the American Political Science Association. This is an Open Access article, distributed under the terms of the Creative Commons Attribution licence (<https://creativecommons.org/licenses/by/4.0/>), which permits unrestricted re-use, distribution, and reproduction in any medium, provided the original work is properly cited.

doi:10.1017/S1049096521001414

<https://doi.org/10.1017/S1049096521001414> Published online by Cambridge University Press

To resolve these mixed findings, we explicate the character of perceived academic departmental climates, how men and women perceive the climate of their home department, and how climate perceptions affect research productivity generally and that of women specifically. We restricted our analyses to faculty in PhD-granting political science departments because of their distinctive expectations *and* resources for research productivity.

THE DATA FOR OUR ANALYSES

We use data from a 2009 survey of members of the American Political Science Association (APSA) that was proposed by the APSA Committee on the Status of Women in the Profession, supported by the association president, and enjoyed substantial participation by members of other “status” committees. Following on a systematic survey design and implementation process described in detail in Hesli and Lee (2011, 405–407), 1,399 respondents (i.e., 27% of the original sample) completed the survey. Hesli and Lee (2011, 405–406) also reported marginals for survey respondents versus APSA members by faculty rank, gender, and type of department, which suggest good representativeness in the survey sample.

The survey included 453 respondents that we verified were employed in PhD-granting departments and who are the scholars analyzed in this study (Hill and Hurley 2021). Previous research by Hesli and Lee (2011; 2013); Hesli, Lee, and Mitchell (2012); and Mitchell and Hesli (2013) used the full sample of respondents to explore other research questions.

It is possible that some female faculty left PhD departments because of sexist climates before this survey was conducted; therefore, climate perceptions and their effects on productivity could be underreported in our data. However, research (discussed in more detail in the online appendix) indicates that the attrition of women assistant professors is no higher than that for men in PhD social science departments (e.g., Box-Steffensmeier et al. 2015). The Box-Steffensmeier et al. data, however, do not track where faculty members who leave PhD departments go. Yet, Hill’s (2021) explication of the career paths of political scientists who entered assistant professor positions in 1988 and 1989 offers two types of evidence on this general concern. Hill demonstrates that more men experienced attrition of any type from these departments (i.e., 26% of men versus 15% of women) *and* that the majority of moves from PhD departments are to other PhD departments.

This evidence does not mean that cross-sectional datasets like ours are free of survival-bias problems. However, as Box-Steffensmeier et al. (2015) also concluded, we interpret it to mean that such problems are less severe than many fear and that they do not diminish the representation of women more than that of men.

DIMENSIONS OF PERCEIVED DEPARTMENTAL CLIMATE

It is widely agreed that the interpersonal climate in academic departments consists of multiple dimensions (APSA 2005, 6–12; Lee 2007). The survey data that we analyze support an especially rich analysis of perceived departmental climate dimensions and how men’s and women’s perceptions differ about them. This survey posed nine semantic differential scales about respondents’ perceptions of their home department. Factor analysis of the set of scales for the PhD faculty uncovered a first dimension (which accounted for 56 of the total variances across the scales) that includes items for how disrespectful–respectful, contentious–collegial, competitive–cooperative, individualistic–collaborative, and hostile–friendly departments were perceived. Hesli and Lee (2011,

396) uncovered the same dimension in the full sample, labeled the underlying dimension “collegiality,” included a factor score measure for it in their multivariate models, and found that research productivity was higher in less collegial departments.

Factor analysis also reveals an independent second dimension that includes the items for how sexist–nonsexist, diverse–homogenous, racist–non-racist, and homophobic–non-homophobic departments were perceived (which accounted for 13% of total variances with the PhD faculty).¹ Both dimensions could be important for how men *and* women view and react to the culture of their department, yet the second dimension taps perhaps the most critical concern about climate for women: how sexist or non-sexist it is perceived to be. This second dimension and its components have not been analyzed for how men and women perceive them *or* how they might affect women’s scholarly productivity.

Two bivariate cross-tabular analyses using some of the data described previously illustrate notable ways that men’s and women’s perceptions of departmental climate converge and diverge. Table 1 presents gender differences in perceptions of how collegial–contentious respondents’ departments are—the “defining element” of the first factor analysis dimension (Hesli and Lee 2011, 396). Table 2 presents gender-specific perceptions of how non-sexist–sexist departments are perceived to be by male and female respondents.

Table 1 demonstrates that there are no gender differences in perceptions of the level of contentiousness within departments. At the most extreme ends of the scale, men are slightly more likely to rate their department as uncontentious and women are slightly

Table 1
Perceptions of Contentiousness in Respondents’ Home Departmental Climate^(a)

Contentiousness Scale Score	Men	Women
1 Least Contentious	98 (38.9%)	47 (35.3%)
2	75 (29.8%)	41 (30.8%)
3	46 (18.3%)	23 (17.3%)
4	22 (8.7%)	12 (9.0%)
5 Most Contentious	11 (4.4%)	10 (7.5%)

Notes: ^(a)Cell entries are the count and the column percentage. Kendall’s tau-c=0.05, n.s.

Table 2
Perceptions of Sexism in Respondents’ Home Departmental Climate^(a)

Sexism Scale Score	Men	Women
1 Least Sexist	130 (51.6%)	28 (21.1%)
2	75 (29.8%)	49 (36.8%)
3	32 (12.7%)	25 (18.8%)
4	14 (5.6%)	21 (15.8%)
5 Most Sexist	1 (0.4%)	10 (7.5%)

Notes: ^(a)Cell entries are the count and the column percentage. Kendall’s tau-c=0.35, p<0.05.

more likely to rate it as very contentious—but the differences are not statistically significant. In contrast, [table 2](#) demonstrates notable gender differences in perceptions of whether a respondent's department is sexist. Men are far more likely than women to perceive their department as non-sexist: nearly 52% of men placed it at the least-sexist scale point whereas only 21% of women selected that position. In contrast, 7.5% of women rated their department at the most-sexist end of the scale whereas fewer than 1% of men chose that position. The percentages at the most-sexist end of the scale are small, but the same pattern persists at position 4 of the 5-point scale (where 5 indicates most sexist): 15.8% of women chose this position versus only 5.6% of men. Gender differences in perceptions of sexism are pronounced and statistically significant. Viewed together, the patterns in [tables 1](#) and [2](#) also indicate that perceptions of sexism are not a byproduct of perceptions of contentiousness.

Men's and women's evaluations of departmental sexism demonstrate notable within-gender similarity across academic ranks...

MORE EVIDENCE ABOUT HOW WOMEN AND MEN PERCEIVE DEPARTMENTAL CLIMATES

Three types of evidence enrich the information in [tables 1](#) and [2](#). First, women's evaluations of how respectful, cooperative, collaborative, and friendly (i.e., other components of the first underlying dimension) their department is do not differ significantly from those of men in cross-tabular analyses. Yet, women's perceptions of how homogenous, racist, and homophobic (i.e., other components of the second dimension) their department is differ identically from men's perceptions on their views of sexism. Thus, women distinctively perceive what we call the "cultural climate."

Second, men's and women's evaluations of departmental sexism demonstrate notable within-gender similarity across academic ranks, as demonstrated in the cross-tabulations in [tables 3](#) and [4](#). Men at the rank of professor (in [table 3](#)) as well as men who are assistant professors (in [table 4](#)) are heavily clustered at the two least-sexist points on the scale (i.e., 88% of senior men versus 77% of junior men). Women at the senior rank do not perceive high sexism as commonly as assistant professor women, yet they both do so far more than their generational male peers.

Of the senior women, 19% perceive sexism at one of the top two levels compared to only 3% of similarly ranked senior men. Further, 24% of assistant professor women have this perception compared to only 7% of men of the same rank.

Third, we could question whether some women's views of sexism are distinctive perhaps because of distinctive experiences in their department, but other evidence suggests that this is rarely the case. We received responses from women in 70 departments; for 33 of those departments, we had two or three female respondents. In seven of those 33 departments, women respondents agreed on the same scale score of sexism; in 14 departments, women respondents chose adjacent scale score ratings. Thus, in two thirds of the departments with multiple women respondents, their climate assessments were very similar.

THE EFFECT OF PERCEIVED CLIMATES ON RESEARCH PRODUCTIVITY GENERALLY AND ON WOMEN'S PRODUCTIVITY SPECIFICALLY

A major concern about this survey for multivariate analyses is the substantial amount of missing data, some of which arises because of the common behavior of respondents skipping questions. Also, many respondents evidently became "fatigued" and stopped answering the questions near the end of the survey, most of which were not germane to our interests. There also were odd cases of miscoding in some variables.

Hesli and Lee (2011) recognized the general missing-data problem and adopted a two-part hypothesis-testing strategy. They analyzed their large set of predictor variables with the conventional use of list-wise case deletion, losing 54% of the cases in their most comprehensive analysis. Then they replicated the preceding analyses with a missing-data replacement strategy using Amelia. The results of these two estimation strategies were almost identical—implying that even the limited set of cases with no missing values represented well the structure in the data.

Our estimation strategy was to rely as much as possible on true-score data on the respondents *and* on a parsimonious set of rival

Table 3

Perceptions of Sexism in Respondents' Home Departmental Climate—Faculty at the Rank of Professor^(a)

Sexism Scale Score	Men	Women
1 Least Sexist	58 (54.2%)	12 (28.6%)
2	36 (33.6%)	16 (38.1%)
3	10 (9.3%)	6 (14.3%)
4	3 (2.8%)	4 (9.5%)
5 Most Sexist	0 (0%)	4 (9.5%)

Notes: ^(a)Cell entries are the count and the column percentage. Kendall's tau-c=0.29, p<0.05.

Table 4

Perceptions of Sexism in Respondents' Home Departmental Climate—Faculty at the Assistant Professor Rank^(a)

Sexism Scale Score	Men	Women
1 Least Sexist	31 (51.7%)	11 (18.6%)
2	15 (25.0%)	23 (39.0%)
3	10 (16.7%)	11 (18.6%)
4	3 (5.0%)	10 (16.9%)
5 Most Sexist	1 (1.7%)	4 (6.8%)

Notes: ^(a)Cell entries are the count and the column percentage. Kendall's tau-c=0.37, p<0.05.

hypotheses for which there is notable evidence in prior research—both of which minimized the loss of cases in our analyses. Thus, we first used information in the original dataset to replace as much missing data as possible (see the online appendix for more details). Most notably, 19% of the values for gender for respondents in PhD departments was missing because this variable was near the end of the survey, where many respondents had dropped out. We reduced that figure to 2% by using identifying information on individual respondents in the original data.

Hesli and Lee (2011) also found a significant negative relationship between the year that respondents earned their PhD and the measures of research productivity. However, a striking pattern of numerous missing values on the former variable suggests that many respondents did not navigate correctly a drop-down year-counter variable in the survey—a problem with such survey items that is documented in online marketing research (e.g., Baymard Institute 2021). Thus, we did not include this variable in our analyses. However, the variable for academic rank was correlated with the year of degree for the valid cases at $r=-0.70$ and likely captures the same general concept of time in the profession. We also reduced missing values or replaced miscoded values in other variables (explained in the online appendix).

Second, systematic studies of research productivity of political scientists in diverse institutions (Djupe et al. 2020; Hesli and Lee 2011) demonstrated support for only a small number of predictor variables in our data: faculty rank, gender, teaching load, and frequency of conference attendance. The latter variable, however, was never a significant predictor in our more homogenous subset of faculty in PhD programs; therefore, we omitted it from our analyses. Djupe et al. (2020)—and Hesli and Lee (2011) only in

their imputed data analyses—also found that minority scholars have fewer publications. However, exceptional missing data for this variable that we cannot reduce with true-score estimates precludes us from using it. Hesli and Lee (2011) also demonstrated that more research resources in a department and a climate perceived as highly contentious were associated with higher productivity—and we included those variables in our analyses. Our unique research question required us to add the measure of perceived departmental sexism as a predictor.

Table 5 presents four OLS regression models that demonstrate the potency of our set of direct predictors, as well as interaction tests for the influence of perceived sexism on the productivity of women. The two dependent variables are those used by Hesli and Lee (2011): a logged measure of “total publications” that sums self-reported numbers of published refereed articles, books, book chapters, and edited books; and a logged measure of self-reported refereed journal articles. Columns 1 and 3 in table 5 present the “restricted models” for each dependent variable that exclude the interaction term.

In both restricted models, the measures of faculty rank, gender, count of overall research resources provided to respondents by their department, and their teaching load are all significant and signed as in the results for the entire sample reported by Hesli and Lee (2011). Neither climate variable, however, has a significant direct effect on either of these two models, which is contrary to the negative effect of a collegial climate reported by Hesli and Lee (2011).

In our sample of PhD-program faculty, neither of these discrete climate variables nor the factor scores for the two climate dimensions has a significant bivariate or multivariate relationship with

Table 5
The Effects of Perceived Climate Contentiousness and Sexism on Research Productivity

Predictor Variable	Log of Total Productivity	Log of Total Productivity	Log of Articles Published	Log of Articles Published
Female Dummy Variable	-0.352* (0.092)	-0.459* (0.195)	-0.475* (0.094)	-0.649* (0.198)
Count of Overall Departmental Research Resources	0.040* (0.014)	0.039* (0.014)	0.042* (0.014)	0.041* (0.014)
Typical Number of Undergraduate Courses Taught	-0.071* (0.028)	-0.073* (0.028)	-0.044 (0.028)	-0.047 (0.029)
Faculty Rank	0.828* (0.049)	0.828* (0.050)	0.690* (0.050)	0.689* (0.050)
Perceived Sexist Climate	-0.008 (0.046)	-0.031 (0.059)	-0.015 (0.047)	-0.053 (0.060)
Perceived Contentious Climate	0.057 (0.041)	0.056 (0.041)	0.041 (0.041)	0.040 (0.041)
Interaction of Female Dummy Variable and Perceived Sexist Climate	—	0.050 (0.079)	—	0.081 (0.081)
Constant	0.223	0.274	0.200	0.283
N of Cases	337	337	337	337
Adj. R ²	0.56	0.56	0.48	0.48
F for Increase in Explanatory Power Over That of the Restricted Model	—	0	—	0

Note: * $p < 0.05$ in a one-tailed test.

either dependent variable (even with more or fewer predictors in the regression models). We conclude that Hesli and Lee's (2011) negative finding for the collegial climate variable is likely a product of greater heterogeneity in the full sample, in which 57% of the cases were from non-PhD departments *and* perhaps because departmental climates in those institutions are notably different from those in PhD departments.

Third, we observed that in the two unrestricted models in columns 2 and 4 of table 5 neither of the F tests for the presence of an interaction is significant—and neither of the interactions

The most encouraging finding of our analysis is that perceptions of departmental sexism do not negatively affect women's productivity.

between the female dummy variable and the degree of perceived departmental sexism is significant. Thus, the research productivity of women is not generally reduced by working in a department that they perceive as relatively highly sexist.²

CONCLUSION

Our most striking findings are the differences in men's and women's perceptions of the dimensions of departmental climate. There is little difference in perception of the level of contentiousness within departments, whereas the differences in perceptions of sexism and other "cultural" attributes are stark. Men, regardless of rank, perceive little sexism within their department, whereas women are acutely aware of it. Our data and limits on article length do not allow us to explore the reasons for this variation in perception, but we can speculate about its causes. The simplest explanation is that men are generally oblivious to sexism. Because it is not directed at them individually, they do not experience it firsthand. Moreover, many men may be unaware that some of their behavior might be regarded as sexist. This can range from mundane behaviors such as opening a door for a female colleague (far more likely to annoy junior than senior women, in one author's experience) to more serious behavior such as interrupting or talking over female colleagues and taking credit in meetings for ideas originally presented by female colleagues. Men also are unlikely to experience gender-based salary discrimination and thus pay no attention to it.

We are not surprised that junior women are more likely to perceive sexism than senior female scholars. The younger women were socialized in an era when women's rights and gender discrimination were topics of discussion. They expect equal treatment, are angered if they do not receive it, and are more likely to call out discriminatory behavior that senior women may take in stride simply as examples of "how the world works"—however unfortunate that is.

The most encouraging finding of our analysis is that perceptions of departmental sexism do not negatively affect women's productivity. Our multivariate analysis shows that women working in a department that they find sexist do not publish less than women who do not perceive sexism in their department. Sexism may contribute to dissatisfaction with their position but, even in the face of sexist behavior, women in PhD departments persevere and accomplish their work.

This finding does not mean that the political science profession should be unconcerned about sexism or other discriminatory

behavior. Foremost, the simple fact is that gender- or other attribute-based discrimination is wrong from a moral and ethical standpoint. Sexism that degenerates to sexual harassment is especially serious in this regard.

Other concerns are more pragmatic. If sexism contributes to job dissatisfaction, then those who experience it are likely to seek alternative employment. PhD departments invest considerable resources in new faculty. If a faculty member departs, that investment cannot be recovered—and it is always more costly to replace a faculty member than to develop a current one.

When sexism becomes harassment, departments face legal liabilities as well. Particularly in the wake of the "Me Too" movement, female faculty are likely to seek institutional or legal remedies to address such behavior. These complaints will involve more individuals than only the accused. Departmental and university administrators will devote considerable time and resources responding to such charges, even when they support the complainant. This also applies in discrimination complaints that do not involve harassment, such as charges of tenure denial due to discrimination.

Departmental administrators—and the faculty at large—have a stake in eliminating discriminatory behaviors that contribute to an unhealthy cultural climate. It is in their enlightened self-interest to do so—and it is the right thing to do.

DATA AVAILABILITY STATEMENT

Research documentation and data that support the findings of this study are openly available at the *PS: Political Science & Politics* Dataverse at <https://doi.org/10.7910/DVN/IQVQYM>.

SUPPLEMENTARY MATERIALS

To view supplementary material for this article, please visit <http://doi.org/10.1017/S1049096521001414>. ■

NOTES

1. As evidence for the generalizability of these dimensions in the APSA dataset, they are conceptually identical to the first two dimensions of academic departmental "culture" from a larger factor analysis of components of culture, or climate, by Lee (2007, 46–47).
2. Recall that the coefficients of the interacted variables in the unrestricted models cannot be interpreted as unconditional effects as in the restricted models (Brambor, Clark, and Golder 2006, 71–72). Further, these coefficients are "hypothetical" because they depict conditional relations beyond the observed data values, most notably because the sexism variable does not have a possible score of zero (Friedrich 1982, 807).

REFERENCES

- American Political Science Association. 2005. *Women's Advancement in Political Science*. Washington, DC: American Political Science Association.
- Baymard Institute. 2021. "Drop-Down Usability: 'When You Should (and Shouldn't) Use Them.'" <https://baymard.com/blog/drop-down-usability>. Accessed May 7, 2121.
- Box-Steffensmeier, Janet M., Raphael C. Cunha, Roumen A. Verbanov, Yee Shwen Hoh, Margaret L. Knisley, and Mary Alice Holmes. 2015. "Survival Analysis of Faculty Retention and Promotion in the Social Sciences by Gender." *PLoS ONE* 10 (11): e0143093. DOI:10.1371/journal.pone.01443093.

- Brambor, Thomas, William Roberts Clark, and Matt Golder. 2006. "Understanding Interaction Models: Improving Empirical Analyses." *Political Analysis* 14 (Winter): 63–82.
- Djupe, Paul A., Kim Quaile Hill, Amy Erica Smith, and Anand E. Sokhey. 2020. "Putting Personality in Context: Determinants of Research Productivity and Impact in Political Science." *Scientometrics* 124 (September): 2279–300.
- Friedrich, Robert J. 1982. "In Defense of Multiplicative Terms in Multiple Regression Equations." *American Journal of Political Science* 26 (November): 797–833.
- Hesli, Vicki, and Barbara Burrell. 1995. "Faculty Rank Among Political Scientists and Reports on the Academic Environment: The Differential Impact of Gender on Observed Patterns." *PS: Political Science & Politics* 28 (March): 101–11.
- Hesli, Vicki L., and Jae Mook Lee. 2011. "Faculty Research Productivity: Why Do Some of Our Colleagues Publish More Than Others?" *PS: Political Science & Politics* 44 (April): 393–408.
- Hesli, Vicki L., and Jae Mook Lee. 2013. "Job Satisfaction in Academia: Why Are Some Faculty Members Happier than Others?" *PS: Political Science & Politics* 46 (April): 339–54.
- Hesli, Vicki L., Jae Mook Lee, and Sara McLaughlin Mitchell. 2012. "Predicting Rank Attainment in Political Science: What Else Besides Publications Affects Promotion?" *PS: Political Science & Politics* 45 (July): 475–92.
- Hill, Kim Quaile. 2021. "Research Career Paths Among Political Scientists in Research Institutions." *PS: Political Science & Politics* 54 (April): 271–75.
- Hill, Kim Quaile, and Patricia Ann Hurley. 2021. "Replication Data for: Perceptions of Academic Departmental Climate by Men and Women and the Effects of Such Perceptions on Research Productivity." Harvard Dataverse. <https://doi.org/10.7910/DVN/IQVQYM>.
- Lee, Jennie J. 2007. "The Shaping of the Departmental Culture: Measuring the Relative Influences of the Institution and Discipline." *Journal of Higher Education Policy and Management* 29 (March): 41–55.
- Mitchell, Sara McLaughlin, and Vicki L. Hesli. 2013. "Women Don't Ask? Women Don't Say No? Bargaining and Service in the Political Science Profession." *PS: Political Science & Politics* 46 (April): 355–69.
- Tolleson-Rinehart, Sue, and Susan J. Carroll. 2006. "'Far from Ideal': The Gender Politics of Political Science." *American Political Science Review* 100 (November): 507–13.