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Abstract

Although various work-family policies are available to faculty members, many underuse these policies due to concerns about negative career consequences. Therefore, we believe it is important to develop an academic work culture that is more supportive of work-family needs. Using network data gathered from faculty members at a Midwestern university, this study investigated the relationship between friendship connections with colleagues and perceived work-family supportiveness in the department. It also explored the role of parental status in the relationship for men and women. Results show that faculty with larger friendship networks have more positive perceptions of work-family culture compared to faculty with smaller friendship networks, for all faculty except women without children.

Keywords: Faculty, Work-Life Integration, Work-Family Culture, Social Networks

Increasing faculty gender diversity is essential to the future success of academia. Men and women often have different backgrounds, interests, and approaches toward research. Thus gender diversity within the academic workforce should enrich the process of knowledge creation (Fehr 2008). The reality, however, is that women are still under-represented relative to men, especially in the fields of science, technology, engineering, and mathematics (STEM) (National Science Foundation 2015). Despite the increase in the number of women earning advanced degrees, women are less likely than men to stay in academia and move up the ladder to become full professors (Goulden, Mason, and Frasch 2011). To retain more women and increase gender diversity among faculty, we cannot avoid discussing work and family life.

Researchers repeatedly point out that raising a family while managing a heavy tenure-line faculty workload is challenging (Mason, Wolfinger, and Goulden 2013; Ward and Wolf-Wendel 2012). The challenge of combining faculty work and family life is especially difficult for women who are disproportionately responsible for housework and childcare (Misra, Lundquist, and Templer 2012). As such, women are more likely than men to leave a tenure- track position for an alternative career option (i.e., part-time, adjunct, non-academic position) when job requirements coincide with childrearing (Deutsch and Yao 2014; Mason and Ekman 2007). To retain more women faculty members, we need an enhanced effort to create work environments that facilitate the integration of work and family life. Such an integration requires organizational change.

Scholars have primarily focused on *structural approaches* to change, such as family leave policies and flexible work hours (Kossek, Lewis, and Hammer 2010). Currently, various work-family policies and programs are widely available at academic institutions. Some examples include paid or unpaid parental leaves, tenure-clock extension, and dual career hiring (Hollenshead et al. 2005). Work-family polices are associated with reduced work-family conflict (Allen 2001; Anderson, Coffey, and Byerly 2002). However, the simple availability of such policies has not completely alleviated the struggle to balance work and family life because many fear negative career consequences for using available policies (Drago et al. 2006; Eaton 2003).

To promote organizational change, we need to explore the cultural elements that shape the willingness of employees to use work-family policies (Kinnunen, Mauno, Geurts, and Dikkers 2005). *Cultural approaches* focus on changes in workplace norms and informal support such as social support from coworkers and supervisors (Kossek et al. 2010). The concept of *work- family culture* (sometimes called *work-family climate*) is relatively new, but it generally refers to "the extent to which work environment is supportive with regard to employees' work-family needs" (Mauno, Kinnunen, and Ruokolainen 2006, p. 214). Because we lack research on factors that contribute to perceptions of a supportive work-family culture within academia, this study examined how friendship networks at work shaped faculty perceptions of work-family culture in their department. Throughout this article, we use the term *friendship connections* to refer to non-work related social interactions (e.g., discuss personal matters, share free time).

With a focus on friendship networks, we applied social network theory and methods in our examination of work-family culture. Social network

analysis is an increasingly popular data analysis tool with very specific data requirements (Knoke and Yang 2008). With our unique network data, it was possible to calculate measures that capture the characteristics of individuals' networks such as the size of their friendship network. By exploring how social networks contributed to a more work-family supportive work environment, the results from our study provide new insight into the academic work culture.

Social Capital Theories

Social capital theories focus on the benefits (e.g., health, career success) derived from our social connections to other individuals (Burt 2000; Coleman 1988). Social connections provide access to individual resources, such as having a friend with whom to discuss a problem or a mentor who offers advice and community resources such as social solidarity and generalized reciprocity whereby whom you help and who helps you within the group is not the same person (Kadushin 2012). Within a workplace context, social capital benefits often focus on career achievements and advancement. For faculty members, the social connection most frequently studied is that of research collaboration. Previous empirical work consistently shows that having more collaborators is associated with greater research productivity and quality (Lee and Bozeman 2005; Yan and Ding 2009). In the study we report here, we focused on the number of friendship connections in the workplace because variation in the extent of friendship connections should differentially shape perceptions of workplace culture such as work-family culture (Kilduff and Corley 2000; Wellman 1988).

We hypothesized that having more friendship connections to colleagues would predict more positive perceptions of work-family culture among faculty. Well-connected faculty should have more access than isolated faculty to a variety of resources helpful to work-family integration such as information about work-family policies, assistance in solving a work- family conflict, and empathetic support when discussing work-family conflict difficulties. Unfortunately, some faculty members are hesitant to talk about their families at work due to ideal worker norms that promote workers being unencumbered by family (Blair-Loy 2003; Drago et al. 2006; Ward and Wolf-Wendel 2012). Faculty members who do not share stories about their family life may be unlikely to form meaningful friendships at work, which may be crucial to developing positive perceptions

of work-family culture. The little research that exists on this topic supports these ideas. For example, having colleagues who understand family concerns and are supportive helped increase a faculty member's sense of agency when making work and family related decisions (O'Meara and Campbell 2011).

Gender and Parental Status

Gender and parental status may jointly impact the association between friendship connections and perceived work-family culture. Work-family integration is an issue for both men and women (Reddick et al. 2012; Sallee 2012), but gender is still embedded in organizational culture and strongly influences interactions among colleagues (Acker 1990; Ward and Wolf-Wendel 2012). Parental status also matters in workplace settings. Mothers often receive biased performance evaluations (Ridgeway and Correll 2004) and lower wages compared to women without children (Gough and Noonan 2013). In contrast, research shows that being a father helps men's careers. Compared to childless men, the presence of children increases the perception that men are devoted to work because they have a family for which to provide (Killewald 2013). Mothers in academia are often disadvantaged in evaluation and promotion decisions due to persistent stereotypes and gender bias in regard to competence and suitability (Valian 1999; Williams 2004). For men, however, fatherhood can work to the advantage for their career development including tenure and promotion (Mason et al. 2013).

   Mothers are often aware of bias against caregiving in academic workplaces (e.g., adverse reaction, decreased opportunities for promotion and raise), and they try to minimize or avoid potential career penalties by not mentioning caring responsibilities at work (Drago et al. 2006). Research has generally suggested that having friends with whom to share private matters might be particularly helpful for mothers so as to have a sense of support and positive perceptions of work-family culture. For this reason, we tested whether parental status moderated the association between friendship connections and perceptions of supportive work-family culture. We hypothesized that a moderation effect would only appear for women. Specifically, mothers would benefit more than childless women from having friendship connections.

The Study

Sample

The purpose of this study was to seek to understand how workplace friendship networks shape worker perceptions of work-family culture. We further examined differences in this association by gender and parental status. Our data came from the Faculty Network and Workload Study (FNWS), a mail/web survey conducted at a large research-intensive Midwestern university with about 1,000 tenure-line faculty. In spring 2011, we invited 744 members of the full-time faculty with a tenure-line in 26 STEM and 16 social and behavioral sciences (SBS) departments to participate in the survey. We had sought and received IRB approval before implementing the study. The FNWS did not include the faculty in the arts and humanities because the original FNWS project, funded by National Science Foundation's (NSF) ADVANCE program, focused on a comparison between SBS and STEM disciplines. There were 424 men and 81 women in the STEM departments and 149 men and 90 women in the SBS departments.

Over 75 % (*n* = 559) of those surveyed provided an answer to at least one questionnaire item. Response rates are of utmost importance when conducting a network analysis. Ideally the nodal response rate (i.e., the number of respondents divided by the number of sampled persons) for the network (i.e., department) should be above 70 % in order to calculate reliable social network measures (Knoke and Yang 2008). Although the survey response was high overall, one of the 42 departments had a nodal response rate lower than 70 %. We excluded this department from our study and lost 12 faculty members as a result. We obtained basic demographic data for all sampled faculty (e.g., gender, race, academic rank, and academic discipline) from the Office of Institutional Research and Planning that we matched to the FNWS survey data.

Measures

The authors developed the FNWS survey instrument to examine numerous aspects of faculty life including their networks, work-life integration, workloads and climate perceptions. We adapted some measures from scholars working in specific substantive areas of interest; and, when necessary, we created new measures. For all constructed indices, we ran factor analyses to ensure unidimensional indices and Cronbach's Alpha for reliability.

Supportive work-family culture was a three-item measure specific to work-family support in the department. The items pertained to colleagues being respectful of efforts to balance work and family, seeking to make family obligations compatible with an academic career, and comfortably raising family duties when scheduling work responsibilities. Faculty members stated their level of agreement with each statement using a five-point scale (1 = strongly disagree to 5 = strongly agree). This study took the mean of at least two items to create the supportive work-family culture index (α = .81).

Degree centrality indicated the number of friendship connections for each faculty member (*actor*). We derived this measure from the network mapping questions within the FNWS survey that captured non-work related social interactions among faculty members within their tenure home department. **Figure 1** shows the network question and response choices for a fictional department. To capture friendship connections (*ties*), respondents reported how often they spent free time together or discussed personal matters with faculty in their department during the 2010–2011 academic year. Respondents had a list of all faculty names in their department and identified the frequency with which they interacted with each member. Across the five response options (see Fig. 1), we chose #3 "once or twice a semester" as a necessary cut-off point to have a dichotomous response for calculating our network measure. In other words, a tie did not exist if respondents selected either "not in this

Third, we would like to ask about how often you <u>spend your free time or discuss personal matters</u> with departmental colleges in the current academic year. By "free time" we mean time you have chosen to spend with another faculty member that <u>does not entail</u> a work function or activity. It can take many forms: having coffee or sharing a meal; leisure or exercise activities (e.g., attending a play or playing golf); etc. "Discussing personal matters" entails talking about the people in your life, your social activities, your joys or struggles, etc.

13. <u>During the current academic year</u>, how often have you spent free time or discussed personal matters with each of the following faculty members from your tenure home department? *Please leave the row with your own name blank and check "not in this academic year" when applicable. Again, to maintain confidentiality all names will be recorded as numbers, including your own.*

	Not in This Academic Year	Once or Twice This Year	Once or Twice a Semester	Once or Twice a Month	Once a Week or More Often
James Smith	☐	☐	☐	☐	☐
Mary Johnson	☐	☐	☐	☐	☐
John Williams	☐	☐	☐	☐	☐
Patricia Brown	☐	☐	☐	☐	☐
Robert Jones	☐	☐	☐	☐	☐
Pablo Lopez	☐	☐	☐	☐	☐
Michael Davis	☐	☐	☐	☐	☐
Linda Bolling	☐	☐	☐	☐	☐

Fig. 1. Network Mapping Question for Friendship (Fictional Department)

academic year," or "once or twice this year." Our cut-off assured measurement of stronger connections, which are often characterized as having a higher frequency of interaction (Granovetter 1973).

We calculated the network measure for degree centrality by first creating an adjacency matrix for each department from the dichotomized responses. In this matrix the number of rows and columns was equal to the number of faculty members in the department; and the value of 1 indicated the presence of the friendship tie, and 0 indicated its absence. For each actor in the network their row identified ties they sent to other actors in the network, and their column identified ties received from other actors in the network. For the final network measure calculation, we needed to symmetrize the adjacency matrix such that when one or both actors nominated the other, we recorded a tie between them. We calculated degree centrality by summing the rows of the symmetrical adjacency matrix (Wasserman and Faust 1994).

Two key demographic characteristics were dichotomous variables for *gender* (0 = man; 1 = woman) and *parental status* (1 = parent; 0 = nonparent). This study also included various measures at the individual and department levels in order to isolate their potential association with perceptions of work-family culture. At the individual level, faculty of color are more likely than white faculty to feel socially isolated from their colleagues (Smith and Calasanti 2005) and tend to have more negative perceptions of work climate (e.g., fairness of tenure decisions, encouragement for career development) (Eagan et al. 2014; Jackson 2004). *Race* was measured as a dichotomous variable (1 = nonwhite; 0 = white). Academic rank plays an important role in combining work and family roles by differences in job expectations such as pre-tenure publication pressures and an increase in service post-tenure (Ward and Wolf-Wendel 2012). Academic rank was a three-category variable for assistant, associate, and full professors.

It is common for faculty members to overwork (Jacobs and Winslow 2004), and work hours are generally related to decreased ability to balance work with family (Michel et al. 2011). The survey asked them to indicate how many hours they spent on seven work activities in an average week: classroom teaching, helping students outside of class, research, administrative work, committees, extension (e.g., outreach), and practice (e.g., paid consulting). We summed hours spent on these activities to create a variable for *work hours*. We truncated extreme outlier values at 80 hours (n = 13 reported above 80 hours per week). We controlled for job satisfaction because respondents who are satisfied with the job itself may

have more positive perceptions of work-family culture. The *job satisfaction* index was calculated by taking the mean of at least two items from three items (α = .81). The items asked about enjoying the work they did, the meaningfulness of work, and whether they would still become a professor if they had to do it over again (responses ranged from 1 = strongly disagree to 6 = strongly agree).

Other than job-related factors, various family characteristics influence faculty work-family integration by increasing or decreasing family demands (Voydanoff 2005). A dichotomous variable indicated whether or not faculty were *married or partnered* (1 = married or partnered; 0 = single). We also created a count variable for *dependent care responsibility*. Respondents received a score of three for each child living in the household under the age of five and a score of two for each child living in the household above the age of five. Parents not currently living with their children (i.e., empty nesters and non-custodial parents) received a score of one. For each case, we gave an additional score of one to the respondents who also had any adult dependent care responsibility. Those without children or dependent adults received a score of zero. We modeled this measurement strategy from several different studies (e.g., Andreassi 2011; Rothausen 1999), but developed it using the data available in the FNWS survey. *Hours on household work* was a count variable from the reported number of hours spent in a typical week on home and family responsibilities, such as food preparation, shopping, laundry, cleaning, and dependent care.

At the department level, we included academic discipline because work-family balance context (e.g., workplace norms) differs across disciplines (Ward and Wolf-Wendel 2014). A series of dummy variables for five categories (physical sciences, biological sciences, engineering, business, and education/social sciences) measured academic discipline. Since network (i.e., department) size affects an actor's (i.e., faculty member) network size (faculty members in smaller departments report fewer friends), we controlled for department size. Department size ranged from 8 to 41. Lastly, to account for gender diversity across departments we controlled for the percentage of women in the department.

The analytic sample included 482 faculty members in 41 departments after dropping the low response rate department and cases with missing values on the variables of interest. The analytic sample had 364 men (264 fathers and 100 non-fathers) and 118 women (71 mothers and 47 non-mothers). **Table 1** presents the overall descriptive statistics. The value of degree centrality (i.e., network size) varied from 0 to 26. The zero

Table 1. Sample Descriptive Statistics and Bivariate Analysis across Gender

Full Sample	Mean	S.D.	Min.	Max.	Men Mean	Women Mean	t /X2
Individual Level Variables							
Dependent Variable							
Supportive Work-Family Culture	3.82	.93	1.00	5.00	3.84	3.74	-.76
Focal Independent Variable							
Degree Centrality	5.54	3.68	.00	26.00	5.50	5.68	.45
Key Demographics							
Gender (1 = women)	.24		.00	1.00	-	-	-
Parental Status (1=parent)	.70		.00	1.00	.73	.60	6.42*
Control Variables							
Race (1 = nonwhite)	.17		.00	1.00	.14	.25	7.83**
Academic Rank							
Assistant Professor	.24		.00	1.00	.19	.40	47.03***
Associate Professor	.24		.00	1.00	.20	.36	
Full Professor	.52		.00	1.00	.61	.25	
Work Hours	52.72	10.95	7.00	80.00	52.65	52.92	.23
Job Satisfaction	5.25	.79	1.50	6.00	5.25	5.25	.05
Married/Partnered (1 = married or partnered)	.92		.00	1.00	.94	.86	6.93**
Dependent Care Responsibility	2.66	2.58	.00	17.00	2.79	2.26	−2.39*
Hours on Household Work	21.29	13.27	.00	70.00	19.84	25.76	4.44***
Department Level Variables							
Control Variables							
Academic Discipline							39.59***
Physical Sciences	.19		.00	1.00	.22	.12	
Biological Sciences	.36		.00	1.00	.38	.30	
Engineering	.12		.00	1.00	.14	.06	
Business	.08		.00	1.00	.08	.07	
Education and Social Sciences	.25		.00	1.00	.18	.46	
Department Size	22.27	10.33	8.00	41.00	22.58	21.31	-.81
Percentage of Women	23.73	16.45	.00	73.68	19.63	36.37	3.96***
n	482				364	118	

† $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$

identified faculty without any friendship connection while the largest network size was 26. The percentage of women varied across departments (minimum = 0 %, maximum = 74 %). Within the original sample (*N* = 744 in 42 departments) two departments did not have women, and eight departments only had one woman. Upon dropping cases due to missing data, seven departments in the analytic sample (*n* = 482 in 41 departments) did not have any women.

Data Analysis

We first examined the effect of network size on perceptions of work-family culture on the entire sample. We then split the sample by gender and tested the moderation effect of parental status on the association between friendship networks and perceived work-family culture. We ran multilevel mixed-effects linear regression models due to the nesting of faculty within departments. The structure of the network data (autocorrelation within each network matrix) violated the assumption of independent observations (Dow, Burton, and White 1982); therefore, we directly estimated the sampling distribution by running 1000 permutations to deal with potential biases in the variance estimates and significance tests (Good 2005). In this article we report the results from the multilevel models without permutations because the results were consistent with and without permutations.

Findings

Model 1 in **Table 2** shows supportive work-family culture regressed on degree centrality, parental status, gender, and the control variables for the full sample. In line with our hypothesis, greater degree centrality corresponded with more positive perceptions of work- family culture in the department (b = .06, *p* < .001). Faculty members with more friendship connections were more likely than those with fewer connections to report that their department was work-family supportive. In subsequent models, we ran the same regression model separately for men and women (Models 2 and 4). The models for women excluded the seven departments without any women in the analytic sample; thus, the models for women were nested within 34 departments. Degree centrality maintained a positive association with perceptions of supportive work-family culture for both men (b = .05, *p* < .001) and women (b = .10, *p* < .001). Interestingly, being a father was positively associated with perceived work- family culture among men (b = .22, *p* < .10), while being a mother was negatively associated with perceived work-family culture among women (b = −.78, *p*. < 01). Consistent with previous research (Mason et al. 2013; Valian 1999; Williams 2004), this finding implies that being a father and being a mother have different meanings in the academic workplace.

Models 3 and 5 of Table 2 added the interaction term between parental status and degree centrality to test if parental status affected the association between degree centrality and perceptions of work-family

Table 2. Multilevel Mixed-Effects Linear Regressions for Supportive Work-Family Culture

	Full sample Model 1	Men Model 2	Model 3	Women Model 4	Model 5
Fixed Effects	b/se	b/se	b/se	b/se	b/se
Degree Centrality	.06*** [.01]	.05*** [.01]	.04† [.02]	.10*** [.03]	.00 [.05]
Women	−.18† [.10]				
Parental Status	.00 [.11]	.22† [.13]	.13 [.20]	-.78** [.26]	−1.44*** [.40]
Parental Status × Degree Centrality			.02 [.03]	.11* [.05]	
Controls					
Nonwhite	-.10 [.11]	.02 [.13]	.01 [.13]	-.25 [.19]	-.33† [.19]
Assistant Professor [a]	.22* [.10]	.13 [.11]	.13 [.11]	.32 [.20]	.35† [.20]
Associate Professor [a]	-.04 [.10]	.03 [.11]	.03 [.11]	-.05 [.21]	-.06 [.21]
Work Hours [b]	.00 [.00]	.00 [.00]	.00 [.00]	.00 [.01]	.00 [.01]
Job Satisfaction	.37*** [.05]	.34*** [.05]	.34*** [.05]	.41*** [.10]	.39*** [.10]
Married/Partnered	-.03 [.15]	-.15 [.18]	-.16 [.18]	.06 [.24]	.20 [.25]
Dependent Care Responsibility	.01 [.02]	-.01 [.02]	-.01 [.02]	.15* [.06]	.14* [.06]
Hours on Household Work [b]	.00 [.00]	.00 [.00]	.00 [.00]	.00 [.01]	.00 [.01]
Model for Department Means					
Intercept	1.73*** [.32]	1.89*** [.37]	1.96*** [.39]	1.15† [.61]	1.65* [.64]
Physical Sciences [c]	-.06 [.18]	-.02 [.19]	-.02 [.19]	.04 [.33]	.06 [.32]
Biological Sciences [c]	-.12 [.16]	-.05 [.18]	-.05 [.18]	.01 [.27]	.01 [.27]
Engineering [c]	-.37* [.20]	-.41† [.21]	-.41† [.21]	.28 [.41]	.32 [.40]
Business [c]	-.17 [.20]	-.01 [.21]	-.01 [.21]	-.54 [.40]	-.53 [.39]
Department Size [d]	-.01* [.01]	-.01† [.01]	-.01* [.01]	-.02 [.01]	-.02 [.01]
Percentage of Women d	.00 [.00]	.00 [.00]	.00 .00	.00 [.01]	.00† [.01]
Random Effects	vc	vc	vc	vc	vc
Department Mean	.03	.02	.02	.07	.07
ICC	.04	.03	.03	.11	.11
n	482	364		118	

† *p* < .10 ; * *p* < .05 ; ** *p* < .01 ; *** *p* < .001 (two-tailed tests)
There are 41 departments for full sample, 41 departments for men sample, and 34 departments for women sample.
   vc = variance components, and ICC = intraclass correlation
a. Full professor is the omitted reference group.
b. Mean-centered.
c. Education and Social Sciences is the omitted reference group.
d. Centered with the mean of 41 or 34 departments

culture differently for men and women. As expected, the moderation effect was statistically significant only for women (b = .11, *p* < .05). **Figure 2** presents the predicted perceptions of supportive work-family culture for women based on the results from Model 5 (all other variables were held at their means in the calculation). Figure 2 shows that, while greater degree centrality was associated with more positive perceptions of supportive
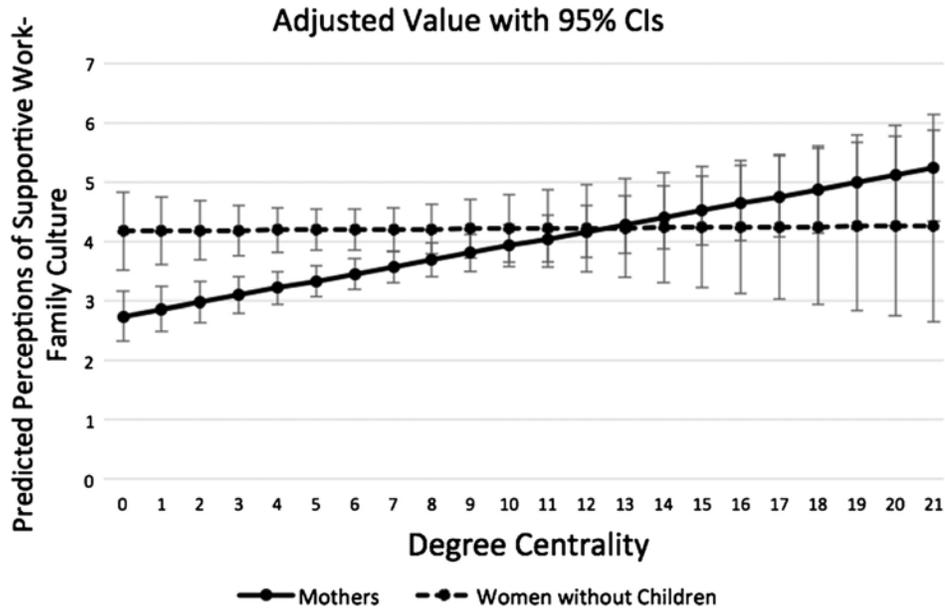
Fig. 2. Predicted Perceptions of Supportive Work-Family Culture for Women

work-family culture for mothers, the relationship was null for women without children. The effect of degree centrality was significant at *p* < .001 for mothers but not significant for women without children according to post-hoc tests.

Discussion

Work-family integration remains a critical issue in academia. The goal of this study was to explore the relationship between non-work related social interactions in the workplace and perceptions of work-family culture among faculty. Our key finding suggests that having more colleagues with whom to discuss personal matters or spend free time within one's department could potentially improve how faculty perceive work-family culture in their department. Larger networks are usually associated with more resources (Burt 1995). Therefore, faculty members should have easier access to work-family support (including information about work-family policies) when they have multiple friendship connections compared to when they are socially isolated in the department. Care must be taken, however, because friendship connections within the department did not affect the perceptions of work-family culture for women without children.

Another finding in this study was that while being a parent improved the perceptions of work-family culture among men, mothers reported their department as less work-family supportive compared to women without children. Previous research has shown unequal treatment of mothers and fathers in academic and nonacademic workplaces (Gough and Noonan 2013; Killewald 2013; Mason et al. 2013; Ridgeway and Correll 2004; Valian 1999; Ward and Wolf-Wendel 2012; Williams 2004), and the mothers in our study might have experienced cultural bias in their departments. It is also possible that the mothers in our sample were critical of their work environment with regard to responsiveness to faculty work-family needs because mothers in academia are often sensitive about the potential career penalties of having children (Drago et al. 2006),

Implications for Faculty Retention Efforts

The findings of this study provided insights into reducing faculty turnover due to work-family issues. Academic institutions can foster a supportive work-family culture by promoting non-work related interactions among faculty members in the same department. If work-family culture in the department becomes more positive, we can expect an increase in the use of work-family policies (Blair-Loy and Wharton 2002). Now that work-family policies are relatively widely implemented in academe, administrators need to pay more attention to academic work environments at the interaction level, especially work-family specific support from colleagues.

Compared to parents in other occupations, establishing friendship networks among col- leagues might be particularly profitable for faculty members who are parents. Despite the benefits of autonomy and flexible work schedules, work-family integration is challenging for academics because of geographical reasons. Academic career development typically requires a few moves following receipt of a Ph.D. (e.g., postdoctoral positions) (Preston 2004). Consequently, faculty members who are parents have an increased likelihood of living away from their relatives (and their potential help with childcare) when they are junior faculty with young children. Junior faculty members in this position would greatly benefit from having a work environment where they can comfortably raise personal matters with colleagues and seek their understanding and support.

A critical next step in developing work-family culture is to encourage open conversations about work-family issues in academic work environments. Specifically, how do we shine more light on the personal lives of faculty at work? It might be helpful to provide (in)formal opportunities

for faculty members, such as department events involving families and work- family integration workshops. A potential problem with this approach, however, is the hesitancy of some faculty members, especially mothers, to discuss personal lives at work due to the potential biases that may arise. Additional changes, such as encouraging senior faculty to talk about their family and non-work life at work, may alleviate the career penalty concerns among junior faculty for bringing up private matters in front of colleagues (Drago et al. 2006).

Limitations

This study provided informative findings, but also had some limitations. First, we used a single sample of a research-intensive university that limits generalizability. However, we believe that there are nonetheless advantages in using single university data. For example, the respondents in this study were in similar circumstances in terms of residence (e.g., housing market, rent, commute), childcare availability, and work conditions (e.g., salary, office location, academic levels of students). One would need to account for these complex regional and institutional conditions if using data from multiple universities.

Second, we were unable to make causal claims because we used data collected at one point in time. This study treated friendship connections as an independent variable that predicted perceptions of work-family culture. Since it takes time for friendships to form, it is possible that these networks were in place well before the time of the survey when respondents answered the questions about work-family culture. It is also possible that faculty members who had negative perceptions of work-family culture were reluctant to develop non-work related interactions with their colleagues. Finally, our conclusions would have been improved with access to measures of personal characteristics and agency. Perceptions of work-family issues can vary depending on factors at an individual level, such as temperament, negative affect, and coping mechanisms (Kelly et al. 2008; Voydanoff 2005). Future research should include measures of personal characteristics and agency to address these concerns.

Conclusion

Overall, the findings showed that workplace friendships contribute to building a supportive work-family culture in academia. To the best of our knowledge, this is the first study to examine faculty friendships using

social network data. The unique use of network data is one strength of this study. Coworker support is also rarely studied compared to organizational and supervisor support in the work-family literature (Kossek, Pichler, Bodner, and Hammer 2011; Thompson and Prottas 2006). Our measure of supportive work-family culture pertained to work-family specific support by other faculty members in the department, and our investigation indicated that coworker support is an important part of improving the perceptions of work-family culture in academia.

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