You, Me, or Her: Leaders' Perceptions of Responsibility for Increasing Gender Diversity in STEM Departments

Sara I. McClelland[1] and Kathryn J. Holland[1]

Abstract
We examined how university leaders described what and who needed to change in order to increase the representation of female faculty in science, technology, engineering, and math (STEM) departments. Thirty-one (28 men and 3 women) STEM departmental chairs and deans at a large, public university participated in semi-structured interviews. Data were examined using both qualitative and quantitative procedures. Analysis focused on participants' descriptions of responsibility for changes related to gender equity. Using the distinction of high versus low responsibility, themes were examined for their qualitative characteristics as well as their frequency. Leaders who exhibited high personal responsibility most frequently saw themselves as needing to change and also named their male colleagues as concurrently responsible for diversity. Conversely, leaders who exhibited low personal responsibility most frequently described female faculty as responsible and described women's attitudes and their "choice" to have a family as obstacles to gender diversity in STEM. We argue that the dimensions of high and low responsibility are useful additions to discussions of leadership, workplace diversity initiatives, and gender equity more broadly. To this end, we provide several methodological tools to examine these subtle, yet essential, aspects of how diversity and change efforts are imagined and discussed.

> Women can only do so much. We can teach and mentor well, open doors when we have some institutional power, advocate for change in admission and harassment policies, for example. But nothing will really change unless and until more of our male colleagues begin to use their male privilege in very different ways. The burden clearly rests with them, and I hope that they assume the responsibility.
>
> Professor of Philosophy Peg O'Connor, 2013

Research has helped us understand the various attitudes, structures, and biases that systematically reduce the number of women and/or the importance of women in workplace environments (Eagly & Carli, 2007; Powell & Graves, 2003). For example, studies of unequal earnings (Feder & Levine, 2010; Murphy, 2005), sexual harassment (Fitzgerald et al., 1988; Ilies, Hauserman, Schwochau, & Stibal, 2003), and mentoring (Ragins, 2007) have helped to highlight the institutional mechanisms that consistently impede gender equity in the workplace. However, as the quote above reminds us, a remaining question is the notion of responsibility; in particular, the issue of assuming responsibility for making changes—both personal and institutional—necessary to achieve gender equity. In other words, when an individual or an organization decides to address the under-representation of women, whose behaviors, attitudes, and belief systems are imagined to be in need of changing?

The current study examined how leaders at a large public university approached the issue of increasing gender diversity in a university's faculty. The participants each worked as chairs or deans within science, engineering, and medicine units (which fall within the broad umbrella of STEM: science, technology, engineering, and math). Each of these areas has historically had low representation of female faculty in the United States (Hill, Corbett, & St Rose, 2010; Settles, Cortina, Malley, & Stewart, 2006). We examined participants' attributions of responsibility for making changes related to gender diversity and how leaders explained, and

[1] Departments of Psychology and Women's Studies, University of Michigan, Ann Arbor, MI, USA

Corresponding Author:
Sara I. McClelland, Departments of Psychology and Women's Studies, University of Michigan, 530 Church St, Ann Arbor, MI 48109, USA.
Email: saramcc@umich.edu

at times tried to address, the often very small number of female faculty in their units. Building on Brickman et al.'s (1982) model of responsibility, articulated in their model of Helping and Coping, we used thematic analysis strategies (Braun & Clarke, 2006) to interpret several dimensions of responsibility. In addition to participants' own sense of personal responsibility, we examined how they allocated responsibility to female faculty and male colleagues. This analysis enabled us to examine how responsibility for changing inequity in the workplace rested on various shoulders—often in deeply unequal ways.

The departmental leaders we examined in the current study were part of a university-wide program, known as ADVANCE, that aimed to increase the number of women in STEM departments. The ADVANCE program, sponsored by the National Science Foundation (NSF), aims to recruit and retain female faculty in U.S. STEM departments and improve the climate for women in these fields. The environments provided by diversity programs such as ADVANCE offer a unique opportunity to examine how individuals respond to and (at times) enact change. What happens, for example, when equity initiatives, such as ADVANCE, ask individuals to adopt new behaviors that require an ongoing negotiation with their own perceptions of gender inequality? This question shifts the focus away from examining women's experiences of marginalization in the workplace. Instead, this question focuses on examinations of how leaders imagine change, responsibility for change, and women's and men's roles within change efforts.

Women in STEM

Women have increasingly joined the faculties of academic departments across universities since the 1980s (Kalev, Dobbin, & Kelly, 2006; Riger, Sullivan, Stokes, & Raja, 1997), but disparity in female representation remains, especially at the tenure-track level and most dramatically in the rank of full professor. The percentage of women being awarded a PhD in science-related fields exceeds 50% in some disciplines (e.g., biological sciences, 53%; psychology, 70%; National Science Foundation [NSF], 2010) but quickly shrinks as women move through the established touchstones of an academic career (Glazer-Raymo, 1999; NSF, 2010). For instance, women hold only 38% of tenure-track faculty positions (NSF, 2010). When data from 4-year university STEM departments are aggregated, only 25% of the tenured faculty positions are held by women (NSF, 2010). What this number does not reveal is that in some fields, female faculty hold as few as 10% of the tenured positions (e.g., Engineering).

Researchers, including those in psychology and sociology, have offered several compelling explanations for why women remain under-represented in STEM fields. These explanations vary widely, including women's self-perceptions, others' perceptions of women, and institutional barriers. For instance, biased and sexist beliefs can impede women's advancement in these fields (Moss-Racusin, Dovidio, Brescoll, Graham, & Handlesman, 2012; Nemiro, Hacker, Ferrel, & Guthrie, 2009). Some have argued that gender schemas organize and produce assumptions about women's capacity to be successful scientists (Valian, 1998, 2005, 2007). Eccles (1986, 1987, 1994), for example, found that the underrepresentation of women in STEM careers may be a consequence of gender-role socialization, creating psychological processes (e.g., performance expectations) that limit women's success.

Other lines of research have examined institutional policies that enhance or hamper a woman's advancement within the institution once she is hired (Acker & Armenti, 2004; Prokos & Padavic, 2005). These include studies of hiring and promotion rates within the university or within a field of study (Glass & Minnotte, 2010). In addition, others have identified inequitable resource distribution within the university as a major factor that inhibits women's academic advancement (Bailyn, 2003; Hopkins, 1999a, 1999b; Massachusetts Institute of Technology, 1999). In large part, this growing body of research has concentrated on the structural obstacles that stand in the way of women entering historically male-dominated fields (Hoffman-Kim, 1999; Kitts, 2001; Yedidia & Bicke, 2001). Institutional interventions, such as the NSF-sponsored ADVANCE initiative, have been implemented to correct this gender imbalance. ADVANCE facilitates women's advancement in STEM departments through providing material resources, training faculty about gender bias in hiring and retention, and monitoring departmental climates (Stewart, Malley, & LaVaque-Manty, 2007).

These arguments have highlighted the need for ensuring equal treatment in all areas of scientific professions, from revealing salary discrepancies to identifying hiring and promotion patterns that continually impact gender distributions within departments. Overall, these studies have revealed the negative effects of discriminatory practices and climate on women in STEM fields. However, this work has not yet fully addressed the psychological processes that characterize individuals whose position requires them to support initiatives related to gender diversity—for example, leaders who are asked to change their attitudes and/or their workplaces to address the relative absence of women in these departments. Understanding the psychological processes of these situations involves, in part, understanding how those in leadership envision the issue of responsibility for organizational diversity.

Organizational Diversity

Organizational diversity is increasingly recognized as an organizational asset. For example, having diverse personnel has been related to organizational outcomes such as stock price value (Richard, Barnett, Dwyer, & Chadwick, 2004; Roberson & Park, 2007). Moreover, leaders' beliefs and experiences also seem to play an important role in how they

implement diversity efforts (Stevens, Plaut, & Sanchez-Burks, 2008). For example, a manager who sees diversity as central to his or her organization's effectiveness may be more likely to actually implement management practices that support diversity (Waldman & Siegal, 2008; Yang & Konrad, 2011). These empirical insights underscore the role of organizational leaders in making change in their workplaces.

Historically marginalized groups (such as women of color, White women, and men from under-represented groups) consistently show more support for diversity efforts (Avery & McKay, 2006; Yang & Konrad, 2011). However, researchers have suggested that other factors, such as a person's beliefs (e.g., thinking diversity is important, feeling prejudiced towards social groups), may be better predictors of endorsement of diversity programs than an individual's demographic group membership (Avery, 2011). In their study of master of business administration students, Martins and Parsons (2007) found that women who believed gender was an important aspect of their identity rated organizations that made efforts to "bolster working women" to be more attractive, whereas this effect was not seen in women who reported lower gender centrality (i.e., gender was less important to them). These studies suggest that individuals' attitudes and beliefs about gender predict their valuation of diversity better than their sex/gender (i.e., simply being a woman or man). In the current study, we propose that beliefs about responsibility may also play an important role in leaders' perceptions of diversity.

Responsibility for Diversity

Responsibility can include several components including moral and legal standards of right and wrong, a sense of obligation, and concern for outcomes (Bass & Bass, 2009; Voegtlin, 2011; Winter, 1991). Individuals may "feel responsible" when they act on their own initiative and/or are responsible for the success of others (Winter, 1991). According to Voegtlin (2011), "responsible leaders" consider their employees' interests by doing such things as allowing employees to have a say in decision making and weighing the interests of others, including employees, local community members, and shareholders. Negative organizational outcomes, such as ineffectiveness and job dissatisfaction, may in fact result from leaders' rejection or inappropriate delegation of responsibility (Bass & Bass, 2009). In addition, the issue of responsibility is further complicated because leaders are often asked concurrently to take on, relinquish, and delegate responsibility as part of their position (Bass & Bass, 2009). In short, responsibility is a key organizational dynamic, and research has demonstrated that leaders must have the desire, capacity, and determination to enact change in their workplace (Combs, 2002; Young, Madsen, & Young, 2010).

Perceptions of responsibility have been found to play an important role in individuals' understanding of prejudice and discrimination and how they respond to both (Kaiser &

Miller, 2001; Major, Kaiser, & McCoy, 2003; Swim, Aikin, Hall, & Hunter, 1995; Swim & Hyers, 1999). Thomas and Plaut (2008) argued that a factor contributing to resistance to organizational diversity efforts may be a lack of "personal responsibility" for discrimination. In other words, in order for organizational members to welcome and embrace diversity efforts, they need to both recognize discrimination when it occurs *and* feel the need to do something about it. Other research has suggested that awareness and attitudes about diversity are important but not sufficient to incite and sustain change (Buttner, Lowe, & Billings-Harris, 2006; Zawadzki, Shields, Danube, & Swim, 2014). For example, Buttner, Lowe, and Billings-Harris (2006) studied deans in a U.S. business school and found that awareness of diversity affected attitudes towards diversity initiatives, but that it was their sense of accountability that was most important for actual implementation of these initiatives. Kalev, Dobbin, and Kelly (2006) similarly found that organizational structures establishing a responsible party, such as a diversity task force, were most effective at increasing managerial diversity in corporations. Across these studies, researchers have found that diversity in organizations is created and maintained through establishing responsible parties, holding leaders accountable for change, and fostering a sense of personal responsibility in organizational leaders who are tasked with making change.

In the current study, we examined three relevant ideas from this literature—responsibility, diversity, and gender—in order to better understand the dynamics of how change efforts take root and grow. More specifically, we examined if leaders in STEM fields felt a high or low sense of personal responsibility for gender diversity within their units and what the effects of this personal investment might mean for diversity change efforts.

Model of High and Low Responsibility

An influential example of research on responsibility is Brickman and colleagues' (1982) model of Helping and Coping in which they developed a model that accounted for attribution of responsibility for a *problem* versus attribution of responsibility for a *solution*. Within these two dimensions, the authors articulated differences between experiencing a sense of high versus low responsibility. For example, nurses working in a hospital would be considered to have low responsibility for having created a patient's problems but high responsibility for helping to solve that patient's problems. And, conversely, nurses would attribute high responsibility to themselves to help solve each patient's problems but low responsibility to the patient to solve his or her own problems. Brickman and colleagues (1982) argued that the four dimensions of responsibility in their model enabled researchers to more clearly see how individuals imagined their own level of participation in changing themselves and/or the status quo. Importantly, they also stated that these processes of attribution were often difficult to see:

People may not even be aware of the assumptions they have made about responsibility for problems and responsibility for solutions. But they cannot, as social actors, avoid making such assumptions, and the assumptions they make in turn have consequences both for their own behavior and for the behavior of others they influence. (Brickman et al., 1982, p. 370)

In short, their model usefully highlights the importance of how social actors perceive their own sense of responsibility for a problem or a solution, whether actors perceive themselves as having a lot or a little responsibility for both, and how decisions that emerge from these individual assessments reflect these prior assumptions.

We take up Brickman and colleagues' (1982) model here because it offers a compelling way to examine how university leaders imagined themselves and others as potentially responsible for addressing gender equity within their units. We, in particular, adopt the model's focus on distinguishing a sense of high versus low responsibility as a strategic way to assess the characteristics of responsibility in a real-world setting—and to see how the distinction between these two groups might offer additional insights into issues surrounding the persistent absence of female faculty in STEM departments. Much like Brickman and his colleagues, we focused on using the lessons learned about the psychological dynamics of responsibility to enhance social change in an applied context.

Current Study

Our first research aim was to examine the characteristics of departmental leaders' expressions of personal responsibility for gender diversity in their departments; in particular, we focused on the distinction between the characteristics of high and low responsibility. Second, we sought to understand how leaders attributed responsibility to other groups, in particular, other men and women in their departments. These first two aims involved a qualitative examination of interview material to explore the characteristics and patterns of participants' attributions of responsibility. Our third aim was to examine whether leaders' high or low sense of personal responsibility played a role in how often they attributed responsibility to male and female faculty in their departments. This third aim concerned the frequency of attributions and, therefore, involved a quantitative examination of group differences between leaders with high and low personal responsibility. Because the objective of our study was descriptive and exploratory, we made no predictions.

Method

Sample and Procedures

In order to examine how university leaders imagined their role in changing workplace environments for female faculty, we pursued a secondary analysis of interview data that were collected at one of the ADVANCE university sites. At the time of data collection in 2004, the ADVANCE program had been in place for 2½ years at the university. Semi-structured interviews were conducted with 26 STEM department chairs and 5 deans who either had directly received ADVANCE-based interventions or were part of the target group that was eligible for receiving support. The department chairs and deans worked in engineering ($n = 11$), natural sciences ($n = 9$), medicine ($n = 6$), and small colleges within the university (e.g., pharmacy; $n = 5$). Every department chair and dean who fell within the scope of the ADVANCE initiative at this university was interviewed, except for one chair who declined to participate.

In terms of the sample's demographic characteristics, 90% of the sample was male ($n = 28$ of 31). Participants' average age was 55 years (ranging from 39 to 86). Two departmental chairs were Asian-American; the rest were White. The number of years that leaders had spent at the university ranged from less than 10 ($n = 11$), to 10–19 ($n = 8$), to more than 20 ($n = 12$) years. There was also a wide range in the amount of time that participants had served as departmental chair or dean, ranging from less than 5 ($n = 20$), to 5–9 ($n = 6$), to more than 10 ($n = 5$) years. Looking across the units included in the sample, female faculty members were under-represented. On average, 16% of the faculty members in the sampled departments were female (ranging from 0% to 47%). Of the 24 units included in the sample, 18 (75%) of the departments' tenured or tenure-track faculty comprised less than 20% women.

The interviews were designed to assess the chairs' and deans' familiarity with the ADVANCE initiative and its components. Interview questions included, "What do you know about the aims of ADVANCE?" and "Has your department used any of the resources provided by ADVANCE?" The statements analyzed in the current study were volunteered by participants and were spontaneously offered within the context of these interview questions. There were no questions in the interview protocol that asked about issues related to the under-representation of women in science, no questions concerned the role of female and male colleagues, and similarly, participants were never asked about whom they felt was responsible for diversifying STEM departments. In other words, the material analyzed here was provided while answering questions about ADVANCE programming and implementation; participants were never asked about hiring of faculty (male or female) or asked to provide rationales for the low rates of women in their departments or schools. Interviews lasted for approximately an hour and were conducted in the participant's office by the first author (McClelland) who had no other role in the ADVANCE initiative except to conduct this set of interviews. Interviews were tape-recorded and transcribed for analysis.

Data Analyses

Because the research aims of our study included both qualitative and quantitative questions, several types of analysis

were performed. Qualitative methods were used to address the first two aims of the study and quantitative methods, including frequency counts and *t*-tests, were used to address the final aim of the study. First, we examined the characteristics of high and low personal responsibility discourses that participants provided when describing their own role in creating solutions for the under-representation of women in STEM. Second, we examined the qualities of responsibility attributions that participants made to others. Third, we examined the frequency of these attributions to see if there were differences in how often participants attributed responsibility to male and female faculty. The frequencies of interview codes were examined and analyzed using *t*-test procedures using SPSS, Version 20 (2011).

Characteristics of responsibility. Thematic analysis strategies (Braun & Clarke, 2006) were used in order to consider several layers of participants' descriptions, including how individuals spoke about gender diversity, what was left unspoken, and patterns within participants' descriptions. A constructionist approach in the analyses focused on both the content of the interviews (i.e., what someone said) and the latent information provided in the interviews (i.e., what information was not spoken about, how meanings were derived in statements; Ussher, Sandoval, Perz, Wong, & Butow, 2013). This process allowed for an analytic approach that examined leaders' descriptions with a focus on the "broader assumptions, structures and/or meanings" underpinning the content of what participants said and the structures of how ideas were communicated (Braun & Clarke, 2006, p. 85). This approach was also useful because it enabled an investigation of subtle linguistic biases and how these play a role in the maintenance and transmission of stereotypes, which served our research questions in the current study (Wigboldus, Semin, & Spears, 2000).

We found that unit leaders did not describe themselves as responsible for the *problem* of gender inequity in STEM rather only as responsible for *solutions*. There were, however, important differences in how leaders described their personal responsibility for creating solutions. As a result, we developed *high* and *low* responsibility categories to better understand the more subtle aspects of this type of responsibility. We focused on how participants imagined their own responsibility for solving the under-representation of women in STEM as well as when responsibility was minimal or absent. Although leaders did not describe themselves as responsible for creating the problem of gender inequity, they did describe others as responsible for creating the problem as well as responsible for creating solutions to fix it. With this in mind, Brickman and colleagues' (1982) problem/solution dichotomy was used when coding unit leaders' descriptions of others. This allowed us to examine how participants' discourses distributed responsibility both to themselves (i.e., "I need to change") and to others (i.e., "You need to change"). Although we recognize that how someone speaks

about gender diversity is not necessarily reflective of their actions, we argue that the relationship between speech, beliefs, and the potential for change are nevertheless essential to understand (Glasman & Albarracín, 2006; Searle, 1969).

Coding procedures. Thematic coding procedures as outlined by Braun and Clarke (2006) were followed. Coding procedures were carried out by the interviewer, meaning that the coder was familiar with the interpersonal elements of the interviews, including gesture, tone, and affect. In addition, a second coder coded a subsample of interview data to assess interrater reliability. This was done by having the two coders both code approximately one third of the interview excerpts; the level of agreement between coders was excellent (Cohen's κ = .80; Cohen, 1960). Differences were resolved through discussion. The analysis of interview transcripts included several steps: First, interview transcripts were read several times during which time themes were identified concerning hiring and retention of female faculty, leadership practices, and beliefs regarding gender diversity. Second, these themes were refined to capture how other persons were described as responsible for gender diversity in the interviews. Finally, the interview transcripts were coded using the coding software Dedoose, Version 4.5 in order to aid in interpretation of the interview material.

In order to identify what counted as an articulation of responsibility, criteria were established to determine how descriptions of responsibility would be defined and operationalized during the coding procedure. We developed a set of theoretical guidelines that provided ways to recognize several layers of the phenomenon of responsibility. Using Brickman et al.'s (1982) model of responsibility as a starting point, we examined the dimensions of high and low responsibility. "High responsibility" was operationalized as those moments when participants communicated feeling some personal responsibility for increasing diversity (i.e., responsibility for a solution). For example, this might include a participant's description of feeling motivated by learning something about gender in the workplace (e.g., "I am shocked by the situation that women face and feel motivated to change it"). These descriptions of personal responsibility may or may not have resulted in action on the participants' parts; however, in this analysis, we were concerned with the description of attribution of personal responsibility in this category. In other words, did the participant describe himself or herself as capable, interested, and/or motivated to address gender diversity?

Conversely, "low responsibility" was operationalized as moments in the interviews where participants communicated an absence of personal responsibility. In these moments, participants positioned the locus of control as residing outside the self (Lefcourt, 1982) by diminishing their personal role in making change. Examples of low responsibility included statements such as, "It will take time for things to change for women" or "We've changed a lot so I think we're fine now" or "When the Dean gets on board, things will change." Low

responsibility may have been present for several reasons, including the speaker not seeing himself or herself as capable, interested, or motivated to make a change or even that the participant did not see the need for change. Low responsibility did not indicate that the speaker was not aware of the need for gender diversity or was narrow-minded. Rather, the low responsibility code simply indicated that during the course of explaining an example or an issue regarding female faculty, the speaker did not place themselves in the driver's seat of change.

Within a single interview, participants often moved between high and low responsibility discourses. In order to examine potential group differences, we assigned participants to a single category based on the frequency of high and low responsibility codes within their interview. If more than 50% of the descriptions of responsibility within an interview were coded as high responsibility, that interview was categorized as *high* ($n = 12$). Conversely, if fewer than 50% of the attributions were coded as high, the interview was categorized as *low* ($n = 19$). There were two interviews that included no references to the department leaders' own responsibility. These were categorized as low responsibility, given the absence of any self-attributions of responsibility.

High/low comparison. In total, 449 instances of responsibility attribution were identified in the interviews; these included participants' descriptions of their own responsibility ($k = 243$), that of female faculty ($k = 111$), and their male colleagues ($k = 95$). We compared the number of times participants in the high and low groups made references to their own responsibility. Although more participants were categorized as low responsibility ($n = 19$) than high responsibility ($n = 12$), the two groups made roughly an equal number of references to responsibility within their interviews, proportional to the size of the group (range: 0–24 references per interview). Turning to the average number of descriptions per interview contributed by each group, there was no significant difference in the number of descriptions provided by the participants in the high responsibility group ($M = 4.17$, standard deviation [SD] $= 4.49$) and the low responsibility group ($M = 5.25$, $SD = 6.77$), $t(91) = -0.85$, $p = .40$. In other words, participants in the high and low groups discussed responsibility for gender diversity at roughly the same rate.

In terms of university demographics, participants in the high and low groups were in units that had the same percentage of tenured or tenure-track female faculty (16%). There were, however, slight differences in the range of tenured and tenure-track female faculty in the departments for each group. The units included in the high responsibility group ranged from 0% to 47% female faculty, whereas the units included in the low responsibility group ranged from 7% to 33%. In terms of the demographics of the participants, all three women in the sample were included in the high responsibility group. In addition, all three women made the highest number of comments coded as "high responsibility" in the group. In other words, the three women in the sample made frequent responsibility

attributions throughout their interviews and in these descriptions, they named themselves as personally responsible for making changes related to gender diversity at rates higher than their male peers—even those categorized as high responsibility.

In addition to codes related to participants' descriptions of personal responsibility, codes were also developed for responsibility attributions made to (a) female faculty who were already hired in the department or seen as potential faculty in the department or university and (b) male colleagues of the participant (both within and outside the participant's department). These attributions included descriptions of responsibility for the problem of the under-representation of women in STEM as well as responsibility for creating solutions to this problem. The code labels that we chose reflected how participants characterized the individuals captured in each code. For example, the women captured in the "female faculty" code were nearly always characterized by their status as "faculty" rather than their status as women outside of faculty-related experiences. As a result, this label reflects participants' consistent characterization of women in relation to their current or future faculty status. On the other hand, men in the "male colleagues" code were characterized by both their maleness and their status as colleagues; the "male colleagues" label was developed to reflect this more generalized associations made by participants to men in their professional environments. Table 1 summarizes the definitions of high and low personal responsibility as well as attributions of responsibility made to female faculty and male colleagues.

Results

The interview data yielded several important findings regarding how leaders saw their own personal responsibility as well as the responsibility of others when considering gender diversity in STEM departments. Below, we present three sets of results—both qualitative and quantitative—that address our three research objectives to (a) examine the characteristics of departmental leaders' expressions of personal responsibility for gender diversity; (b) understand how leaders attributed responsibility to other groups, in particular, other men and women; and (c) explore whether leaders' high or low sense of personal responsibility played a role in how often they attributed responsibility to male and female faculty.

Personal Responsibility of Leaders

We examined several characteristics of high and low responsibility in participants' descriptions through a close examination of the themes in the interview data. Several themes stood out across the interviews: the role of awareness (or unawareness) of gender inequity, beliefs as to whether or not change was needed, and considerations of who or what needed to change. These themes are examined in greater detail subsequently, with particular attention to how these differed for those chairs and deans in the high and low responsibility

Table 1. Descriptions and Examples of Responsibility Codes.

	Definition of Code	Example
Leaders' responsibility		
High	Describe themselves as personally responsible for changing the presence of female faculty in their unit	"I am shocked by the situation that women face and feel motivated to change it."
Low	Communicate an absence of personal responsibility for change and position the locus of control as residing outside the self	"I think if we had a lot of female faculty members in the department, probably we'd be more sensitive to those [sorts of] things."
Attributions to others		
Female faculty	Women who were already hired or seen as potential faculty in the department or university described as needing to change	"If a woman chooses not to have family then she's equal partner with male, because there's no distinction."
Male colleagues	Male colleagues of the participant (both within and outside the participant's unit) described as needing to change	"We did have in the past some faculty members who— they're retired now—didn't appreciate the role that women could have in [this field.]"

groups. Due to the small sample size and in order to protect the confidentiality of participants, demographics about the speaker or the department are not associated with individual quotes. Instead, each excerpt is identified as coming from high personal responsibility (HPR) participant or a low personal responsibility (LPR) participant as well as the gender of the speaker (male or female).

High personal responsibility. Within the descriptions offered by leaders in the high personal responsibility (HPR) group, several themes were identified regarding how participants described becoming aware of diversity issues, as well as the actions they took in order to address these issues. Participants in the high responsibility group often described themselves as "actively involved" and "getting out there" in terms of hiring women onto their faculties. They positioned themselves as leaders of their teams and responsible for being a role model in terms of how women were perceived in their units. An example of high responsibility can be seen in the following description about keeping track of who served on departmental committees from a departmental chair:

> I decided to establish fairly detailed records about who's going to be asked to serve on committees based on [who served] for the last 5 years. In fact, it's pretty surprising, because there are certain people, you thought, "Oh, he's always been involved," or "She's always been involved," and you discovered, no, they really haven't been involved. And so it had an impact in terms of thinking about who I ask to serve on which committee. (HPR, male)

Because women are frequently asked to be on more committees than their male colleagues (Adams, 2002; Blackburn et al., 1999; Gmelch, Wilke, & Lovrich, 1986), this kind of simple data collection is one way of determining who is being overtaxed and undertaxed. In this case, the participant described how feeling some sense of personal responsibility for paying attention to who might be overburdened lead to an important insight regarding differential faculty efforts.

Other high responsibility leaders described how their own opinions regarding diversity and inequity had recently changed. For example, one participant remarked about his own transformation over time and his recognition that "being sensitive" to issues of gender takes work:

> Well, we have to raise consciousness a little bit, and that's out of my own personal experience. If someone would have assessed me, I would have been saying, you know, "I've always been sensitive to these issues, blah-blah-blah." But I've learned a lot over the last couple years, just from listening to speakers and reading and so forth, to realize that I have to go to another level, which I have done. And so that if I feel that I'm that way, then other faculty [members] are that way too. (HPR, male)

Other participants in this category explicitly named their role as leaders in establishing new norms in the department: "Leadership sets the standard, says, 'We won't tolerate this; we won't tolerate that'" (HPR, male).

Participants in the high responsibility category also saw themselves as needing to educate themselves and their peers about what inequity looked like and that change did not occur simply with the passage of time. The following participant spoke to this directly when she made reference to change happening because of her own participation in change efforts:

> [C]ertainly over time, things do change, but I don't think they change just because of time. I think they change because people draw attention to inequities and find ways to combat them and engage people in thinking about and challenging their own beliefs and ideas, so I don't think it just happens. (HPR, female)

In these and other examples, high responsibility leaders described themselves as aware of gender diversity and the role that they played in changing the presence of female faculty in their department. As one participant noted, "I don't think I had a good grip . . . on what the conditions were like

for women in the sciences here . . . it's pretty shocking to my mind. And so, I've been moved by it, and motivated by it, quite frankly" (HPR, male). This statement usefully summarizes the core dimensions that were found to be integral to a position of high responsibility: awareness that change is needed and interest and/or motivation to act. Below, we see a group of discourses where responsibility was not spoken about in terms of change, effort, or engagement but instead, in terms of waiting for things to change, not seeing that change is needed, and a more passive relationship to the idea of change in general.

Low personal responsibility. Within the low personal responsibility (LPR) group, two general themes were found: (a) leaders in this group consistently described that change was not needed (i.e., things are good enough, better than others, or better than before) and (b) if change was imagined as needed, someone or something else was often named as responsible for the change (i.e., lack of students in the pipeline, lack of institutional support). For example, in terms of the first theme, one chair stated: "My sense is that the culture of this department clearly doesn't distinguish between men and women in terms of the way they are treated" (LPR, male). Another participant noted how his department compared with others in the college, using the rates of female faculty in other departments as a comparison group:

> I think our department's actually pretty good. If you take the number of women and the faculty position's primary research staff and faculty, we've got 3 out of maybe 15. It depends on how you do the counting. But it's about 3 out of 15, which means that's pretty close to 20%. And I think that's probably high in the college. (LPR, male)

Others commented that although gender discrimination had been a problem in the department in the past, it was far less frequent than it used to be: "Looking back on it now, you can see that that sort of thing doesn't happen anymore. At least . . . at least, not that I'm aware of in our program or I'd like to think it doesn't in our program" (LPR, male).

Additional examples of low responsibility included those moments in which responsibility for diversity rested on someone else's shoulders—not those of the departmental leader. For example:

> I think if we had a lot of female faculty members in the department, probably we'd be more sensitive to those things and probably they all would have said to us, you know, "Hey, stop doing this." A lot of female faculty members are pretty outspoken, but . . . until they get tenure, you know, they can't really speak out. (LPR, male)

This statement is a good example of low responsibility in that it reflects how the speaker does not see himself as necessarily someone who should be "sensitive to those things" or "outspoken" about issues relating to sexism. Rather, this task

is left for female faculty. Because there are not many female faculty in the department and the few who are there are not tenured, no one is ultimately responsible to speak up.

Examples of low responsibility were also evident in participants' use of the "pipeline" metaphor in interviews. The pipeline represents an important way of conceptualizing structures that either succeed or fail to support women on their way to careers in science; however, it is also a problematic metaphor. Pipelines do not locate responsibility in anyone's hands. They create a passive relationship between those who are in a position to change things and structures that need to be changed. The following quote usefully demonstrates how a departmental leader in the low responsibility group described time as mainly responsible for fixing the pipeline:

> So women do fall out of the system at a far higher rate than do men. I don't have a sense yet that that is true of this department. I think this department in preceding years had a very bad history in terms of having a low tenure rate of women. In fact, the department had a very bad reputation from that point of view. And it hasn't . . . I think we're in a new millennium and I think that that will change. Time, obviously, will tell. (LPR, male)

This example highlights how low responsibility as a stance absents the individual speaker and instead, in this case, time is passively expected to fix this problem of a leaky pipeline. This passive position is very different from an active one that, for example, argues for recruiting female students from local high schools, thereby actively filling the pipeline with students interested in STEM fields.

In short, by creating a definition of responsibility that included two dichotomized positions—high and low—we were able to examine in greater detail the extent to which departmental leaders saw themselves as embedded in solutions related to gender diversity. This two-dimensional framework allowed for a more complex analysis of the ways responsibility was imagined as operating within and outside an individual at the same time.

Attributions of Responsibility for Change to Others

Because Brickman et al.'s (1982) Model of Helping and Coping indicated the importance of internal as well as external attributions of responsibility, we also examined how participants made external attributions of responsibility for gender diversity—specifically, to women and men. We examined who was named as concurrently responsible either along with the unit leader or sometimes instead of the leader. This analysis enabled us to examine the more subtle aspects of discourses surrounding gender diversity: if leaders saw themselves as actively responsible in order to change the status of women in STEM fields, who did they imagine as also needing to change? Conversely, if departmental leaders did not see themselves as responsible for changing, to whom was

this responsibility attributed? Were there other parties who were discursively imagined as responsible?

Female faculty. Looking more closely at the discourses in the interviews where leaders discussed female faculty as responsible for gender inequity as well as its solution, several themes stood out because they were consistently repeated in the interviews. These included references to female faculty members' "choices" about families and reproduction, their attitudes and level of aggressiveness in departments, and lastly, the role of their natural inclinations (or lack of natural inclination) towards science.

The most common theme was that female faculty members chose to have families, and as a result, their careers in STEM departments were often cut short. The fact that this was consistently framed as a "choice" by unit leaders signaled a distinct way of framing women as responsible for their own under-representation in STEM departments. For example, one participant remarked, "[I]f . . . a woman chooses not to have family then she's equal partner with male, because there's no distinction" (LPR, male). Another stated, "Family is important enough that it's worth giving something up . . . having kids is a choice. You have to pay the price for having them" (LPR, male). In these equations between female faculty and equality in STEM departments, it was consistently women (and not men) who were making choices about families and women paying the price for having a family. This example highlights how male faculty members were not described as having to make choices about their family in order to succeed. This absence signals how parenting "limitations" in the workplace were imagined as including biological aspects of parenting (i.e., pregnancy and birth) as well as daily qualities of parenting such as child rearing.

In addition to framing family as a choice, women's biological clocks and their role in reproduction were also described as determining the limited role of women in science:

> No matter how we want to look at it . . . it's only women that can bear children and they normally take the primary responsibility for taking care of the children. That impacts or can impact on their ability to make that move from assistant to associate or associate to full professor. (HPR, male)

These descriptions that link women with families and reproduction have been found in the literature for decades (Eccles, 1987; Valian, 2007). What is remarkable about these linkages in this context is they demonstrate how women (and their bodies) are held responsible for changing—as well as the inference that this change is likely impossible due to biological determinism that extends not only to child bearing but also to child rearing.

In addition to making choices around families, the role of "attitude" was discussed as a consistent obstacle for female faculty achieving academic success and therefore needing to change in order to increase the presence of women in

STEM. Attitudes were commonly described as "needing to change" if female faculty wanted to fit into the existing academic culture. As seen in the following quote from a participant in the low responsibility group, this departmental leader suggested that a female faculty member who felt isolated become more "aggressive" and "grow up" in order to fit into the departmental culture:

> And then . . . this female faculty member felt isolated. And felt that there was no support. But she also had to grow up too. She was . . . looking for a paternal support to some extent, and what I pointed out is, "You're a senior person, you've got to lead yourself. You can't expect . . . everything isn't going to be taken care of for you." And she grew up. She said okay. And she's been much more aggressive at doing that. So it was an attitudinal change on her part. (HPR, male)

Asking women to be more like men in the workplace is not new. The importance of it showing up here is that it is one of a constellation of ways that women were framed as the ones who need to change in order to achieve gender diversity in the workplace. Importantly, even when a lack of support was described, it was the female faculty member's job to more aggressively address getting support, not the departmental leaders' job to more aggressively offer said supports.

In addition, female faculty members were described as being responsible for their own under-representation because of "natural" differences between women and men. For example, participants sometimes reflected on women in general as a way to explain that women's relative absence in STEM was naturally defined by what women found interesting. Women were described as being drawn to "people-related fields" and science was more often than not described as a "lonely" enterprise. This included comments such as " . . . women tend not to rebuild cars, you know, as teenagers, so they're not that interested in some things mechanical" (LPR, male). When leaders considered the lack of gender diversity in their department, it was often thought to be a result of personality differences between women and men's interests (e.g., preference for working with people vs. technology).

In the following example, a departmental leader talked about his own daughter, her interest in science, and her repulsion at what kind of life being a scientist required. This critical moment represents an example where women were held responsible for their interests and their choices, while the structures that surround scientists were simultaneously described as unpleasant for girls. It is the combination of these two that becomes the explanation for the lack of female scientists.

> Well, I have a daughter and I told her what I do and she liked biology and she likes math, but she didn't seem to have any interest in building hardware. I don't know. Maybe it's our society, but I think walking into a room filled with, as she calls them, "computer geeks" and "[science] geeks," is a real . . . I don't even think about

it. I walk into a room and it doesn't matter to me what these people look like, but she says they all look like they're just—their nose to the grindstone and [they] don't have real lives outside of these things. So I guess it takes a certain type of person to become [an advanced natural] scientist, and maybe, you know, maybe...well, I don't know. We just don't have a lot of women who'd become [advanced natural] scientists. (LPR, male)

If it takes a "certain type of person" to be an advanced natural scientist, and this person is imagined as out of reach of most women because of their preferences or because of the lack of support they receive, then the question remains: What or whom is expected to change this situation? What we see throughout this category are examples of women being described—due to themselves, their nature, their socialization, or their choices—as at least partially responsible for their own under-representation and in need of change in order to succeed in STEM fields.

Male colleagues. Turning to descriptions where male colleagues were named as responsible, a different pattern emerged. Participants frequently referred to their male colleagues in two ways: either as "sensitized" to the issues women face in science or as "Neanderthals" and "dinosaurs" who did not understand their own biases against women. These two descriptions established the speaker as either in alliance with, or superior to, his or her male peers.

The most common reference to male colleagues was as a downward comparison group (Bernstein & Crosby, 1980). In nearly every interview, the speaker positioned their department in relationship to another department that was perceived as "less sensitive" or having "worse numbers" in terms of the presence of women faculty members. This downward comparison often served as a way of taking the heat off their own department. Interestingly, departments that had no female faculty often turned to other universities for a "worse off" comparison group. A typical example included a comment such as: "We've known we got a long way to go. But at least...I think we're further along in this evolution than many others" (HPR, male).

Male colleagues were frequently mentioned in interviews; however, whether positioned as allies or dismissed as "out of touch," they were not imagined as needing to change all that much. Rather, change related to male colleagues was largely imagined as occurring when they retired (e.g., "we buried our last dinosaur"). Women were frequently described as obstacles to their own success; however, male colleagues were not often described as choosing to be obstacles to diversity. In other words, male colleagues were not framed as responsible for creating the problem of gender inequity, only for its solution. Of note, the solutions that male colleagues were responsible for often included changes or shifts in their level of sensitivity to gender-related issues.

In the following example from a participant categorized as high responsibility, male colleagues were described as both sensitive and not sensitive enough, but more importantly, these men's limitations were framed as understandable and inadvertent—a very different frame than was attributed to women:

If you sat down with all of our faculty, particularly our male faculty, and said, "Well, you know, of course you're sensitive to these [faculty hiring] searches." And they are. But maybe they're a victim of their own perspective. Or maybe they are doing things inadvertently. And there have been some startling things that I've read and have had presented to me about how letters are different and recommendations and terminology are different that describe men and women. So these are the things that would be surprising to our faculty. (HPR, male)

This example communicates three central ideas found in leaders' description of their male colleagues: (a) male colleagues were often described as being "sensitive" to gender equity issues, (b) this sensitivity was seen to be important and hard-won, and (c) either that men's sensitivity was recognized to be, at times, insufficient to address gender diversity or that men simply lacked the information necessary to be more sensitive.

A similar point was elaborated by a participant who described the response from male faculty when presented with data concerning decreasing numbers of women in the department: "We have a differential dropout rate for women and men graduate students. We had a much higher loss of women graduate students who decided to stop with a masters. And the male faculty are all really concerned. I mean, what did we do?" (HPR, female). Evident in this example, and others like it, is that male faculty members can be sensitive to the barriers that women in the department face and, importantly, that data demonstrating gender differences can be compelling when making a case for gender inequity.

There is a key contrast within this theme: Across the male colleagues code, men were asked to make relatively small changes, such as be more sensitive or learn more, in order to achieve gender equity, whereas female faculty members were described as needing to make substantial changes to their life choices, their attitudes, and their behaviors in order to achieve equal status with men. Women were tasked with changing their expectations of having a family or the number of children they wanted, developing an aggressive attitude in the workplace, and with overcoming a "natural" disinclination from science. In other words, when considering the problem/solution distinction provided by Brickman and colleagues (1982), female faculty were more frequently described as responsible for creating the *problem* of gender inequity—through their reproductive choices, their less aggressive attitudes, and their lack of natural inclination towards science and other STEM fields. Male colleagues, on the other hand, were described as responsible for creating *solutions* by becoming more sensitive, by learning more, and by retiring.
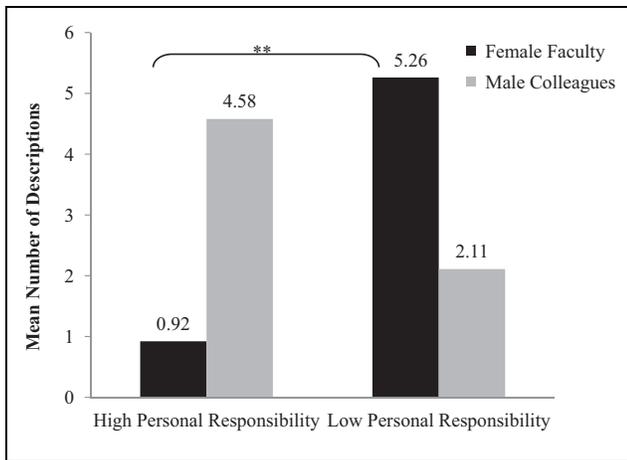
Figure 1. Attributions of responsibility made by high and low responsibility leaders to female faculty and male colleagues. The difference for how high and low responsibility leaders regarding female faculty was significant, $t(29) = -2.85$, $p = .008$, $d = 1.15$. **$p < .01$.

Personal Responsibility and Attributions

Looking more closely at the patterns found in the descriptions offered by high and low responsibility leaders, we found that when high responsibility leaders talked about who else was responsible for diversity, they most frequently mentioned the role and responsibility of their male colleagues ($k = 55$; 26% of total descriptions) and mentioned female faculty least frequently ($k = 11$; 5%). The opposite pattern was seen in the low responsibility departmental leaders. In this group, female faculty were mentioned most frequently ($k = 100$; 25%) and male colleagues were mentioned the least ($k = 40$; 10%).

To test whether the differences between the high and low responsibility groups were significant when describing others as responsible for increasing gender diversity, independent samples t-tests were conducted to compare the two groups. Findings revealed that there was a significant difference in the number of descriptions provided by the high ($M = 0.92$, $SD = 1.56$) and low ($M = 5.26$, $SD = 5.11$) responsibility group concerning female faculty, $t(29) = -2.85$, $p = .008$, $d = 1.15$ (see Figure 1). Thus, those leaders who deflected responsibility away from themselves (low responsibility) made significantly more attributions to women's responsibility for changing their status in STEM than did those who discursively took on responsibility themselves (high responsibility). Although the difference between the high ($M = 4.58$, $SD = 3.92$) and the low ($M = 2.11$, $SD = 3.09$) groups for mentions of male colleagues was not found to be significantly different, $t(29) = 1.96$, $p = .060$, $d = 0.70$, the effect size for this difference was large. Given our small sample size, it is likely that this is a meaningful difference, despite the marginal p value. In short, HPR and LPR leaders were found to attribute responsibility to female faculty and male colleagues using very different patterns of attribution:

HPR leaders consistently attributed responsibility for gender diversity to their male colleagues at higher rates; conversely, LPR leaders more frequently mentioned female faculty as responsible for the problem and solution to gender diversity in STEM.

Discussion

Our study explored a moment—when diversity is addressed through an organization-wide mandate—within a U.S. university that is common to many organizations. In the present case, ADVANCE provided financial support and trainings to individual STEM departments; it was the responsibility of the deans and departmental chairs to use these resources as they saw fit. Thus, the ADVANCE program was, to some extent, holding these leaders responsible for the under-representation of female faculty in these departments and for rectifying the situation. Given this context, our research questions were developed to examine the intersection between institutional commitment and personal responsibility for change.

Building from a model which theorized the role responsibility in change efforts, we adapted Brickman and colleagues' (1982) Model of Helping and Coping as a method to address the subtle psychological dimensions of responsibility for changing the status quo in a university setting. Using a thematic analysis, we examined two dichotomized positions (high and low) as a means to examine how responsibility could be something that was actively embraced as well as something that could be avoided, sometimes within the same person. In order to pursue this analysis, we developed a method to operationalize Brickman and colleagues' (1982) high and low responsibility dimensions by examining the rate at which participants referenced high and low themes in their interview material. This method served as a way to classify participants based on the qualities and quantities of their discourses rather than relying on a more general sense of the person. Lastly, by looking more closely at the qualitative aspects of the interviews, we were able to examine how other men and women figured into the discourses of high and low responsibility.

In our analysis, we observed several patterns. First, high personal responsibility leaders most frequently named their male colleagues as concurrently responsible, with far fewer mentions of female faculty. Second, the reverse pattern was observed in low responsibility leaders; this group did not frequently name men but, instead, often described women as responsible for needing to change in order to achieve greater inclusion in STEM fields. This included descriptions such as women making different family "choices," changing their attitudes, and developing more aggressive interpersonal behaviors when dealing with male faculty. Third, high responsibility leaders more frequently named their male colleagues as needing to change; however, within this attribution there was also evidence that men's responsibility was often buffeted by low expectations and

often framed as voluntary. For example, men were described as needing to be made aware of unconscious and inadvertent sexism in order for things to change. Men were not often described as directly responsible for the lack of women in the field or the department. For instance, participants did not state that men chose to treat women disrespectfully, that men's attitudes towards women needed to change, or that their male colleagues needed to be held accountable for making better choices.

The pattern observed in the low personal responsibility group presented a different story of how change related to gender diversity was imagined. The leaders in this group more frequently avoided thinking of themselves as needing to change and more frequently saw the locus of change as outside themselves. This group also consistently (and significantly more often) described women as responsible for changing, whereas male colleagues were not as commonly included in these discourses of responsibility. This finding is important because it demonstrates that the low responsibility group imagined gender diversity as something that would happen once women changed, by altering their family expectations and adapting to the more masculine behaviors expected in these departments. In short, women's responsibility was described as *dispositional* and resting within the inherent qualities of their mind and/or character; in contrast, men's responsibility was described as more frequently *situational*, stemming from external influences due to the environment or culture of the department or science more generally (Jost & Kay, 2005; Klein, Apple, & Kahn, 2011).

The phenomenon of low responsibility indicated that individuals may adopt a form of *passive responsibility* (Gunderman, 2003) when faced with organizational change. Most notably, this position was marked by its outward appearance of taking responsibility, however, also included a more ambivalent relationship to challenging existing structures and stereotypes. Individuals exhibiting passive responsibility may at times appear to be supportive of change and these individuals may, in fact, even invite change. However, their position within the change effort may be deflected away from the self and redirected onto others, in particular, women—who, for example, may be described as responsible for standing in their own way. These sleights of hand are essential to observe and to understand, as diversity initiatives continue to ask individuals to carry out diversity-related actions—some of which may inspire ambivalent feelings in individuals who are tasked with creating change.

Practice Implications

Workplace diversity initiatives potentially challenge organizational leaders to consider the perspectives of historically marginalized groups and to evaluate individuals from those groups as colleagues or potential colleagues (Eagly & Chin, 2010). However, there is little information on what changes related to workplace diversity look like from organizational

leaders' perspectives. Other studies concerning interventions aimed at reducing sexism are relevant to the current study and may help to place our findings into context. Diversity efforts have been found to be more effective when responsible parties are established and have the authority, support, and resources to enact change (Kalev et al., 2006). Leaders who feel personally responsible for changing their organization may also be more likely to disrupt discriminatory patterns and practices (Buttner et al., 2006; Combs, 2002; Thomas & Plaut, 2008; Yang & Konrad, 2011; Young et al., 2010). However, our results also indicate that examining personal responsibility alone may not be sufficient.

For example, Zawadzki, Shields, Danube, and Swim, (2014) argued that four elements are important to consider when designing interventions to reduce sexism: providing information, minimizing reactance, enhancing empathy, and encouraging self-efficacy. Moreover, they demonstrated that all four of these components were important for reducing endorsement of sexism such that none was sufficient on its own (Shields, Zawadzki, & Johnson, 2011; Zawadzki et al., 2014). Personal responsibility may, in fact, be closely related to these elements; in order to feel personal responsibility for making change, one may have the relevant information as well as feel empathetic and self-efficacious. An additional element that our findings suggest is the potential that this responsibility may be delegated to others, with this second part often happening silently or unconsciously.

With this last finding in mind, diversity programs might consider how leaders imagine *who* is concurrently responsible for changing attitudes and behaviors and *how* these changes are imagined. Leaders who believe that women need to substantially alter their lives and attitudes in order for gender initiatives to be successful may inadvertently perpetuate sexist organizational structures. Placing the burden on women to change their behavior does nothing to disrupt organizational systems that devalue women and their capabilities. Thus, understanding gender diversity from leaders' perspectives is crucial, especially because advantages of gender diversity are communicated through leadership, organizational culture, and structure (Barreto, Ryan, & Schmitt, 2009; Huffman, 2013). This is an elaboration of the Brickman et al's. (1982) model which draws our attention to how change initiatives and those who are tasked with carrying them out may hold marginalized groups responsible for their own marginalization (i.e., the problem) as well as hold them responsible for making change (i.e., the solution).

Our results speak to the continued need for institutional change. Programs such as ADVANCE have the ability to create responsible parties and give them the resources and support necessary to enact change. A leader's sense of personal responsibility for improving women's positions within an organization may not be sufficient to enact widespread change if there are no organizational supports for these leaders. In addition, these programs can communicate the

need for (and value of) diversity to leaders and employees. Some leaders, as evidenced in our study, will view themselves as responsible parties in these organizational efforts and make deliberate changes (e.g., monitoring women's service on committees).

In order for diversity initiatives to be successful, institutional efforts to improve diversity and leaders' personal responsibility in these efforts need to be mutually reinforcing. Establishing diversity initiatives, such as ADVANCE, may help leaders recognize the importance of gender diversity and their responsibility in achieving it; however, this outcome should not be assumed. The results of our study illustrate that some leaders, despite their involvement in a diversity initiative, see women as primarily responsible for changing their position within the organization. Thus, institutions may be served by implementing diversity programs and in addition assessing leaders' understanding of their roles and responsibilities in these efforts.

Limitations and Future Directions

As with all research, the current study is not without limitations. For instance, the interviewer was female, which may have shaped participants' disclosure concerning the role of women in STEM. In addition, the interviews were collected at a single U.S. Midwestern, public university, which may limit the generalizability of our findings to other universities and organizations. In addition, although the interview data were collected in 2004, we would argue that these findings would apply to an organization today just as much as 10 years ago. Current research suggests that challenges women face in the workforce have changed very little: The gender pay gap has not changed in the last decade (American Association of University Women, 2013), women continue to face numerous obstacles (and discrimination) when navigating organizational promotion systems (Eagly & Carli, 2007; Ibarra, Carter, & Silva, 2010), and women are still severely underrepresented in top leadership positions (Catalyst, 2013; NSF, 2010). The need for diversity efforts, and to examine leaders' understanding of them, is still timely and relevant to the current workforce.

Future researchers are encouraged to examine several factors related to responsibility, including dimensions of personal responsibility and concurrent responsibility that is distributed to others. Fruitful lines of research might examine how high and low responsibility in leadership relates to several person- and department-level characteristics, including individuals' demographic characteristics (e.g., participant age, race, gender), percentage of female faculty in a department, academic field, and any actions a departmental leader reported taking (e.g., assigning different people to committees; actively searching for female job candidates). These analyses might provide initial evidence as to whether or not specific attributions correlate with self-reported sexism- and racism-reduction behaviors at the individual level.

Moreover, examining leaders' perceptions of responsibility in connection with programs to increase racial and ethnic diversity in organizational settings would be an important extension and elaboration of our work. Racism, like sexism, can take more subtle forms and often involves beliefs that racism is no longer a problem that is often paired with antagonism towards efforts that benefit racial minorities (McConahay, 1983, 1986). Thus, it may be beneficial to examine how White leaders' perceptions of their own and other minority groups' responsibility for racial diversity may play a role in organizational change efforts. Given our findings, it would be useful to understand whether organizational leaders who demonstrate low personal responsibility in the domain of racial/ethnic diversity also perceive racial/ethnic minorities as primarily responsible for inequity and change.

Conclusion

In the quote that begins the present article, the speaker (a female faculty member) articulated the intersection of several important strands in achieving gender equity in the university: the participation of women, the implementation of institutional policies, and the responsibility of male colleagues. In our study, we examined one additional character in this story: the departmental leader and accompanying discourses of responsibility as seen from this position. Through an investigation of leaders' responsibility discourses, we were able to highlight the role that leaders can play in allocating responsibility for gender inequity. In particular, we draw attention to the more subtle discourses within "responsibility talk" that position women as responsible for both the problem and the solution to the issue of under-representation of women in STEM.

References

Acker, S., & Armenti, C. (2004). Sleepless in academia. *Gender and Education*, *16*, 3–24.

Adams, K. A. (2002). *What colleges and universities want in new faculty*. Washington, DC: Association of American Colleges and Universities.

American Association of University Women. (2013). *The simple truth about the gender pay gap*. Retrieved from http://www.aauw.org/files/2013/03/The-Simple-Truth-Fall-2013.pdf

Avery, D. R. (2011). Support for diversity in organizations: A theoretical exploration of its origins and offshoots. *Organizational Psychology Review*, *1*, 239–256.

Avery, D. R., & McKay, P. F. (2006). Target practices: An organizational impression management approach to attracting minority and female job applicants. *Personnel Psychology*, *59*, 157–187.

Bailyn, L. (2003). Academic careers and gender equity: Lessons learned from MIT. *Gender, Work & Organization*, *10*, 137–153.

Barreto, M. E., Ryan, M. K., & Schmitt, M. T. (2009). *The glass ceiling in the 21st century: Understanding barriers to gender equality*. Washington, DC: American Psychological Association.

Bass, B. M., & Bass, R. (2009). *The Bass handbook of leadership: Theory, research, and managerial applications* (4th ed). New York, NY: Free Press.

Bernstein, M., & Crosby, F. (1980). An empirical examination of relative deprivation theory. *Journal of Experimental Social Psychology*, *16*, 442–456.

Blackburn, R. T., Hollenshead, C., Coen, P., Thomas, G., Waltman, J., & Wenzel, S. (1999). *University of Michigan faculty work-life study report*. Ann Arbor, MI: Center for the Study of Higher and Postsecondary Education.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, *3*, 77–101.

Brickman, P., Rabinowitz, V. C., Karuza, J., Coates, D., Cohn, E. S., & Kidder, L. H. (1982). Models of helping and coping. *American Psychologist*, *37*, 368–384.

Buttner, E. H., Lowe, K. B., & Billings-Harris, L. (2006). The influence of organizational diversity orientation and leader attitude on diversity activities. *Journal of Managerial Issues*, *18*, 356–371.

Catalyst. (2013). *Statistical overview of women in the workplace*. Retrieved from http://www.catalyst.org/knowledge/statistical-overview-women-workplace

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, *20*, 37–46.

Combs, G. M. (2002). Meeting the leadership challenge of a diverse and pluralistic workplace: Implications of self-efficacy for diversity training. *Journal of Leadership & Organizational Studies*, *8*, 1–16.

Dedoose (Version 4.5) [web application]. Los Angeles, CA: SocioCultural Research Consultants. Retrieved from http://www.dedoose.com.

Eagly, A. H., & Carli, L. L. (2007). Women and the labyrinth of leadership. *Harvard Business Review*, *85*, 62–71.

Eagly, A. H., & Chin, J. L. (2010). Diversity and leadership in a changing world. *American Psychologist*, *65*, 216–224.

Eccles, J. S. (1986). Gender-roles and women's achievement. *Educational Researcher*, *15*, 15–19.

Eccles, J. S. (1987). Gender roles and women's achievement-related decisions. *Psychology of Women Quarterly*, *11*, 135–172.

Eccles, J. S. (1994). Understanding women's educational and occupational choices: Applying the Eccles et al. model of achievement-related choices. *Psychology of Women Quarterly*, *18*, 585–609.

Feder, J., & Levine, L. (2010). *Pay equity legislation*. Washington, DC: Congressional Research Service. Retrieved from http://digitalcommons.ilr.cornell.edu/key_workplace/763

Fitzgerald, L. F., Shullman, S. L., Bailey, N., Richards, M., Swecker, J., Gold, A., . . . Weitzman, L. (1988). The incidence and dimensions of sexual harassment in academia and the workplace. *Journal of Vocational Behavior*, *32*, 152–175.

Glasman, L. R., & Albarracín, D. (2006). Forming attitudes that predict future behavior: A meta-analysis of the attitude-behavior relation. *Psychological Bulletin*, *132*, 778–822.

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

Glazer-Raymo, J. (1999). *Shattering the myths: Women in academe*. Baltimore, MD: Johns Hopkins University Press.

Gmelch, W. H., Wilke, P. K., & Lovrich, N. P. (1986). Dimensions of stress among university faculty: Factor-analytic results from a national study. *Research in Higher Education*, *24*, 266–286.

Gunderman, R. B. (2003). Why do some people succeed where others fail? Implications for education. *Radiology*, *226*, 29–31.

Hill, C., Corbett, C., & St Rose, A. (2010). *Why so few? Women in science, technology, engineering, and mathematics*. Washington, DC: American Association of University Women.

Hoffman-Kim, D. (1999). Women scientists in laboratory culture: Perspectives from an academic scientist in training. *Annals of the New York Academy of Sciences*, *868*, 106–109.

Hopkins, N. (1999a, June 11). MIT and gender bias: Following up on victory. *Chronicle of Higher Education*, *45*, B4–B5.

Hopkins, N. (1999b, March). A study on the status of women faculty in science at MIT. *The MIT Faculty Newsletter*, *11*(4). Retrieved from: http://web.mit.edu/fnl/women/women.html#The%20Study

Huffman, M. L. (2013). Organizations, managers, and wage inequality. *Sex Roles*, *68*, 216–222.

Ibarra, H., Carter, N. M., & Silva, C. (2010). Why men still get more promotions than women. *Harvard Business Review*, *88*, 80–85.

Ilies, R., Hauserman, N., Schwochau, S., & Stibal, J. (2003). Reported incidence rates of work-related sexual harassment in the United States: Using a meta-analysis to explain reported rate disparities. *Personnel Psychology*, *56*, 607–631.

Jost, J. T., & Kay, A. C. (2005). Exposure to benevolent sexism and complementary gender stereotypes: Consequences for specific and diffuse forms of system justification. *Journal of Personality and Social Psychology*, *88*, 498–509.

Kaiser, C. R., & Miller, C. T. (2001). Stop complaining! The social costs of making attributions to discrimination. *Personality and Social Psychology Bulletin*, *27*, 254–263.

Kalev, A., Dobbin, F., & Kelly, E. (2006). Best practices or best guesses? Assessing the efficacy of corporate affirmative action and diversity policies. *American Sociological Review*, *71*, 589–617.

Kitts, A. (2001). Career selection for women in science: Is it really Hobson's Choice after 30 years of progress? *Association of Women in Science Magazine*, *30*, 21–22.

Klein, K. M., Apple, K. J., & Kahn, A. S. (2011). Attributions of blame and responsibility in sexual harassment: Reexamining a psychological model. *Law and Human Behavior*, *35*, 92–103.

Lefcourt, H. M. (1982). *Locus of control: Current trends in theory and research*. Hillsdale, NJ: Lawrence Erlbaum.

Major, B., Kaiser, C. R., & McCoy, S. K. (2003). It's not my fault: When and why attributions to prejudice protect self-esteem. *Personality and Social Psychology Bulletin*, *29*, 772–781.

Martins, L. L., & Parsons, C. K. (2007). Effects of gender diversity management on perceptions of organizational attractiveness: The role of individual differences in attitudes and beliefs. *Journal of Applied Psychology*, *92*, 865–875.

McConahay, J. B. (1983). Modern racism and modern discrimination: The effects of race, racial attitudes, and context on simulated hiring decisions. *Personality and Social Psychology Bulletin*, *9*, 551–558.

McConahay, J. B. (1986). Modern racism, ambivalence, and the modern racism scale. In J. F. Dovidio & S. L. Gaertner (Eds.), *Prejudice, discrimination, and racism* (pp. 91–125). San Diego, CA: Academic Press.

Massachusetts Institute of Technology. (1999). *A study on the status of women faculty in science at MIT*. Retrieved from http://web.mit.edu/fnl/women/women.html

Moss-Racusin, C. A., Dovidio, J. F., Brescoll, V. L., Graham, M. J., & Handlesman, J. (2012). Science faculty's subtle gender biases favor male students. *Proceedings of the National Academy of Sciences*, *109*, 16474–16479.

Murphy, E. F. (2005). *Getting even: Why women don't get paid like men-and what to do about it*. New York, NY: Simon & Schuster.

National Science Foundation. (2010). *Division of science resources statistics: Women, minorities, and persons with disabilities in science and engineering*. Arlington, VA. Retrieved from http://www.nsf.gov/statistics/wmpd/2013/tables.cfm

Nemiro, J. E., Hacker, B., Ferrel, M. L., & Guthrie, R. (2009). Using appreciative inquiry as a tool to investigate transformational change in recruiting and developing women faculty in STEM disciplines. *International Journal of Gender, Science, and Technology*, *1*, 1–35.

O'Connor, P. (2013, September 6). The double bind [Web log post]. *New York Times: The Opinion Pages*. Retrieved from http://opinionator.blogs.nytimes.com/tag/women-in-philosophy/

Powell, G. N., & Graves, L. M. (2003). Yesterday and today. In G. N. Powell & L. M. Graves (Eds.), *Women and men in management* (3rd ed., pp. 12–35). Thousand Oakes, CA: Sage.

Prokos, A., & Padavic, I. (2005). An examination of competing explanations for the pay gap among scientists and engineers. *Gender & Society*, *19*, 523–543.

Ragins, B. R. (2007). Diversity and workplace mentoring relationships: A review of positive social capital approach. In T. D. Allen & L. T. Eby (Eds.), *The Blackwell handbook of mentoring: A multiple perspectives approach* (pp. 281–200). Oxford, England: Blackwell.

Richard, O. C., Barnett, T., Dwyer, S., & Chadwick, K. (2004). Cultural diversity in management, firm performance, and the moderating role of entrepreneurial orientation dimensions. *Academy of Management Journal*, *47*, 255–266.

Riger, S., Sullivan, M., Stokes, J. P., & Raja, S. (1997). Measuring perceptions of the work environment for female faculty. *The Review of Higher Education*, *21*, 63–78.

Roberson, Q. M., & Park, H. J. (2007). Examining the link between diversity and firm performance the effects of diversity reputation and leader racial diversity. *Group & Organization Management*, *32*, 548–568.

Searle, J. R. (1969). *Speech acts: An essay in the philosophy of language* (Vol. 626). Cambridge, England: Cambridge University Press.

Settles, I. H., Cortina, L. M., Malley, J., & Stewart, A. J. (2006). The climate for women in academic science: The good, the bad, and the changeable. *Psychology of Women Quarterly*, *30*, 47–58.

Shields, S. A., Zawadzki, M. J., & Johnson, R. N. (2011). The impact of the Workshop Activity for Gender Equity Simulation in the Academy (WAGES–Academic) in demonstrating cumulative effects of gender bias. *Journal of Diversity in Higher Education*, *4*, 120–129.

Stevens, F. G., Plaut, V. C., & Sanchez-Burks, J. (2008). Unlocking the benefits of diversity all-inclusive multiculturalism and positive organizational change. *The Journal of Applied Behavioral Science*, *44*, 116–133.

Stewart, A. J., Malley, J. E., & LaVaque-Manty, D. (2007). *Transforming science and engineering: Advancing academic women*. Ann Arbor, MI: University of Michigan Press.

Swim, J. K., Aikin, K. J., Hall, W. S., & Hunter, B. A. (1995). Sexism and racism: Old-fashioned and modern prejudices. *Journal of Personality and Social Psychology*, *68*, 199–214.

Swim, J. K., & Hyers, L. L. (1999). Excuse me—What did you just say?!: Women's public and private responses to sexist remarks. *Journal of Experimental Social Psychology*, *35*, 68–88.

Thomas, K. M., & Plaut, V. C. (2008). The many faces of diversity resistance in the workplace. In K. M. Thomas (Ed.), *Diversity resistance in organizations* (pp. 1–22). New York, NY: Lawrence Erlbaum.

Ussher, J. M., Sandoval, M., Perz, J., Wong, W. T., & Butow, P. (2013). The gendered construction and experience of difficulties and rewards in cancer care. *Qualitative Health Research*, *23*, 900–915.

Valian, V. (1998). *Why so slow? The advancement of women*. Cambridge, MA: The MIT Press.

Valian, V. (2005). Beyond gender schemas: Improving the advancement of women in academia. *Hypatia*, *20*, 198–213.

Valian, V. (2007). Women at the top in science: And elsewhere. In S. J. Ceci & W. M. Williams (Eds.), *Why aren't more women in science: Top researchers debate the evidence* (pp. 27–37). Washington, DC: American Psychological Association.

Voegtlin, C. (2011). Development of a scale measuring discursive responsible leadership. *Journal of Business Ethics*, *98*, 57–73.

Waldman, D. A., & Siegel, D. (2008). Defining the socially responsible leader. *The Leadership Quarterly*, *19*, 117–131.

Wigboldus, D. H., Semin, G. R., & Spears, R. (2000). How do we communicate stereotypes? Linguistic biases and inferential

consequences. *Journal of Personality and Social Psychology*, *78*, 5–18.

Winter, D. G. (1991). A motivational model of leadership: Predicting long-term management success from TAT measures of power motivation and responsibility. *The Leadership Quarterly*, *2*, 67–80.

Yang, Y., & Konrad, A. M. (2011). Understanding diversity management practices: Implications of institutional theory and resource-based theory. *Group & Organization Management*, *36*, 6–38.

Yedidia, M. J., & Bicke, J. (2001). Why aren't there more women leaders in academic medicine? *The views of clinical department chairs.* Academic Medicine, *76*, 453–465.

Young, B. L., Madsen, J., & Young, M. A. (2010). Implementing diversity plans: Principals' perception of their ability to address diversity in their schools. *NASSP Bulletin*, *94*, 135–157.

Zawadzki, M. J., Shields, S. A., Danube, C. L., & Swim, J. K. (2014). Reducing the endorsement of sexism using experiential learning: The Workshop Activity for Gender Equity Simulation (WAGES). *Psychology of Women Quarterly*, *38*, 75–92.