STEM Faculty and Parental Leave: Understanding an Institution's Policy within a National Policy Context through Structuration Theory

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ABSTRACT

Women continue to face barriers and unequal expectations in the academy. Parental leave policies have been instituted in many countries to help address some of these barriers. Nevertheless, many researchers have found that the presence of such policies is not enough to ensure they are used by those they were intended for. We conducted an in depth qualitative study of one midwestern university in the United States to better understand difficulties that arise with policy usage. The United States is an interesting case to study as it has a weak national policy for parental leave and some institutions with stronger policies, including the one we studied here. Our results suggest that the policy does not account for many aspects of academic careers and that the policy is under-utilized or undermined by contextual pressures, as other researchers have found around the globe. The results also demonstrate that structuration theory is a useful framework for analyzing how faculty members are constrained by and act within or transform a policy. Importantly, we find that the lack of a national policy and fragmented policies across institutions further complicates faculty members' use of parental leave at this institution. This has implications for other national and institutional policy imbalances.

KEYWORDS

work-family policy; parental leave policy; structuration theory; academic STEM; parenthood and academia; science; engineering

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Scholars who study women's experiences in the academic workforce and work-life balance continue to identify new or ongoing inequalities and barriers toward fuller representation in academia (Britton et al., 2012; Bird, 2011; Morrison, Rudd and Nerad, 2011; Glass and Minnotte, 2010; Walters and McNeely, 2010; Bilamoria et al., 2006; Mason and Goulden, 2004).

Many policies and programs have been proposed or implemented to address the inequalities and barriers women experience in STEM academic careers. For example, Europe and many economically developed countries have some national policy for paid parental leave in addition to other work-life policies (Weststar, 2012; O'Brien, 2009; Ja Shin, 2009; Waters and Bardoel, 2006). As many have discovered, however, the presence of a policy does not mean it will be utilized fully or utilized by all (Ja Shin, 2009; Waters and Bardoel, 2006; McDonald, Brown and Bradley, 2005). The United States presents an interesting counter-case as it has a weak national policy with stronger but inconsistent policies at individual institutions. We explore policy usage and STEM faculty members' experiences at a midwestern university in the United States which has a more extensive policy than what is nationally available. In studying this institutional policy we hope to better understand where work-life policy breaks down and its functioning and limitations in a larger national policy environment. We use Giddens' structuration theory (1986; 1979) to frame how STEM faculty are constrained by and can act with and transform policy situated at a university. Additionally, structuration theory, with its emphasis on locales, can help us understand how an institutional policy is situated within a larger policy environment.

We analyzed interviews with 10 STEM faculty members at one university to explore their experience with the policy and the larger policy environment. Our main research questions guiding this exploration were:

(1)   *How do STEM faculty members make use of and adapt to the structures of the university before childbirth, during parental leave, and upon returning to work?*
(2)   *How are these experiences affected by the larger policy environment in which faculty members are situated?*

In the following sections we discuss some of the literature on women's underrepresentation in STEM and our theoretical framework, Gidden's structuration theory (1986, 1979). Following this we give an overview of the parental leave policy itself and then discuss our methods. Finally, we report our main findings and make some concluding points.

LITERATURE REVIEW

Women who enter the academic workforce continue to face barriers, biases, exclusions and inequalities (Britton et al., 2012; Bird, 2011; Morrison, Rudd and Nerad, 2011; Glass and Minnotte, 2010; Bilamoria et al., 2006; Mason and Goulden 2002, 2004; Williams, 2004). For example, Mason and Goulden (2004; 2002) report that women with children are less likely than men with children to achieve tenure, and Morrison, Rudd and Nerad (2011) find that males' careers benefit from traditional marriage arrangements (with their spouse as primary care giver), whereas women's do not.

The difficulties women face in achieving workplace equality are exacerbated by discourse of the 'ideal worker' and cultural expectations for child-rearing responsibilities. The ideal worker is an employee who dedicates themselves to their work over all other commitments or roles (Blair-Loy, 2003; Baiylin, 1993). Despite programs and policies to disrupt the ideal worker discourse, the discourse remains resilient (Ciccia and Verloo, 2012; Kelly, Ammons, Chermack and Moen, 2010; Sullivan, Hollenshead and Smith, 2004). Likewise, while men have started becoming more involved with childcare, much of the responsibility continues to fall on women (Bianchi and Milke, 2010; Sümer, Smithson, Guerreiro and Granlund, 2008; Hochschild and Machung, 2003), and women experience greater work-family conflict (Fox, Fonseca and Bao, 2011). Recent scholarship has added to this literature by identifying an additional discourse that negatively affects female STEM faculty, namely the "discourse of choice" (Beddoes and Pawley, 2013).

Barriers, inequalities and exclusions are experienced throughout women's pathways through STEM, including lower levels of self-confidence (Hartman & Hartman, 2009) marginalization in teams or departments (Foor, Walden and Trytten, 2007; Tonso, 2006) and implicit bias (Lane, Goh and Driver-Linn, 2011; AAUW, 2010; Wolfe and Powell, 2009; National Academies, 2007). These experiences foreground women's entry into STEM academic careers, where similar and new difficulties emerge (Fox, 2011; Rhoads and Gu, 2011; Evans, Grant and Peskowitz, 2008; Monosson, 2008; Callister, 2006; Ozbilgin and Healy, 2004; Fox, 2001; Harper et al., 2001). For example, science and engineering female faculty experience lower levels of job satisfaction and higher levels of intention to quit than male faculty (Callister, 2006). Furthermore, female and sometimes male faculty members disguise, avoid or distance themselves from behaviors that are stigmatized. For example, Rhoton (2011) describes the ways in which female STEM faculty members distance themselves from other female faculty members who are perceived as too feminine. Additionally, female faculty members engage in bias avoidance behaviors, such as staying single or missing children's events, to avoid defying ideal worker expectations (Drago et al. 2006).

Despite such strategies, researchers in the United States and Europe continually find marked reductions in women's levels of representation as they progress through academic ranks (O'Conner, Gahn and Bowen, 2012; NSF 2011; Bakian and Sullivan, 2010; Mayer and Tikka, 2008; ETAN, 2000; Berryman, 1983). Women have increased their representation as degree seekers in STEM fields, and are now

better represented at the entry level, pre-tenure level of the career (AAUW, 2010; Bankian and Sullivan, 2010; Mayer and Tikka, 2008; Kulis, 1998); yet their numbers dwindle at higher ranks.

Parental leave policies have been put forth in many countries to address women's ongoing underrepresentation in academia (O'Brien, 2009; National Academies, 2007). In Europe, as Haas (2003) explains, "The European Union's treaty guideline (No. 18) for work family reconciliation sets the stage for the EU to promote parental leave and childcare." Indeed, EU countries have *national* policies with more generous provisions than the United States for paid leave, distinct maternal/paternal leave and childcare options (O'Brien, 2009; Sümer, Smithson, Guerreiro and Granlund, 2008; Haas, 2003).

While parental leave policies vary across EU member states (O'Brien, 2009; Mayer and Tikka, 2008; Sümer, Smithson, Guerreiro and Granlund, 2008; Haas, 2003), even countries that lag behind in developing their parental leave policies, such as the United Kingdom, offer more generous terms than the United States (Lewis and Campbell, 2007). The United States has no similar national level parental leave policies. The closest national policy the United States has is the Family Medical Leave Act (FMLA), which was passed in 1993 (Waldfogel, 1999). FMLA offers 12 weeks of unpaid leave. In essence, the law protects workers from being fired or punished for absence due to childbirth, childrearing and other familial responsibilities. Research into the effect of FMLA finds modest increases in the levels of leave taken (Han, Ruhm and Waldfogel, 2009; Han and Waldfogel, 2003; Waldfogel, 1999) with mixed findings on its effect on wages (Hofferth and Curtin 2006; Waldfogel 1999). Some states offer additional benefits over FLMA, but these beneifts are confined to the states' boundaries (Han, Ruhm and Waldfogel, 2009; Grant, Hatcher and Patel, 2005).

National policies are mediated through institutional polices. Researchers have found considerable variability in the parental leave polices offered by academic institutions in the United States (Hollenshead et al., 2005; Raabe, 1997). Hollenshead et al. (2005) find that research intensive universities, on average have more parental leave policies than other college types. Doctoral degree granting, masters degree granting, four year schools and associate degree (two year) colleges have progressively fewer parental leave policies, on average. Parental leave policies at these institutions include paid leave, tenure-clock extension and release from teaching, committee or other work responsibilities. Outside of academic institutions, the National Science Foundation (NSF), a government funding agency for STEM research, recently instituted a combination of old and new policies in a package to make faculty members' coordination with the agency more flexible for work-life balance (NSF, 2013).

Thus, in the United States we see a different and more fragmented policy arrangement than in the EU. On the national level there are weak/minimalistic parental leave policies, which are (sometimes) supplemented by more thorough institutional or state policies. In contrast, EU countries have much stronger national policies that can be supplemented on the institutional or provincial level.

Yet, as many have argued, simply having parental leave policies is not enough to ensure employees can adequately take advantage of them. Managers' and colleagues' perceptions of leave, as well as fears of negative consequences affect leave use (Tremblay and Genin, 2010; McDonald, Brown and Bradley, 2005; Blair-Loy and Wharton, 2002; Kirby and Krone, 2002). Academia is no exception: department heads' and colleagues' support, and concerns about career repercussions affect policy use (Ja Shin, 2009; Schimpf, Mercado Santiago and Pawley, 2012; Waters and Bardoel, 2006; Ward and Wolf-Wendall, 2004). Other problems include a lack of awareness about policies, misalignment between policy and teaching or research responsibilities, and tendency to return early from leave (Weststar 2012; Ja Shin, 2009; Waters and Bardoel, 2006; Ward and Wolf-Wendall, 2004).

While the research above, and some of our earlier work (Schimpf, Mercado Santiago and Pawley, 2012; Mercado Santiago, Pawley, Hoegh and Banerjee, 2011), gives insight into how those in academic careers experience and have difficulty with parental leave policies, this paper proposes to situate the agency granted by the policies within a larger, and in the case of the United States, fragmented policy environment. In this way, our paper goes beyond studying a particular case by integrating faculty members' experiences at one institution with the larger policy environment of the United States through Giddens' structuration theory (1986; 1979). This grants us a new perspective on understanding the under-utilization of work-life policies. Integrating structuration theory provides insight into how a policy constrains actions and how a policy is transformed. It can also be used to understand imbalances between national and local policies, beyond this study. Thus, this study generates theoretical insights that can be applied to other studies, a critical component for making case studies generalizable (Yin, 2003).

THEORETICAL FRAMEWORK: STRUCTURATION THEORY

In structuration theory, *structures* are the rules and resources behind the social practices people enact (Giddens, 1986, p. 25). A social *system* is the reproduced relations between actors or collectivities as the outcome of enacting social practices (Giddens, 1986, p. 25). *Structuration*, then, is defined as the set of "conditions governing the continuity or transmutation of structures, and therefore the reproduction of social systems" (Giddens, 1986, p. 25). Sewell (1992) explains:

> Social systems, according to Giddens, have no existence apart from the practices that constitute them, and these practices are reproduced by the "recursive" (i.e., repeated) enactments of structures. Structures are not the patterned social practices that make up social systems, but the *principles* that pattern these practices. (p. 6)

Social structures are also *dual*: they not only shape people's experiences, but also people's actions shape structures (Sewell, 1992). Within this theoretical framework, structures are activated by humans who have a deep 'knowledgeability' about their world and taking action in it (Sewell, 1992; Giddens, 1986). In other words, when

individuals who are knowledgeable about a structure put it into practice (e.g., enact a policy's benefits), this action activates the structure. Giddens' official word for this concept is knowledgeability; however, here we use the term knowledge to simplify our reported results.

Giddens (1986, 1978) argues that structures are both constraining (limiting action and leading to their own reproduction) and enabling (allowing for action and sometimes leading to transformation). All actions taken involve power or the means of getting things done, but power is not always evenly distributed among actors (Giddens, 1986). Additionally, power may exist in the form of control or ability for some actors to influence the actions of others (Giddens, 1986).

Structuration occurs through modalities. Modalities are the means or processes through which structures are reproduced or transformed and include interpretative frames or ways of making sense of a social practice, facility or the mobilization of power (such as through resources) and norms or sanctions that follow violating expected behaviors (Giddens, 1986).

In our study, university members and their interconnected relations are the social system of interest, and we focus specifically on the relationships between our participants and other university members (and others beyond the university) who have some influence on their usage of parental leave. This reflects the concept of positionality or connections between academics and other actors. The framing concepts discussed in this section are summarized in Table 1.

Table 1: Overview of Structuration Theory

Original Concept	Definition	Policy Application
Structures	Rules and resources that constitute social practices	Rules and resources (allocation) behind policies and practices
Structuration	Structuration involves the reproduction or transformation of structures	Transformation/reproduction of policies and practices
Modalities	Means of reproducing or transforming structures	Processes like norms used to transform/reproduce policy
Knowledgeability	Awareness of and how to enact a practice	Awareness of a policy and how to practically enact it
Positionality	Connections between actors (spatially and temporally) to other actors/collectivities	Connection between academics and related actors within and beyond the university

INSTITUTIONAL CONTEXT: PARENTAL LEAVE POLICY AT THE UNIVERSITY

At our study site, the parental leave policy text is published online (excluded here to preserve anonymity). Employees who are eligible for benefits are parents of a newborn or an adopted child who have been working at the institution for at least 12 continuous months. Birth mothers may receive at most 240 hours of paid

parental leave. All others parents (i.e., fathers and adoptive parents) may receive at most 120 hours of paid parental leave. Eligible individuals can use their leave time throughout the first twelve months after the birth or adoption of a child. There are some exceptions in adoptions: the leave may start before the adoption to accommodate pre-adoption processes. The parental leave can be allotted in intermittent time slots or continuous time; in all cases, a supervisor (a department head in the case of a faculty member) must give permission to enact intermittent parental leave. The policy runs in parallel with FMLA, discussed earlier (United States Department of Labor, 2008; Waldfogel, 1999).

The parental leave policy Web page has several sections providing general information. The Web page gives access to three important forms that the eligible employee needs to submit: (1) the request for absence, (2) the FMLA request and notice, and (3) the FMLA medical certification form. The Web page also provides definitions of the terminology used in the text, telephone numbers of related offices, eligibility information, and health insurance coverage information. It emphasizes that taking leave may not be used against a policy user at the time of promotion or tenure decisions.

The Web page states that parental leave can be used in conjunction with other university paid and unpaid leaves; however, the employee has to consult with either the office of human resources or his or her business office to obtain more guidance. It also states that departments have to accommodate the employees to adjust to their new family situation and minimize the impact of teaching load assignment.

METHODS

Our data came from ten semi-structured interviews, conducted between 2009-2010 at a midwestern university in the United States. Eight participants were recruited via snowball sampling and two via grassroots methods (e.g., via workshops or focus groups). Table 2 shows each participant's field of study (broken into natural science, engineering, or social science), position at the university (note we use the titles they have in American universities), category (user of the policy or eligible but did not use it), and gender.

Table 2: Overview of Participants

Case	Field	Position	Category	Gender
1	Engineering	Assistant Professor	User	Female
2	Engineering	Assistant Professor	Eligible	Male
3	Natural Science	Assistant Professor	User	Female
4	Social Science	Associate Professor	User	Female
5	Natural Science	Associate Professor	User	Male

6	Natural Science	Assistant Professor	Eligible	Male
7	Natural Science	Associate Professor	Eligible	Female
8	Natural Science	Assistant Professor	User	Female
9	Natural Science	Assistant Professor	User	Female
10	Natural Science	Assistant Professor	User	Female

Two of our participants were engineering faculty members: one user and one eligible. Seven were natural sciences faculty members. One was from a social science field. We do not break participants' demographic data down into more specific categories than these to help protect each participant's identity.

Interviews lasted approximately 45 minutes and were digitally recorded and transcribed. We removed identifiable information from the transcripts to protect our participants' privacy. Once we pseudonymized transcripts, we sent each transcript to its corresponding participant for approval or edits as needed.

The interviews focused on STEM faculty members' experiences with the parental leave policy, how they navigated it and how it did or did not align with their career demands. Previous studies with these data (Mercado Santiago, Pawley, Hoegh and Banerjee, 2011) and studies by other researchers examining parental leave policies (Kirby and Krone, 2002) found structuration theory useful for this purpose. We used our research questions to guide our analysis, focusing on how the policy shaped or was shaped by faculty members' experience. We used a grounded theory approach (Strauss 1987). We used NVivo (a qualitative data analysis software package) and a common word processor for the analysis. In the open coding phase we identified many codes related to experiences formally or informally affected by the policy or larger policy environment. These codes were developed through repeated readings and the *constant comparison method* where new codes are compared to other cases and expanded or modified appropriately (Creswell, 2008; Strauss, 1987). These codes were combined into four categories or themes we report here: (1) misalignment between the parental leave policy and faculty members' job context, (2) management of teaching load, (3) knowledge of the policy, and (4) community and support for junior faculty members.

Several limitations of our study should be noted. We are in the process of collecting participants' ethnic identification, but at the time of submission this data is incomplete, and thus we have excluded it for now. Due to this we are unable to analyze the intersection of gender and race; nevertheless, it is still important to note that people of color are also underrepresented in STEM faculty positions and much research has been conducted analyzing this and the intersection of race and gender in STEM and beyond (Berry and Mizelle, 2006; Rosser, 2004; Collins, 2000) Additionally, there were no participants who identified themselves as part of the LGBTQ (lesbian, gay, bisexual, transgender, queer or questioning) community, there were no single mothers or fathers who enacted the leave, and we did not

have any participants who adopted a child. Therefore, our results are based on a limited pool of participants, and there is room for important future work to see if the experiences of a more diverse community are similar or different.

FINDINGS AND DISCUSSION

Misalignment between the Parental Leave Policy and Faculty Members' Job Context

Many of our participants expressed that their work does not stop when they go on leave, including advising graduate students, writing research papers, and keeping contact with their research lab.

Participant 1, a female scientist, continued to work while on parental leave because of an external paper submission deadline. She prioritized her career-related work because her status in the academic community would have been impacted had she not submitted her paper on time:

> I had a paper that I had submitted before he was born and the reviews came back, and it was accepted pending revisions, and they wanted the final revisions 2 weeks after the baby was born... I mean, I could have written the editor and said I can't get them in; but if I didn't get them in, it wasn't gonna be published in the next year, and that puts it off a year. [1]

The policy applies within the locale of the university, but as the STEM faculty member above describes she is also positioned in relation to actors and collectivities beyond the reach of the policy. Here, the actor or collectivities is part of an academic journal (Giddens, 1986). Faculty members are positioned in relation to national policy as well as funding agencies, governmental agencies, professional societies and other similar entities. Given the policy's localized domain and weak national policy, STEM faculty members have limited recourse. Indirectly the policy allows for intermittent leave, which when enacted allows the faculty member flexibility in taking leave depending on their circumstances. For instance, they could have stopped leave while working on the journal article and then resumed it afterward. In this case the faculty member did not do this, as she was unaware of the option, an issue of knowledge we will return to.

Additionally the department head has some discretion in how intermittent leave is taken (Schimpf, Mercado Santiago and Pawley, 2012). It is unclear how it may have played out in this instance, but given the department head's discretion they could have either constricted the faculty member's action or given them more autonomy with intermittent leave. Sümer et al. (2008) found in their comparison of work-life policies in Norway, the United Kingdom and Portugal, policies that require some level of negotiation often leave employees less secure about taking them, or more dependent on the views of their supervisors.

In the next example this social scientist had to continue to manage her lab while on

leave. Although this case is different from the norm (and thus included in our study), typically one thing that distinguishes STEM faculty from social science faculty are their higher levels of external funding that are used toward running a lab. This faculty member felt that the institutional parental leave policy does not make sense when applied to a faculty member's job:

> I'm like, this [parental leave policy] doesn't make sense as applied to a faculty member where you don't work for eight weeks, because we have to work. We have to somehow stay in contact with our research lab. [4]

Here instead of looking at journal requirements, this faculty member notes that work in her lab does not stop while she is on leave. Some parts of the research lab and actions therein, and especially graduate students and research assistants are within the spatial bounds of the university but are positioned temporally and financially in a manner that makes them difficult to stop (Giddens, 1986). The temporal dimension of these job requirements means that even the indirect use of intermittent leave will not be effective as graduate students and some other elements of a research lab cannot be stopped and started by the managing academic alone. Thus, there are limits to the actions the policy allows for to address greater work-life balance for faculty members.

Management of Teaching Load

Management of teaching loads, like the first theme, involves part of faculty members' work context and is thus highly related to the theme of job misalignment. We separated these themes for two reasons: (1) teaching action happens entirely within the university, unlike parts of the first theme, and (2) the set of actors involved is different, leading to some different dynamics. Numerous times, faculty members described their difficulties in handling their teaching load including: before and after the leave, when negotiating courses with the department head, and looking for a suitable replacement to teach their courses while on leave. Teaching is centered more specifically in departments within the university, which are sites where power and control are often exerted. Giddens states that power and control are inescapable components of interaction or social practices (Giddens, 1986, pp. 31-32).

Participant 8, a science faculty member intentionally taught more than her required workload of courses before going on leave. When this faculty member discovered she was pregnant she talked with her department's leadership and proposed not teaching in the fall, emphasizing the fact that she had already "compensated" for it.

Other researchers identify similar strategies academics engage in to minimize stigma (Weststar, 2012; Ja Shin, 2009). Power relations among peers, chairs and department heads, and even subordinates may influence faculty members to feel that they need to do more work in advance to "compensate" for leave and not be seen by their peers as exploiting the system simply by using the policy. Thus the power or control over people, by others, potential or realized, may keep a faculty member from enacting the policy in some ways.

In another case a male faculty member choose not to take the leave. He expressed concerns about his teaching responsibilities:

> I was concerned about finding people to fill in... I could have requested from the department to not have a teaching commitment this semester. I made the decision in discussion with my wife that I would teach this semester. One of the reasons was because I was somewhat drawn to the teaching assignment. It's also a sequence course. [2]

In attempting to find a replacement for teaching the course and its nature as sequence course (and thus one required for later courses) this faculty member opted to not take leave after discussing it with his wife. Although the faculty member did not say exactly how childcare was distributed as a result of their decision, this potentially reflects the typical breakdown for who is normally considered responsible for childcare (Bianchi and Milke, 2010; Sümer, Smithson, Guerreiro and Granlund, 2008; Hochschild and Machung, 2003). Furthermore, such an option may not be as readily available for female or single faculty members with a new child.

Departments are not given any resources to address such assignment-leave tensions and thus faculty members may feel pressured not to use leave for risk of appearing to have special treatment. This was also a theme in Kirby and Krone's (2002) study. More critical for this study this scenario arises because of the larger policy environment. Without a national policy that mandates universities hire teaching substitutes for academics on leave or work in conjunction with universities to provide funding for the hiring of temporary substitutes, fragmented development of policy will likely continue.

In both of the previous examples power, or more accurately, control inhibited some of the action these faculty members took. Participant 4 had a similar experience when the director of her undergraduate program requested that she teach a bigger section in the spring, while she was pregnant, to fill in a space of a academic who had left. She felt that they were putting pressure upon her:

> My relationship with this one faculty member was strained because I was hearing through the department head that he felt that I was getting something extra that no other faculty member had received. And it felt like I was getting this pressure to teach this course in the springtime. [4]

Because of this situation with the program director and her participation in a committee, the department head decided to make the policy information more accessible in the department:

> Now, the new department head, he is putting this down in words. Partly because I'm on the [committee] now for the department, and I've told him this, that people don't know these policies. You need to make it explicitly clear. You know, ultimately department heads operate the way they want to operate. If they want to change a policy or flex a policy, they can. [4]

This example shows how a faculty member, in spite of her subordinated position, could exercise influence over how the policy is disseminated, increasing its accessibility. In this way, the practices within this department have changed: the action of this faculty member led to a change in the structures enacted. Thus, this is a positive transformation to practices through structuration. The director of undergraduate studies and originally the chair attempted to use the modalities of norms (for teaching) and distribution of teaching assignments (mobilizing the power of being the director of undergraduate studies), but the faculty member was able to shift the interpretative frame of how the policy is disseminated. However, this change happened within a single department, and even if similar changes happened in other departments it would not eliminate the fragmentation in the policy's coverage.

In further contrast, Participant 9 described how she and her department head arranged to have a substitute academic teach her class. However, the arrangement was only for part of the semester; when the leave expired she had to return. She expressed regret that it could not be arranged for the entire semester.

What we see across these cases is a wide divergence in faculty members' power to enact leave and the constraints they experience in using the policy. The early cases discussed in this section concern what other faculty would think about the potential leave taker's time off or a class not being taught, staying the hand of some faculty. Participant 4 experienced more direct pressure from the undergraduate director and the department head but was later able to reshape the practices in her department. And, in contrast to the earlier cases, the last faculty member was assisted by her department head from the beginning. Weststar (2012) in her study of academics' experiences with a parental leave policy in Canada (where there is a national policy for leave) also found academics would use course releases or teach extra courses upon return. The outcomes reported here suggest there might be increased variability in the American universities. While it may not be the only factor, the lack of a national policy likely contributes to the variability in outcomes.

In response to these conditions one of our participants suggested that the university could make teaching leave an umbrella policy that applied to all departments and would offer an automatic semester off teaching. This would greatly enhance work-family balance for faculty members, but as of yet the university has not given departments any resources—either in personnel or funds— to help departments when the faculty member is gone. Likewise, as argued earlier, there is no national policy that could augment the local policy. Department members are thus likely to resist any effort like this unless the university is willing to support the policy further or larger policy changes occur. The other option seen here is to encourage the kind of practices adopted in Participant 4's department. Considering the various power struggles around the policy, it is not clear how far this would diffuse across departments, however. Furthermore, departments with better representation of women faculty may face disproportionate financial costs if women take leave more than men—further complicating policy support at this institution (MacDermid Wadsworth S., personal communication May 5th, 2013).

Knowledge of the Policy

In structuration theory, knowledge is the basis for actors' actions. Yet, knowledge entails more than simple knowledge "about" things. Instead of just "having knowledge", Giddens' (1986) concept of knowledge has a practical and repetitive aspect to it. Knowledge is acquired through repetition and application to varying situations. Administrators need to be able to apply the policy to varying circumstances, and this is where the practical side of knowledge is crucial.

We found that actors' varying levels of knowledge affected faculty members' usage of the policy. The following two participants had their children in the summer. Administrators were not sure how to act:

> A person from the business office [walked] me through the process... and there would be times where I would have questions. And going through the process was relatively new to her as well, so she would need to go to talk to other people and come back... part of it was the weird thing about how there was that summer time where I wasn't getting paid anyhow. [1]

> There were several conference phone calls between [a business office employee] and [the central administrative employee] and myself to get questions answered. It seems like no one knew quite how it would all work and this issue of the summer versus the academic year. [8]

All employees of the university who meet the criteria are eligible for parental leave. Yet the policy does not address the issue of less than full year employment contracts, such as faculty who work for 9 or 10 months for the academic year and are left to rely on grants for salary over the summer. This is not the only issue, however. The number of calls and lack of clarity from the business office and the central administration office on how these STEM faculty members can use the leave indicate lower levels of knowledge in terms of enacting the policy. This may come from the newness of the policy, as Participant 1 mentions. These quotes also reveal, however, that even if the policy allowed for more action on the part of faculty to help balance work-life commitments, the level of knowledge of other relevant actors will affect how well they are able to take advantage of the policy. A length of time may be required to develop ways to apply the policy in different circumstances—either in individual actors or as organizationally shared knowledge. And all of this happens within a larger fragmented policy environment, such that staff members from one university have no standard national policy to refer to and instead must address variations across different departments and universities if they change jobs.

In other cases, levels of knowledge were mixed when it came to accessing the policy. Some of our participants described the process of filling out the paperwork as straightforward, while others encountered problems.

Participant 4, a social science faculty member and user of the policy, found that the business office in her department did not understand the policy and referred her to an administrative office:

> […] I had some questions about how it worked, and my business office didn't understand it completely. And that's when they referred me to talk with [a central office employee] directly and have this meeting. [4]

In contrast, many respondents reported being able to start the policy relatively easily, with the assistance of their business offices or other staff, as needed:

> I would say that it was easy... Simply because I didn't have to do a lot. My business office handled the hourly arrangements. [5]

> Yea, it was straightforward, and I followed the procedure, and when I [had] doubt I called the staff. [9]

> I think the positive part of it is [that] applying [to] this leave is relatively easy. And there are [is] not a lot of paperwork to fill [out], and our business office people are very friendly trying to help. [10]

Applying for leave or filing the paperwork may not be as complicated as navigating policy usage over the summer. Nevertheless, these examples demonstrate that if the other assisting actors have more practical knowledge about enacting the policy, they may be able to overcome limitations in the faculty members' knowledge (which limits their ability to act) and facilitate usage of leave. This has a slightly less than straightforward implication for issues, such as training. Simply knowing about the policy or its stipulations may not be sufficient for enacting it, especially when dealing with cases that diverge from the norm. Repeatedly enacting the policy and building up practical knowledge will help the other relevant actors assist the faculty member in enacting the leave. The text of the policy should likewise be clarified to address some of these circumstances, however it is likely other variations in circumstances will arise, requiring some level of practical knowledge. Weststar (2012), in reference to ambiguities about parental leave policies, suggests that while it may not be possible to address all potential scenarios that arise, setting some reasonable guidelines can give faculty members and other actors boundaries to work within. These boundaries can reduce disparities in outcomes. Grounding in a national policy would further augment such guidelines.

Sense of Community and Support

We have already seen how outside institutions and actors can impact policy usage. Additionally, faculty members' leave usage was also affected by the supportive action of colleagues and students. Faculty members reported a sense of community and support from other university members, beyond the prescriptions of the policy. Such action has been argued to be a strong factor in faculty members' job satisfaction (Dow, 2008; Callister, 2006; Jackson, 2004; Rosser, 2004; Peluchette, 1993).

When respondents were asked if taking leave affected their relationships with their colleagues, they stated the shared experience helped build stronger bonds, with some variation, between themselves and other faculty members:

> There's been a small bit of people being excited for you... Just that kind of small increase in the sense of community relationship as you're sharing this life experience together. [1]

> [It has] brought me closer to a number of them. Possibly all of my colleagues who are junior faculty have had kids during this time... we've all kinda bonded about that. Even though they're all men. But it's still very similar. Being a new dad to being a new mom when you're in the academic environment, you both have that kind of flexibility. [3]

> [...] we have several faculty members who are young, and they've all been through this process. People are very understandable of the situation. [9]

Support from department heads, colleagues, laboratory personnel and in one case a network for female faculty members were also highlighted by a number of our respondents:

> Yeah, for the most part, I have to say that this department has been very supportive. The people that I've talked to are very supportive of it, And my lab is very supportive, and they understand how much time it takes... and the department head definitely understands. [4]

> You know, having this network of support to help with the kids and even have a network of support to help with the science to help with my grad students and post docs, and so for me, it's really important that I have excellent people working with me... [8]

> [This university has] been very good, I feel like, at helping female faculty network with other female faculty outside their department, and that's very important, so I actually know enough women, more senior than myself outside of my department that I could certainly get confidential advice from... [7]

In developing bonds around the shared experience of having a new child and receiving support for both their academic and personal life, there appears to be a dual dimension to the sense of community and support faculty members enact. The support transcends the boundaries of academia to affect the personal (parenthood in the case of our research). Support for both of these roles can assist the depth and extent of leave a faculty member may take. Supportive behavior at work and for faculty members' personal lives can grant the leave taker more power or ability to use leave in the face of many aspects of faculty life that do not stop for leave.

Depending on the agents' actions and practices in the institution, the departmental community and support or lack there of can become a facilitator or inhibitor to taking leave. The phenomenon of "sense of community and support" is thus a consequence of both actions toward this university's work-family policy (structure) and views on parenthood as a faculty member. Departments with faculty members who accept parenting as an experience that does not need to be mutually exclusive with academic life are modalities, in this case interpretive and normative modalities (Giddens, 1986, p. 29), that can facilitate parental leave. Modalities are those means through which structures are reproduced in daily life. The structures reproduced/generated, or social practices engaged in stem from informal practices of colleagues and other members of a department.

This support, particularly when put into practice, can counteract a weaker national policy to some degree, and is in line with the liberal (political) philosophy that permeates much of American culture—that is highly individualistic with limited governmental (i.e. policy) intervention (Prasad, 2006; Bellah et. Al, 1985). Given the distributed and decentralized nature of American universities, however, it is likely such ground up support will remain fragmented.

CONCLUSION

Structuration theory provides a framework for analysis of policies' and practices' constraining and enabling effects, the transformation of such structures (policies and practices) as well as interrelations between different organizations involved with the structures. Below in Table 3 we outline the major components of structuration theory used in our analysis of the parental leave policy, to summarize this work as well as provide a theoretical framework for future studies of policies in academic STEM. As a broad theoretical framework, it can also be combined with other theories with more explanatory emphasis like Smith's (1999) institutional ethnography or Foucauldian notions of power (Beddoes, Schimpf and Pawley, 2013).

By applying Giddens structuration theory we were able to better understand how STEM academics are constrained and enabled by the policy and other informal structures, as well as by outside agencies and actors. Community and support between academics is not part of the formal policy; however, such actions could become regular and repeated leading to their own structures that assist or conflict with more formal structures. Our analysis suggests that the localized nature of the policy limits its effectiveness as STEM academics are subject to actions of other individuals or collectivities outside of the institutions boundaries. Positionality is particularly important for STEM academics. STEM research relies heavily on outside funding due to its expensive nature, thus making the effectiveness of local policies highly dependent on the actions and policies of agencies like the NSF in the United States. STEM research also tends to be centered around labs which complicates STEM academics taking leave locally, as the research of the lab cannot easily be stopped. Further research should explore NSF's changing parental leave policies' effect on STEM academics ability to take leave. Such additional complications for STEM academics further exacerbates women's underrepresentation. Beyond only

STEM a weak national policy (FMLA) provides limited resources (such as funds for temporary replacements) for the institution of interest.   Lastly the scattered nature of the policy means there are few standards or guidelines outside of the institution that can be referenced for decisions on how to apply the policy in individually unique circumstances.

We identified four themes that illuminate the situation with parental leave for STEM faculty members in this university: (1) misalignment between the parental leave policy and faculty members' job context, (2) management of teaching load, (3) knowledge of the policy, and (4) community and support for junior faculty members. These findings are in line with results from studies in other parts of the United States and across the globe (Weststar, 2012; Mercado Santiago, Pawley, Hoegh and Banerjee, 2011; Ja Shin, 2009; Waters and Bardoel, 2006; Ward and Wolf-Wendall, 2004).

Table 3: Structuration Theory – Summary of Application

Structuration Concept	Examples from PL Policy	Problematic Issues
Structures	Who the policy said could take the leave (rules) and funding for their leave (resources).	There are many ways in which the rules and resources do not meet the needs of academics in STEM. Such as lack of resources (funding) for course leave.
Structuration	Academic who changed how information was disseminated for leave policy in her department.	In light of above, much of the structuration observed in this study was reproduction of existing problems.
Modalities	Academic in example above changed how the policy was viewed through re-framing.	Before changing how the policy was viewed, the director of undergraduate studies used norms and power to assign roles to try to get the academic to teach another course.
Knowledgeability	Administrators familiarity with and experience with enacting policy for different circumstances.	Administrators did not always have the knowledge to enact the policy for the particularities of a case.
Positionality	Academic who was forced to finish article from journal.	Demands of outside actors, journals, funding organizations positioned in relation to academics often conflicted with the policy.

While much of the rest of the world has stronger national polices, the interaction studied here can nonetheless be used to guide other studies of national, local, and

institutional policy imbalance. Our analysis points to several fruitful research directions. Future work should incorporate structuration theory through the initial protocol instead of only being applied later during the analysis. For our own work we intend to follow up with interviewees about any changes to the practices and policy enactment in their departments. Additionally, future studies should examine other institutions to understand local and national imbalances in policy in the United States and other countries. The results of such studies can be used to inform policy administrators and policy makers about the extent to which the policy is meeting its intended purpose and how and where it might be modified. Finally, we note that while the codification of work-life balance polices begins to address barriers and inequalities in academic STEM, those policies are only a first step to confronting deeper entrenched discourses and cultural trends that perpetuate inequality.

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REFERENCES

AAUW. (2010). *Why so Few? Women in Science, Technology, Engineering and Mathematics.* Washington, D.C.: AAUW.

Bakian, A. V., & Sullivan, K. A. (2010). The Effectiveness of Institutional Intervention on Minimizing Demographic Inertia and Improving the Representation of Women Faculty in Higher Education. *International Journal of Gender, Science and Technology*, *2*(2).

Bailyn, L. (1993). *Breaking the mold: Women, men, and time in the new corporate world*. New York: Free Press.

Bailyn, L. (2003). Academic Careers and Gender Equity: Lessons Learned from MIT. *Gender, Work & Organization*, *10*(2), 137–153.

Beddoes, K. & Pawley, A.L. (2013). "Different people have different priorities": Work-family balance, gender, and the discourse of choice. *Studies in Higher Education*. DOI:10.1080/03075079.2013.801432

Beddoes, K., Schimpf, C. & Pawley, A.L. (2013). Engaging Foucault to Better Understand Underrepresentation of Female STEM Faculty. *120th ASEE Annual Conference & Exposition*. Presented at the American Society for Engineering Education Annual Conference, Atlanta, Georgia.

Bellah, R.N., Madsen, R., Sullivan, W.M., Swidler, A., and Tipton, S.M. (1985). *Habits of the Heart: Individualism and Commitment in American Life.* Berkeley, CA: University of California Press.

Berry, T. R., & Mizelle, M. D. (Eds.). (2006). *From oppression to grace: Women of color and their dilemmas within the academy*. Sterling, VA: Stylus Publishing.

Berryman, S. E. (1983). *Who will do science? Minority and female attainment of science and mathematics degrees: Trends and causes*. Rockefeller Foundation.

Bianchi, S. M., & Milkie, M. A. (2010). Work and Family Research in the First Decade of the 21st Century. *Journal of Marriage and Family*, *72*(3), 705-725. Bilimoria, D., Perry, S. R., Liang, X., Stoller, E. P., Higgins, P., & Taylor, C. (2006). How Do Female and Male Faculty Members Construct Job Satisfaction? The Roles of Perceived Institutional Leadership and Mentoring and their Mediating Processes. *The Journal of Technology Transfer*, *31*(3), 355-365.

Bird, S. R. (2011). Unsettling Universities' Incongruous, Gendered Bureaucratic Structures: A Case-study Approach. *Gender, Work & Organization*, *18*(2), 202–230.

Blair-Loy, M. & Wharton, A.S. (2002). Employees' use of work-family policies and the workplace social context. *Social Forces*, *80*(8), 813–45

Blair-Loy, M. (2003). *Competing devotions: Career and family among women executives*. Cambridge, MA: Harvard University Press.

Britton, D. M., Baird, C. L., Dyer, R. A., Middendorf, J., Montelone, B. A., & Smith, K. (2012). Surveying the Campus Climate for Faculty: A Comparison of the Assessments of STEM and non-STEM faculty. *International Journal of Gender, Science and Technology*, *4*(1), 102–122.

Callister, R. (2006). The impact of gender and department climate on job satisfaction and intentions to quit for faculty in science and engineering fields. *Management Faculty Publications*, *31*(3), 367-375 .

Ciccia, R., & Verloo, M. (2012). Parental leave regulations and the persistence of the male breadwinner model: Using fuzzy set ideal type analysis to assess gender equality in an enlarged Europe. *Journal of European Social Policy*, *22*(5), 507–528.

Collins, P. H. (2000). *Black Feminist Thought* (2nd ed.). New York New York: Routledge.

Creswell, J. W. (2008). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.

Dow, B. J. (2008). Does it Take a Department to Raise a Child? *Women's Studies in Communication*, *31*(2), 158–165.

Drago, R., Colbeck, C. L., Stauffer, K. D., Pirretti, A., Burkum, K., Fazioli, J., Lazzaro, J., & Habasevich, T. (2006). The Avoidance of Bias against Caregiving: The Case of Academic Faculty. *American Behavioral Scientist*, *49*(9), 1222–1247.

Evans, E., Grant, C. & Peskowitz, M.(Eds.). (2008). *Mama, PhD: Women write about motherhood and academic life*. New Brunswick, NJ: Rutgers University Press.

ETAN (2000). *Report on Science Policies in the European Union: Promoting Excellence   through Mainstreaming Gender Equality*. Brussels: European Commission.

Foor, C. E., Walden, S. E., & Trytten, D. A. (2007). " I Wish that I Belonged More in this Whole Engineering Group:" Achieving Individual Diversity. *Journal of Engineering Education*, *96*(2), 103.

Fox, M. F., Fonseca, C., & Bao, J. (2011). Work and family conflict in academic science: Patterns and predictors among women and men in research universities. *Social Studies of Science*, *41*(5), 715–735.

Fox, M. F. (2001). Women, science, and academia: Graduate education and careers. *Gender and Society*, *15*(5), .654-666.

Giddens, A. (1986). *The constitution of society: Outline of the theory of structuration*. Berkeley, CA: University of California Press.

Giddens, A. (1979). *Central Problems in Social Theory: Action, Structure and Contradiction in Social Analysis*. Berkeley, CA: University of California Press.

Glass, C., & Minnotte, K. L. (2010). Recruiting and hiring women in STEM fields. *Journal of Diversity in Higher Education*, *3*(4), 218–229.

Grant, J., Hatcher, T. and Patel, N. (2005). Expecting better: A state-by-state analysis of parental leave programs. Washington, DC: National Partnership for Women and Families. http://www.nationalpartnership.org/portals/p3/library/PaidLeave/Parental-LeaveReportMay05.pdf, 48-49

Haas, L. (2003). Parental leave and gender equality: Lessons from the European Union. *Review of Policy Research*, *20*(1), 89–114.

Han, W.-J., Ruhm, C., & Waldfogel, J. (2009). Parental leave policies and parents' employment and leave-taking. *Journal of Policy Analysis and Management*, *28*(1), 29–54.

Han, W.-J., & Waldfogel, J. (2003). Parental leave: The impact of recent legislation on parents' leave taking. *Demography*, *40*(1), 191–200.

Harper, E. P., Baldwin, R. G., Gansneder, B. G., & Chronister, J. L. (2001). Full-time women faculty off the tenure track: Profile and practice. *The Review of Higher Education*, *24*(3), 237-57.

Hartman, H., & Hartman, M. (2009). Do Gender Differences in Undergraduate Engineering Orientations Persist when Major is Controlled? *International Journal of Gender, Science and Technology*, *1*(1).

Hollenshead, C. S., Sullivan, B., Smith, G. C., August, L., & Hamilton, S. (2005). Work/family policies in higher education: Survey data and case studies of policy implementation. *New Directions for Higher Education*, *2005*(130), 41–65.

Hochschild, A. & Machung A. *The Second Shift.* (2003). London, England: Penguin's Books Ltd.

Hofferth, S.L. & Curtin, S.C. (2006). Parental Leave Statutes and Maternal Return to Work After Childbirth in the United States. *Work and Occupations*, *33*(1), 73–105.

Jackson, J. (2004). The story is not in the numbers: Academic socialization and diversifying the faculty. *Feminist Formations*, *16*(1), 172-185.

Ja Shin, H. (2009). Childcare Options in South Korea: Experiences and Perceptions of Female College Faculty. *NASPA Journal About Women in Higher Education,* 2, 122-141.

Kelly, E. L., Ammons, S. K., Chermack, K., & Moen, P. (2010). Gendered Challenge, Gendered Response: Confronting the Ideal Worker Norm in a White-Collar Organization. *Gender & Society*, *24*(3), 281–303.

Kirby, E., & Krone, K. (2002). "The policy exists but you can't really use it": communication and the structuration of work-family policies. *Journal of Applied Communication Research*, *30*(1), 50–77.

Kulis, S. (1998). Organizational Variations in Women Scientist Representation in Academia. *Journal of Women and Minorities in Science and Engineering*, *4*, 43–67.

Lane, K. A., Goh, J. X., & Driver-Linn, E. (2011). Implicit Science Stereotypes Mediate the Relationship between Gender and Academic Participation. *Sex Roles*, *66*(3-4), 220–234.

Lewis, J., & Campbell, M. (2007). UK Work/Family Balance Policies and Gender Equality, 1997-2005. *Social Politics: International Studies in Gender, State & Society*, *14*(1), 4–30.

MacDermid Wadsworth S., email message to author, May 5th 2013.

Mason, M. A., & Goulden, M. (2004). Do babies matter (Part II). *Academe Online*, *90*(6), 11–15.

Mason, M. A., & Goulden, M. (2002). Do Babies Matter? The Effect of Family Formation on the Lifelong Careers of Academic Men and Women. *Academe Online*.

Mayer, A. L., & Tikka, P. M. (2008). Family-friendly policies and gender bias in academia. *Journal of Higher Education Policy and Management*, *30*(4), 363–374.

McDonald, P., Brown, K., & Bradley, L. (2005). Explanations for the provision-utilisation gap in work-life policy. *Women in Management Review*, *20*(1), 37–55.

Mercado Santiago, M., Pawley, A.L., Hoegh, J. & Banerjee, D. (2011). Institutional Ethnography as a Method to Understand the Career and Parental Leave Experiences of STEM Faculty Members. *118th ASEE Annual Conference & Exposition*. Presented at the American Society for Engineering Education Annual Conference, Vancouver, Canada.

Monosson, E. (Ed.). (2008). *Motherhood, the elephant in the laboratory: Women scientists speak out*. Ithaca, NY: ILR Press/Cornell University Press.

Morrison, E., Rudd, E., & Nerad, M. (2011). Onto, up, off the academic faculty ladder: the gendered effects of family on career transitions for a cohort of social science Ph. Ds. *The Review of Higher Education*, *34*(4), 525–553.

The National Academies (2007). *Beyond bias and barriers: fulfilling the potential of women in academic science and engineering*. Washington, D.C.: The National Academies Press.

National Science Foundation (2013). Balancing the Scale: NSF's Career-Life Balance Initiative. Retrieved July 13th, 2013 from http://nsf.gov/career-life-balance/

National Science Foundation (2011). *Women, Minorities, and Persons with Disabilities in Science and Engineering: 2011. Special Report NSF 11-309*. National Science Foundation, Division of Science Resources Statistics, Arlington, VA.

O'Brien, M. (2009). Fathers, Parental Leave Policies, and Infant Quality of Life: International Perspectives and Policy Impact. *The ANNALS of the American Academy of Political and Social Science*, *624*(1), 190–213.

O'Conner, A. M., Gahn, S. W., & Bowen, B. S. (2012). Promotion of Faculty from Associate to Full Professor. *International Journal of Gender, Science and Technology*, *4*(1), 78–101.

Özbilgin, M., & Healy, G. (2004). The gendered nature of career development of university professors: the case of Turkey. *Journal of Vocational Behavior*, *64*(2), 358–371.

Prasad, M. (2006). T*he Politics of Free Markets: The Rise of Neoliberal Economic Policies in Britain, France, Germany, and the United States.* Chicago, IL: University of Chicago Press.

Peluchette, J. V. E. (1993). Subjective Career Success: The Influence of Individual Difference,   Family, and Organizational Variables. *Journal of Vocational Behavior*, *43*, 198–208.

Raabe, P.H. (1997). Work–family policies for faculty: How 'career-and family friendly' is academe? In *Academic couples: Problems and promises*, eds M.A. Ferber and J.W. Loeb, 208–25. Urbana: University of Illinois Press.

Rhoads, R. A., & Gu, D. Y. (2011). A gendered point of view on the challenges of women academics in The People's Republic of China. *Higher Education*, *63*(6), 733–750.

Rhoton, L. A. (2011). Distancing as a Gendered Barrier: Understanding Women Scientists' Gender Practices. *Gender & Society*, *25*(6), 696–716.

Rosser, V. J. (2004). Faculty members' intentions to leave: A national study on their worklife and satisfaction. *Research in Higher Education*, *45*(3), 285-309.

Schimpf, C., Mercado Santiago, M. & Pawley, A.L. (2012). Access and Definition: Exploring how STEM Faculty, Department Heads, and University Policy Administrators Navigate the Implementation of a Parental Leave Policy. *119th ASEE Annual Conference & Exposition*. Presented at the American Society for Engineering Education Annual Conference, San Antonio, Texas.

Sewell Jr, W. H. (1992). A theory of structure: Duality, agency, and transformation. *American journal of sociology*, 1–29.

Smith, D.E. (1999). *Writing the Social: Critique, Theory, and Investigations.* Toronto, Canada: University of Toronto Press.

Strauss, A. L. (1987). *Qualitative Analysis for Social Scientists*. Cambridge: Cambridge University Press.

Sullivan, B., Hollenshead, C., & Smith, G. (2004). Developing and implementing work-family policies for faculty. *Academe Online*, *90*(6).

Sümer, S., Smithson, J., Das Dores Guerreiro, M., & Granlund, L. (2008). Becoming working mothers: Reconciling work and family at three particular workplaces in Norway, the UK, and Portugal. *Community, Work & Family*, *11*(4), 365–384.

Tonso, K. L. (2006). Teams that work: Campus culture, engineer identity, and social interactions. *Journal of Engineering Education*, *95*(1), 25-37.

Tremblay, D.G. and Genin, E. (2010). Parental leave: from perception to first-hand experience. *International Journal of Sociology and Social Policy,* 30, 532-544.
United States Department of Labor. (2008). *The family and medical leave act (FMLA)*. Retrieved August 10, 2011, from
http://www.dol.gov/compliance/laws/comp-fmla.htm

Waldfogel, J. (1999). The Impact of the Family and Medical Leave Act. *Journal of Policy Analysis and Management*, *18*(2), 281–302.

Walters, J., & McNeely, C. L. (2010). Recasting Title IX: Addressing gender equity in the science, technology, engineering, and mathematics professoriate. *Review of Policy Research*, *27*(3), 317–332.

Ward, K., & Wolf-Wendel, L. (2004). Fear factor: How safe is it to make time for family? *Academe Online*, *90*(6).

Waters, M. A. & Bardoel, E.A.(2006). Work-family policies in the context of higher education: Useful or symbolic? *Asia Pacific Journal of Human Resources*, *44*(1), 67–82.

Weststar, J. (2012). Negotiating in Silence: Experiences with Parental Leave in Academia. *Industrial Relations*, *67*(3), 352–374.

Williams, J. C. (2004). Hitting the maternal wall. *Academe Online*, *90*(6).

Wolfe, J., & Powell, E. (2009). Biases in Interpersonal Communication: How Engineering Students Perceive Gender Typical Speech Acts in Teamwork. *Journal of Engineering Education*, *98*(1), 5–16.

Yin, R. (2003). *Case Study Research: Design and Methods* (3rd ed.). Thousand Oaks, CA: Sage Publications Inc.