AC 2011-1956: INSTITUTIONAL ETHNOGRAPHY AS A METHOD TO UNDERSTAND THE CAREER AND PARENTAL LEAVE EXPERIENCES OF STEM FACULTY MEMBERS

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Institutional Ethnography as a Method to Understand the Career 
and Parental Leave Experiences of STEM Faculty Members

Abstract

The majority of academic institutions have parental leave policies to help faculty members manage their career and personal life when they welcome a child as a new member of their family. These policies are gendered because they are experienced differently by women and men. Gendered patterns within organizations can influence on parental leave policies. Studying these structures can help us understand how gendered policies and benefits affect in the career and family life of faculty and staff members in ways that prescribe their experiences. Through the analysis of policy documents, in the context of faculty members’ experiences using them, we can see how institutions are structured in gendered ways, which might then yield different kinds of solutions to think about women’s underrepresentation in engineering.

One of the research tools that academic leaders can use to study their institutional structure is institutional ethnography, proposed by Dorothy E. Smith. This research method can help researchers identify and analyze important key issues in the daily lives of their faculty and staff members who have been directly or indirectly impacted through the structure or implementation of the institution's policies.

In this paper, we use institutional ethnography to investigate the parental leave policy of a Midwestern university with competitive science, technology, engineering and mathematics (STEM) programs; our initial findings are focused on the analysis of this policy and its implications in the career and daily lives of STEM faculty members. We ground this paper on prior work presented at ASEE in 2010.

Our data comes from 13 interviews of faculty and staff members in the time period of 2009-2010. Six interviewees are from STEM fields, three are administrators, and four are in non-STEM fields. The interviews covered the topics of faculty and staff members' experiences in understanding, using, or implementing the parental leave policy, its procedures, and the effect of its implementation on personal and career lives. Initial common themes identified in our analysis phase are discussed. Our participants' experiences will be discussed both in the context of the theoretical basis of institutional ethnography and Giddens' theory of structuration. The contribution of this article can help other STEM higher education institutions to expand their view on the benefits that institutional ethnography might provide to the success of their STEM faculty and staff members and, thus, the translation of this to better services to STEM students.

Introduction

Women and people of color remain underrepresented in STEM faculty positions both compared to the population of faculty at large and compared to the general US population. Much work exists to try to understand this underrepresentation. While many institutions try to remediate such disparities through educational programs on improving organizational climate and reduction of discrimination, we are using a different approach. We build on the work of Dorothy Smith who articulated the need to understand how policies, which comprise the
functional organization of institutions, structure social relations that result in women and people of color’s underrepresentation.

This paper presents preliminary findings of an institutional ethnographic research study that uses a parental leave study at a Midwestern university to explore gendered and raced social relations in STEM academia. The goal of this study is to identify disconnects between peoples’ experiences of the policy and the intent and structure of the policy partially to help the institution improve the policy’s procedures, and use these disconnects as a window into the gendered and raced nature of institutions where the policies may be mismatched with the lived experiences of those considered marginalized within it.

It is important to be clear that describing something as gendered is different from calling it “sexist,” just as describing something as “raced” is not the same as calling it “racist.” Institutions and career patterns have been built around the needs of people of specific genders without intentional sexism. For example, the timing of tenure was set at a time when all professors were men. It thus makes no allowances for the life cycles of people who might plan for pregnancy in their late twenties. This institutional practice was not necessarily set in order to discriminate against women (i.e. is not sexist); including women simply never occurred to those developing the tenure process because women were largely absent from the entire professorial equation. The structure of tenure, therefore, is gendered because its impact is experienced differently by people of different genders; similarly, something is raced when its impact is experienced differently by people of different racial groups, regardless of intent.

Parental leave policies are common at the majority of universities of America and often promise different benefits to men and women based on biological, historical, and cultural roles we believe women and men play in raising children. However, those biological, historical and cultural roles are clearly changing. We also see existing research that talks about women’s struggles to manage childcare responsibilities with faculty work responsibilities. Institutional ethnography can serve as an alternative research method to help direct institutional change towards improving working conditions for this underrepresented population.

This paper builds upon some of our work presented at the 2010 ASEE conference. In this paper’s first section, we describe the theoretical and research basis of institutional ethnography. This is followed by a summary of the parental leave policy at our study site. We then give an overview of the sociological theory that informed our analysis of the participants’ responses: structuration theory. Finally, we describe our methods and initial findings analyzing faculty and staff members’ experiences enacting, understanding, or administering the parental leave policy. This work, reported through this paper, helps bring a new method to engineering education researchers who continue to search for answers to women’s underrepresentation in engineering faculty positions.

**Institutional Ethnography**

Institutional ethnography, a research method developed by feminist sociologist Dorothy E. Smith, is a tool that researchers can use to identify the gendered and raced areas of an institution, and potentially to provide institutional leaders with guidance about how to better
align its structure (policies, rules, procedures, communication methods, and other operating procedures) for the benefit of all its members. Through the findings of an institutional ethnography, institutional leaders and policy makers can obtain critical information on how a policy may be biased against groups of people through identifying disconnects between the policies and the lived experiences of those who use them.

Smith\textsuperscript{18} proposed that we have to “begin in the actualities of the lives of some of those involved in the institutional process and focus on how those actualities were embedded in social relations, both those of ruling and those of the economy” (p. 31).\textsuperscript{18} This starts by interviewing people considered marginalized in different parts of a particular institution about their everyday life within that institutional system.\textsuperscript{4} The everyday life of the employees in an institution is only a fragment of what is happening in the entire institutional system.

Institutional ethnographers regard the lived experiences of people as the most valuable data in this kind of research because people are experts at operating within their institutions’ social relations which may be opaque to strangers; talking with people about how they navigate these social relations (which are often partially codified through policies and partly to how people apply those policies) can reveal a complex web of relationships between de facto and written policies. Smith\textsuperscript{18} and Campbell\textsuperscript{4} argue that “lived experiences” at work are often undermined and trivialized as qualitative data; however, these experiences have high value for identifying how social relations work together in the bigger social system of the institution.

Researchers examine social relations between users, department heads, business offices, and other personnel in order to help in the policy analysis.\textsuperscript{18} Such relations are often set up and codified around the lives of their members as set in the past;\textsuperscript{4,18} in other words, many universities’ policies and procedures were put into place when the majority of employees – staff and faculty -- in the universities were men. Through the legal battles of the 1970s many of these policies were acknowledged as discriminatory and modified to better fit an employee population of both men and women.\textsuperscript{5} However, Smith argued that some of these policies have lasting effects in the social fabric of our institutions, and that we can uncover these inequities through looking at the lives of marginalized people within the institution. In universities, women and people of color disproportionately still serve in the lower status, poorly paid positions\textsuperscript{2} and are also considered on the margins of most STEM-related faculty positions, certainly including engineering faculty positions. Therefore we intend to explore institutional structure through investigating the lives of STEM faculty members.

Although this paper does not treat racial issues at all (this will form some of our subsequent analyses), it bears noticing that many of the same arguments made above about gender can also be made about race. One of the strengths of this research method is how it can take an intersectional approach to the study of people’s actual lives, allowing for the study of race and gender (and sexuality, nationality, age, class, and so on) in a deep and thoughtful way in the context of underrepresentation in engineering.

\textbf{Giddens’ Theory of Structuration}
The term “structure,” within the social sciences, is a metaphor to describe “some part of a complex social reality as explaining the whole” (p. 2). Sociologist Anthony Giddens developed the theory of structuration in the 1970s. For Giddens, structures are “rules and resources, or sets of transformation relations, organized as properties of social systems” (p. 25). The social system is “reproduced relations between actors or collectivities, organized as regular social practices” (p. 25). Structuration, then, was defined as the set of “conditions governing the continuity or transmutation of structures, and therefore the reproduction of social systems” (p. 25). Sewell further explained:

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 just shape people’s experiences, but also people’s actions reconstruct or shape structures. Within this theoretical framework, structures are activated by humans who have vast knowledge about them. In other words, when individual people who have vast knowledge about a structure put into practice this knowledge (e.g. give training about it, advise employees, disseminate it through presentations or e-mails, etcetera.), this action activates the structure. The knowledge then is put into action. Moreover, action may lead to transformation of the structures and the system comprised of these structures: “And, if enough people or even a few people who are powerful enough act in innovative ways, their action may have the consequence of transforming the very structures that gave them the capacity to act” (p. 4).

The research question we focus in this paper is: how do institutionally generated texts shape STEM faculty and staff members’ experiences in ways that prescribe their ways of being? The parental leave policy is our main social system, situated along with the other systems that work together with it (such as FMLA, sick leave, unpaid leave, etc.). These systems seem to be rigid, but actually they reflect a series of processes in a state of change.

As an example, Kirby and Krone conducted a discursive study of talk around work-family policies conducted by bank examiners in “a governmental body that supervises and examines national banks” (p. 55). Their work was strongly informed by Giddens’ theory of structuration to analyze their interviewees’ views on work-family policies at their site of study, an equivalent to what we are researching in our site with parental leave policy.

In this study, Kirby and Krone argued that the discourse – the language and conversation employees use that reflects both communication and values – discussing work-family policies can shape the working environment in critical ways.

The way organizational members talk about work-family programs helps to construct reality as to the “meaning” of such programs in the organization, which in turn shapes the attitudes and behaviors of organizational members. Through the variety of social processes that occur in interaction, people create their own “structures-in-use” [...]. Individuals have the ability to “appropriate” structures in terms of how they use, adapt, and reproduce them [...]. Thus,
discourse surrounding work-family policies may serve to reinforce or undermine the policies as written. (p. 55)

Through this argument, Kirby and Krone described how employees’ quotidian chatter to each other within an institution results in a change in the structure of the institution through its policy:

 [...] what was said (and unsaid) in [employees’] discourse illustrated that both “micro” structures, such as coworker interactions, and “macro” level structures, such as traditional separations between public and private, gendered expectations, and orientations of individualism and meritocracy, impacted the system of how work-family benefits were constructed. These structures both enabled and constrained [employees] in determining whether or not to utilize work-family benefits. In particular, examining coworker interactions as structures illustrated the amount of influence peers had in this system. The power of coworker discourse goes beyond traditional conceptions of the structure of power interests in organizations. [...] Consequently, when [employees] feared the consequences from coworkers in using work-family benefits, there was not a widespread use of work-family policies. (p. 69)

In the same way, the discourse of faculty and staff members in a university can shape the working environment conditions that make parental leave be undermined or reinforced within the institution. Over time, this environment results in a shaping of the policy itself: while it may not affect the policy text immediately, the accessibility to enact this policy will be undermined if the majority of people in an institution maintain a discourse that causes people to choose not to invoke it. Thus the discourse surrounding parental leave may create an effect of change in the policies. Discourse can encourage a policy, transform it, or undermine it discouraging people to enact it depending on the situation. These discourses make the policy a process where it is in a continuous state of reinterpretation and redefinition through the institution’s social relations.

Parental Leave Policy

Our study institution’s parental leave policy applies to those employees who (1) are benefits-eligible, (2) are parents of a newborn child or an adopted child, (3) have been working at the institution for at least 12 continuous months. If the employee is the birth mother, she may receive at most 240 hours of paid parental leave. If the employee is the new parent of an adopted child or newborn he or she may receive up to 120 hours of paid parental leave. He or she can use the leave during the first 12 months after the child’s birth or adoption and it can be allocated in intermittent time slots, continuously, or via reduced work schedule; however, a supervisor must give the approval to enact the leave via intermittent or reduced schedule. The leave is usable immediately after the birth of a child. There are some exceptions in adoptions: the leave may commence before the adoption to fulfill the legal procedures of it. Graduate students employees are also eligible for parental leave. The policy runs in parallel with the Family and Medical Leave Act (FMLA) leave.

The Web page where the policy is publicly accessible has several sections providing general information about it (we have not referenced the Web page in this paper as a way to leave the
The Web page shows links to three important forms needed by the employee who wishes to enact the leave: (1) request for absence, (2) FMLA request and notice, (3) FMLA medical certification form. Terminology and its definitions, telephone numbers of important offices, and eligibility information, health insurance coverage, among other information about the basic steps (procedures) in order to enact the leave is provided in the Web page. It emphasizes that it cannot be used as a negative factor at the moment of judging the person to confer him or her promotion or tenure, for example. If the employee is the birth mother, a return-to-work statement must be issued by the health care provider and present it to either the supervisor or human resources office.

The parental leave policy Web page states that it can be utilized in conjunction with the different paid and unpaid leaves of the university; however, this information has to be consulted with either human resources or the eligible employee’s business office. It also states that the departments have to proactively manage the leave to (1) allow the employee to manage his or her new family situation and (2) distribute the teaching load in a way that does not affect excessively the other professors in the department.

Method

Our data comes from semi-structured interviews conducted between 2009 and 2010 at a Midwestern university. We interviewed policy users and policy-eligible employees in order to understand the steps they took to make use of the parental leave and what their hurdles were at all points: before enacting the leave, in the process of submitting the paperwork, during the leave, and after the leave. However, the institutional ethnographic method looks at the interactions between the lived experiences of policy users and the policy text itself. Indeed, the information coming from the policy document itself helped us see the important role of both the department head and the department’s business office. These administrators serve as guides for employees eligible for parental leave. We therefore interviewed administrators (related to either human resources office or individual business offices) in order to understand how they are facing these responsibilities and what are their suggestions in helping them succeed their responsibilities in the university.

Seven participants were recruited via snowball sampling, five via grassroots methods (e.g.: via workshops, focus groups, and other communications with potential interviewees), and one via a mass e-mail sent through Human Resources main office to all faculty users of the policy since October 2008 employed in STEM-related departments. Table 1 shows each participant’s (1) field of study (broken into science, engineering, or non-STEM areas), (2) position at the university, (3) category (user of the policy, administrator, or eligible but did not use it), and (4) gender.

Table 1: Participants’ Demographics

<table>
<thead>
<tr>
<th>Num.</th>
<th>Area</th>
<th>Position</th>
<th>Category</th>
<th>Gender</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1</td>
<td>Engineering</td>
<td>Assistant professor</td>
<td>Administrator</td>
<td>Female</td>
</tr>
<tr>
<td>A2</td>
<td>Non-STEM</td>
<td>Full professor</td>
<td>Administrator</td>
<td>Female</td>
</tr>
<tr>
<td>A3</td>
<td>Non-STEM</td>
<td>Staff</td>
<td>User</td>
<td>Female</td>
</tr>
<tr>
<td>A4</td>
<td>University-Wide</td>
<td>Staff</td>
<td>Administrator</td>
<td>Male</td>
</tr>
<tr>
<td>A5</td>
<td>University-Wide</td>
<td>Staff</td>
<td>2 Administrators in</td>
<td>Both Female</td>
</tr>
</tbody>
</table>
We provide disciplinary information because we recognize organizational climate and contexts are not the same across the “STEM” disciplines. In addition, we included gender in this table because childcare and its related labors are still gendered—still perceived as done mostly by women. We wanted to analyze how the gendered labor of childcare and childbirth affects the use of leave. Three of our participants were engineering faculty members: one user, one administrator, and one eligible. Three staff members serve STEM and non-STEM schools as well (note that case A5 had two persons in one interview). Three were science faculty members (A8, A9, A11). Four were from non-STEM fields: three users (A3, A10, A12) and one administrator (A2). However, we do not break participant demographic data down into more specific categories than this to help protect the identities of the participants. We are collecting participants’ ethnic identification, but do not include those data here also to protect their identities.

Interviews lasted approximately 45 minutes, and were digitally recorded and transcribed. The transcripts were pseudonymized to protect interviewees’ identities. Once the transcripts are pseudonymized, we sent each one to each corresponding participant to get his or her approval, rejection, or feedback on where we needed to modify or eliminate additional identifiable information.

Our main research question asks: how does the parental leave policy and procedures shape STEM faculty and staff members’ experiences in ways that prescribe certain ways of being, or measures of success? This will include the social relations among the different actors engaged in the administration, interpretation, and utilization of the policy. We used our main research question to help identify the initial parts of the interview upon which to focus, informed by Giddens’ structuration theory and the language of institutional ethnography research method to help us in the analysis. We identified broad themes first and then we compiled those that were equivalent to narrow themes using NVivo, a qualitative data analysis software package. The analysis reported here is preliminary; as we progress through our analysis, we will continued to be guided by methods texts on institutional ethnography as well as standard qualitative analysis methods texts.

Results

We describe each preliminary theme separately, and use quotes from our participants to illustrate each theme. Participant quotes are presented in boxes, each with a case identifier header, participant’s department, his or her job position, gender, and policy relationship category (user of the policy, eligible but did not use it, and administrator).
At the top of each box, either you will see the question that was raised with the participant’s response, or a conversation where the participant brought up the subject. After each box or at the end of each subsection, we have discussed this theme in the context of structuration theory.

Childcare

In these interviews focused on parental leave, two of our participants brought up the theme of childcare facilities on-campus. According to the university’s human resources Web site, the institution has four childcare facilities on-campus: (1) six weeks to pre-school, (2) two years old to pre-school, (3) six weeks to pre-school, and (4) three years old to pre-school. Table 2 shows the capacity of each of these childcare facilities referring to the numbering we used before:

<table>
<thead>
<tr>
<th>Facility</th>
<th>Age group</th>
<th>Capacity per age range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6 weeks – 2 years</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>2 – 3 years</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>2 ½ - 4 years</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>3 – 5 years</td>
<td>40 (two rooms holding 20 children per room)</td>
</tr>
<tr>
<td>2</td>
<td>2 – 3 ½ years</td>
<td>32 (16 in the morning and 16 in the afternoon)</td>
</tr>
<tr>
<td></td>
<td>3 ½ - 5 years</td>
<td>40 (20 in the morning and 20 in the afternoon)</td>
</tr>
<tr>
<td>3</td>
<td>6 weeks - 1 year</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>Infants/toddlers</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>1 – 2 years</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>2 years</td>
<td>20 (two rooms holding 10 children per room)</td>
</tr>
<tr>
<td></td>
<td>Pre-school</td>
<td>40 (two rooms holding 20 children per room)</td>
</tr>
<tr>
<td>4</td>
<td>3 – 4 years</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>4 – 5 years</td>
<td>14</td>
</tr>
</tbody>
</table>

The Web site also lists off-campus childcare facilities and other resources to guide parents in finding childcare. (For the purpose of maintaining the anonymity of the institution, we have not referenced Web resource where we obtained this information.) Despite the four on-campus facilities, two participants expressed a limited availability of childcare facilities on-campus.

A female assistant professor, case A9, used the metaphor of “unicorns and rainbows” to describe how childcare facilities appear to exist, but in reality either they are rare to find or cannot be found at all. She also noted that there are staff members who help parents locate childcare in town, but without way to assess the quality of those facilities. She suggested that the university should have a system to help the childcare facilities plan for additional resources in order to meet the high demand of these services on campus. Lastly, she felt that twelve weeks of parental leave was not enough to find suitable child care for her. In the box below, a dashed line was placed between conversations to point out that they were not sequential: they were identified in different areas of the text.

| A9 / Science / Assistant Professor / Female / User |
| Interviewer: So tell me a little about your-- how you arranged for childcare [?] |
Here we see a disconnect between the policy on leave and the reality of the surrounding community. The parental leave 12-week limit shaped this female faculty member’s experience in finding accessible childcare. Even though new parents have twelve weeks of leave, there is a disconnect between the time-frame of the leave and the waiting time of the childcare facilities on-campus. This disconnection shapes users’ experiences and time dedicated to their children in order to solve the problem of childcare when they return to work. However, this participant suggests a solution to this imbalance: a system that might help the plan of more child-care resources. So here she could be seen as trying to impact the outer structures of the policy in order to balance this disconnect.

The choice, then, for new parents of young children, is to either put children in facilities of unknown quality, or find an alternative childcare opportunity. This could be making use of a parent or other family who might live nearby, or rely on the resources of friends willing to help, or it could mean that one partner decides to drop out of the workforce to provide care. If this partner is the female part of a heterosexual couple, this could reinforce cultural gender norms about women’s role in childcare, or strengthen women’s reputation as being more focused on family than their career.

Kirby and Krone’s discourse analysis surrounding work-family policy introduced earlier revealed that the gendered labors of a society also affect the predisposition of taking parental leave. It was seen much more acceptable for women to take the leave than for men:

In addition to these perceptions of preferential treatment toward mothers versus fathers in infancy, [employees’] discourse indicated that even when children are older, it was still presumed to be the mother’s job to take leave for family responsibilities and the father’s job to stay at work as the provider. As a result, “there’s probably more understanding that if you stay home a day because a child is sick . . . I think maybe there’s more understanding if you’re a woman than if it’s a guy” (female [employee]). Thus, “taking time off as a male is
much more difficult than as a female parent” (male [employee]). In addition, working part-time was perceived to be more difficult for men than women. (pp. 61-62)

Structuration theory prompts us to ask a probing question at this point: in offering parental leave to new parents (at least of children too young to go to school), but without ensuring there are sufficient services for subsequent childcare that can be set up within this leave time, is the university partially (or functionally) encouraging partners to drop out of the workforce? Is this a discouraging factor for new parents in faculty positions? We do not have evidence of this yet; however, these social relations prompts us to think about their associated power relations demonstrating the value in using both institutional ethnography and structuration theory together in this analysis.

Case A7 was a policy-eligible male engineering faculty member who did not make use of his available parental leave. Even though his academic position is well compensated financially, he found out that off-campus childcare facilities to be prohibitively expensive. This person needed part-time rather than full-time childcare; however, the off-campus and on-campus facilities did not meet his needs for part-time childcare.

<table>
<thead>
<tr>
<th>A7 / Engineering / Assistant Professor / Male / Eligible</th>
</tr>
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<tbody>
<tr>
<td>Interviewer: Have you utilized any of Institute 1's-- or have you found any of Institute 1's services to help find childcare?</td>
</tr>
<tr>
<td>Participant: We are certainly aware of all the different Institute 1 options for childcare. Most of the ones we’ve looked at, because we just need part time care, are prohibitively expensive. So we’re sort of exploring alternatives. Because we really only need care maybe a few half days a week.</td>
</tr>
</tbody>
</table>

The structure of some of these on-campus childcare facilities may be based in the idea that all parents need a full-time childcare, based on the traditional 8-hour schedule of work that workers usually have; however, most faculty members are able to be more flexible with their time based on their particular circumstances. For example, a faculty member may work certain amount of hours at his or her university’s office, or at a research center, and other hours at home; therefore, they may not necessarily need full-time childcare.

In addition, parental leave seemed not to offer much to this faculty member because of his concern about teaching responsibilities: “I was concerned about finding people to fill in. (…) 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.” Therefore, he did not see the leave favorable in the context of his teaching duties. We will discuss more about his experience in a later subsection on how faculty members continue to work while on leave.

Access to Information about Parental Leave

Case A6 mentioned that the Web site is “difficult to navigate” and because of this she ends up looking at a printed copy of “the handbook” (departmental handbook) or talking to people.
There are two significant questions this example leaves us with. If a faculty member relies on this informal information source and gets inaccurate information which then may be propagated to yet more people, what are the consequences for how the policy becomes used by others? Secondly, how do people who do not have as much access to informal information networks obtain official information if it is not easily found? Women often find themselves numerically very isolated in engineering departments, and should they not have a colleague network to query about this, they may not be able to make comprehensive use of this benefit.

Case A2, an administrator, gave a suggestion in her interview to help the institution disseminate the accurate and official information through a better Web site user interface.

Here, an administrator is attempting to shape people’s access to the policy through her activating her knowledge about how other users have navigated through this process.

Case A9 echoed case A2’s concern about the dissemination of the information through the Web site. This female science faculty member, a user of the parental leave policy, described the Web site tendency to “send you around circles” and therefore not entirely useful when answering people’s problems.
Case A1, an engineering female administrator, also explicated that the Web site user interface and the Web site internal search engine algorithm may not be efficient when users and administrators wish to find particular information about the leaves.

<table>
<thead>
<tr>
<th>A1 / Engineering / Assistant Professor / Female / Administrator</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interviewer:</strong> Why do you say it’s not entirely clear [?] [to find something on her own, in the Web site]</td>
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<td><strong>Participant:</strong> Well, the leave policies, if you try to search for them, the searches don’t…isn’t the right word, they are not obvious searches. They might have changed this but when I was doing stuff they were not obvious searches. And so, like if you do a search for family leave, you will get the family leave act and you’re like ok cool, yeah, but if you do a search for any other type of thing you either need to know the name for that [...] or know specifically where to look.</td>
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Frequently in our interviews we heard how inadequate the institution’s Web site outlining these kinds of policies was for both policy users and administrators. The experiences of these administrators and policy users in accessing parental leave policy describe that the accessibility of the policy is not meeting the needs of the users for whom the policy was written. What is more, the existence of the policy document on the Web site is clearly no guarantee that the administrators or policy users are well-informed. These conclusions are echoed in Kirby and Krone’s research about the different discourses surrounding work-family policies in an institution:

> The current practice of providing factual information via the website only serves to illustrate that a policy is on paper—it does not guarantee that the policy will be embraced in practice. As part of this communication, Human Resources departments should focus on communicating that these programs are not just “women’s benefits” or only for those with children. (p. 72)

On the basis of the above analyses we identify a disconnect between the user-centered design of the Web site and the user’s experience navigating through the Web site.

**Faculty Members Continue their Work Even on Leave**

Through our conversations with parental leave policy users, we noted that faculty members continue working even when being on leave. There is a unique character to faculty members’ work compared to other professionals that make them unable to put work on pause; their research groups, advisees, grants, funding submissions deadlines, paper deadlines, among other external and internal academic-related work cannot go on hold. Some cases illustrate the nature of this continuous work.

Case A6 described that faculty work consists of research, teaching, and service. This female engineering faculty member continued the service component of her work by reviewing conference and journal papers while on leave. Note that she perceived the only difference between working on leave and a normal semester was that she did not have her teaching load and was working more at home:
Case A10 had a similar experience. She had to continue communicating with her research lab and responded to e-mails related to her academic job. In the general provisions section of the policy, it clearly states that the benefit of parental leave must not be a negative factor at the time of hiring, promotion, and other decisions affecting the employee’s status. Despite this written statement, this female user (Non-STEM) perceived that you still have to continue her work, as opposed to hold her work, in order to maintain your career as a researcher.

In contrast, case A7 (the same male engineering faculty member who we discussed earlier) arranged an “informal leave” rather than making use of the official parental leave benefit. He explained that he is “very committed to teaching” and that one of the reasons he did not enact the leave was his concern of finding a suitable person to take his teaching load.

This person refers to “finding people to fill in.” We have learned from some participants that they are expected to find people qualified to replace them in their teaching assignment before going on leave. In environments without overlap in expertise, and especially when teaching large sections of students without teaching support (as many institutions are increasingly-cash-trapped), colleagues may be reluctant to take on these additional (and often low status) responsibilities. This edict to find a replacement can be a challenging and overwhelming task, and perhaps may be prohibitive for some people to take the formal leave.
We continue with A7’s case, the faculty member re-organized his research projects to facilitate his informal leave:

<table>
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<tr>
<th>A7 / Engineering / Assistant Professor / Male / Eligible</th>
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<td><strong>Interviewer:</strong> So how did you manage your other work outside of teaching during that time?</td>
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<td><strong>Participant:</strong> What I tried to do really was for the various research projects I was working on, I really tried to get them all sort of-- a good way to describe it…I tried to get the house in order as we were getting closer and closer to the baby. To the due date. So for instance, making sure that all my research assistants had a list of tasks to work on while I was gone or while I wasn’t in as communication as much. […] But there was a range of other things too, that I was very cognizant about sort of getting things in order. Or making sure if I had any peer reviews to do. I had colleagues who were waiting on things from me…I tried to get all that in order. So I didn’t have it hanging over my head after our [child] was born.</td>
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The act of increasing his workload, in advance of the child’s birth, to meet both his work and life responsibilities was a form of accommodating a disconnect between the parental leave and his responsibilities in order to keep his career moving forward. This participant made use of the flexibility of his job and his way to organize his time above the required hours to make these arrangements: “I put in hours regularly well above like a 40-hour week. So I didn’t feel like there were any issues with just kind of informally working less hours during that period.” Even though he did not take the leave because of his concern for his teaching responsibilities, there were tasks that this participant needed to do in addition to his regular academic work in order to not impact his time away and return to work.

These three cases show that external structures associated with faculty work (such as grant proposals, conferences, journal submissions, mentoring research assistants, in the context of the greater research community), which faculty members must make use of for their promotion and tenure and to improve future teaching and research, continue to influence faculty members’ lives while on leave. Because of how academia is structured, faculty members are not able to make use of a full leave *per se*; therefore, effective parental leaves for faculty members should consider not only the internal structures of their working context, but also the external structures and pressures coming from the greater researchers’ community.

However, such informal leaves also benefit the institution (in that they do not have to finance the official leave), and indirectly maintains the inadequacies of the formal leaves.

**Additional Themes**

Our participants shared with us many suggestions and commentaries on how to improve the policy’s procedures and interpretation. The themes identified were (1) need to improve adoption benefits, (2) the way that the policy is written, (3) and adjusting pregnancy timing to better manage teaching loads.

*The Need to Improve Adoption Benefits*
Two cases brought the issue of the institution’s different benefits for newly parents of adopted children. One administrator in case A5 explained that the university does not offer paid adoption benefits although from time to time faculty and staff members ask about them:

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<th>A5 / University-Wide / Two administrators in one interview / Both female</th>
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| **Participant 1**: I think the one thing that we do hear from time to time in relationship to this is that we do not have paid adoption benefits. We don’t have any. So that does come up from time to time. Not necessarily in relationship to this paid parental, but in the area of parental leave and needs for family.  
**Interviewer**: What would be-- I guess what are adoption benefits?  
**Participant 1**: You can offer benefits for the [fees] that somebody would pay. There’s travel and fees and that kind of thing. And there are programs and there are, you know, a lot of employers that offer some tax benefits for some level of adoption benefits that you would provide.

Case A8, a male science administrator, also noted that adequate paid adoption benefits are missing from the university’s policies. The current policy offers employees the right to use the leave to accomplish legal processes of adoption; however, there are no other incentives to support these employees:

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<th>A8 / Science / Full Professor / Male / Administrator</th>
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| **Participant**: So, for example, there are -- there had been some emails about adoption benefits, for example, which is a separate issue if you like, as it -- that although the medical plan here pays for the expenses related to birth, there is no support of adoption.  
**Interviewer**: In the medical plan?  
**Participant**: Well, when you have -- people that you adopt can go on the medical plan, but the expenses concerned with the adoption, which are equivalent to the expenses in giving birth, are not covered here, whereas in many other universities they are, but that was a separate issue.

None of our participants had adopted a child; however, we can speculate that this drawback in university policy might create an additional financial and emotional burden to employees who adopt children.

*The Way that the Policy is Written*

Case A1, a female engineering professor and administrator, compared the parental leave policy of a different institution (Institute 2) to the institution in our study (Institute 1). She perceived the policy at our study site as unhelpful when people need to access specific information; indeed she used a discouraging metaphor to express the contrast between the policy at our institution of study and the policy at her institution of comparison:

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<th>A1 / Engineering / Assistant Professor / Female / Administrator</th>
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| **Participant**: Institute 2 [institution of comparison] one is very, like, written for eight graders and its, like if you are this person in this circumstance this is what you do to, this is the policy, this is what is expected. And ours is written for people from another planet
(Interviewer: laughs), for people from another planet.

From Kirby and Krone’s study, recall that the fact that a policy is written and exposed in a Web site does not guarantee that their employees will interpret it or apply it as they were intended. How the policy is written reveals underlying assumptions about how to communicate an important institutional benefit. There are “underlying codes” of society that can be inferred from the policy’s communication (p. 16). Frequently, more abstract and technical vocabulary is used because it may be assumed that all people employed in academic institutions will understand that level of vocabulary, although it may be particularly germane to legal contexts; obviously at institutions that employ a diversity of people with a diversity of educational backgrounds, this may not be a valid assumption. A disconnect between the need of readers to understand a policy and the language used within it can result in variable application of the policy, and one might argue that an inscrutable document may result in fewer people making use of it effectively.

This can be considered problematic from a variety of perspectives. Policies and benefits were ostensibly created to be used. Such benefits are supposed to be designed to maintain the working relationship between an institution and productive employees, and inscrutable or difficult to access policies may alienate employees, particularly those without the social or cultural capital to penetrate the legalese.

Adjusting Pregnancy Timing to Better Manage Teaching Loads

Case A8 shared with us that, in heavily research-oriented science department, where the teaching load is not as heavy as in liberal arts departments and summer teaching is not necessarily mandatory, faculty members were adjusting pregnancy to give birth over the summer or when they were not scheduled to teach. He also mentioned that, in the departments with fewer faculty members, covering teaching for a colleague out on parental leave can be problematic:

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<th>A8 / Science / Full Professor / Male / Administrator</th>
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| **Participant:** So for example, the STEM 8 department is dominantly, as a research department, I mean, a very large component of what we do is research, and therefore, our teaching loads is not as heavy as say they may be in liberal arts, and so, but even in Dept STEM 8, women were adjusting their pregnancies to try and give birth over the summer when we don't teach in the summer. We just teach in the spring and the fall and then summer our salaries are covered by our research funds and so forth.

[…] There are departments where there are only half a dozen faculty, for example, and therefore, if one person is not teaching, that puts a load on the other people and basically, the situation was that, in many places, was that the department head would demand that the pregnant female, and there can be problems in pregnancy and so forth, basically made up the teaching that they had missed.

In other words, generally, prior to their pregnancy, they would have to teach double or whatever, to make up. If they wanted to take off a semester, or take off any period of time, then they had to essentially increase their load in order to compensate for that. So at a time when -- because pregnancy is a burden, as well as a joy, I guess, they were
burdened with this extra thing.

The discussion of this administrator gives us an example of how the internal structures of the institution can critically influence the personal lives of faculty members. The issue of teaching load distribution within a department may indirectly control when and who can take parental leave. As we have already seen, Kirby and Krone\textsuperscript{11} analyzed the discourse regarding to work-family policies of workers “covering” for colleagues on leave, and found that workers do find that peer pressure functions to influence employees to avoid asking for accommodations related to work-family issues:

This peer pressure created a situation where coworkers did not want to be seen as getting special treatment. Thus, a female [employee] who had recently had a baby came to her [supervisor] “horrified that people were going to think that she was getting preferential treatment in [not traveling out of town for work], when in fact it was mere coincidence. She didn’t want anybody to think she was asking for special accommodations.” (female [supervisor]). (p. 65)

In our study’s case, considering that an academic career involves time-sensitive responsibilities such as grant deadlines, submission deadlines, research goals, and advising students. Pregnant (and therefore female) faculty members experience a key disconnect with the “work doesn’t stop” aspect of faculty life not covered by the parental leave policy. Most women will experience a physical aspect of becoming a parent while men do not, and the physical recovery from childbirth can be challenging even without maintaining their responsibilities that do not stop while on leave.

**Conclusions and Recommendations**

In this paper, based on our preliminary data analysis, we demonstrated the potential usefulness of institutional ethnography as a research method, and Giddens’ theory of structuration as a theoretical framework to explore the lived experiences of STEM faculty members. We presented some initial themes connected with our specific policy of focus, including (1) childcare, (2) access to information about parental leave, (3) faculty members continue their work even on leave, (4) adoption benefits, (5) the way that the policy is written, and (6) adjusting pregnancy timing to better manage teaching loads. We will continue exploring the support or contrast of these themes with other employees’ experiences as our analysis progresses.

The parental leave policy discussed in this paper is specifically of our university of study, thus, other universities have their own parental leave policies and different benefits. The preliminary findings and analysis of our study are specific to this Midwestern university with competitive STEM programs and cannot be generalized to other universities; nevertheless, a similar study can be conducted at other STEM universities to improve their own parental leave policies.

In a more general sense and with applicability to more institutions, we also see value in using Giddens’ structuration theory in concert with Smith’s institutional ethnography method for understanding the interaction between faculty members, administrators, and employee policies.
Bringing such social science concepts to an engineering education research audience is a novel contribution.

We can take some direct conclusions from this preliminary analysis about how the parental leave policy might be improved in our institution of study:

- Because of accessibility issues, transportation, financial limitations of employees, among other considerations, childcare facilities on-campus need to be expanded and a mechanism in the policy should be included to help faculty and staff members find these services before returning to work. The university can also make this process individualized to understand better faculty members’ childcare needs. In the case of employees who wish to adopt a child, parental leave does help the employee to take time off to accomplish the legal procedures to adopt a child; however, the university should consider offering financial incentives to support them.

- Online accessibility of the policy should be fast and easier for users to find policy-related answers through a user-friendly design. Moreover, policies should be edited (or written in the first place) for broader and more diverse audiences to ensure its equitable and proper interpretation.

- Parental leave policy should have a separate clause to cover the labor context of faculty members. External circumstances such as grant submissions, paper deadlines, conferences, and research group advising influence faculty time on parental leave. More research about the labor of STEM academics need to be done to consider additional benefits to professors who enact parental leave, but need to continue certain academic tasks during it. In addition, because of our early analysis, we have not analyzed the implications of parental leave in promotion and tenure.

The disconnects between the written policy and the people who use the policy may function to make careers in academia difficult for faculty deciding whether or not to expand their family. There is tacit knowledge embedded in the process of enacting the parental leave policy, forcing faculty members to rely on their department heads or administrators for navigating it effectively. Without the right network of people to master the process, faculty members may risk missing out on benefits to which they have a right. This gap may translate to more difficult institutional structures that impact the recruitment and retention of minorities, particularly women in STEM faculty positions. As we pursue our subsequent analysis, we will explore the disconnects that this paper has helped reveal in hopes that we can better understand how institutional structures may maintain the gendered character of STEM programs situated in universities.

Acknowledgements

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