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Jennifer E. Taylor, Ph.D., MBA.



Jennifer E. Taylor, Ph.D., MBA
Rush University and Medical Center

FROM THE EDITOR’S DESK

As those familiar with the *Journal of Research Administration* (JRA) know, it is the premier scholarly publication in the field of research administration and management. We publish timely work that covers all facets of our discipline. The journal is an important education and career development platform. Our authors share best practices and innovative means of performing research administration and management work in our fast-paced, ever-changing environments while enhancing their careers by publishing peer-reviewed scholarly journal articles. We have two important items to announce in this letter – one that will significantly enhance the efficiency of the submission and review process and the second regarding our efforts to emphasize an important element of our strategic plan – our focus on inclusion.

I am excited to share with our readers and the members of SRAI this special issue of the Journal of Research Administration. The focus of this issue is the essential role that research administrators can and often do play through their own efforts or in partnership with other administrative and academic units to enhance diversity, equity, and inclusion among faculty, administrators, and staff. In our call for papers, we welcomed submissions from those in central administration, at college or departmental levels, or in other organizational units. The quality of the papers we received, and the lessons they had to share with us, were beyond our highest hopes.

The focus of this special issue is just one of many efforts by SRAI to find ways to enhance diversity, equity, and inclusion. Indeed, inclusion is a core and first component of SRAI's strategic plan, as noted by Debra Schaller-Demers (2022), recent President of SRAI's Board of Directors. Further reflecting that commitment, SRAI established an Engagement and Diversity Task Force that led to that focus on inclusion in our strategic vision. That commitment is represented throughout the work of SRAI.

Our special issue begins with a "voice of experience" essay from Dr. Nobles, who has been a leader in research administration in multiple roles for the Federal Demonstration Partnership, the Association of Public and Land-Grant Universities, and is currently at Emory University. In his essay, he shares with us the evolution of his thinking on how best to support female and other diverse faculty, including some of the lessons that shaped the changes in perspectives he made as his experience expanded. He concludes by sharing with us seven "simple" recommendations that address complex issues that research administrators will find helpful in increasing engagement and support for diverse faculty at their institutions.

In their manuscript, "Equal Opportunities in Academic Research Development? Faculty Gender Bias and Stereotypes in Research Administration" Zink, Keim, Collet-Hilton, Cernik, and Larson describe sending biosketches to a sample of research administrators to investigate whether their evaluation of potential grant applicants reflected bias resulting from differences in applicant gender or faculty rank. They report some surprising and promising new findings regarding ratings of female faculty, along with some confirming prior findings regarding evaluations of faculty competence based on rank.

Campbell and Bourbonnais from the University of Ottawa share a detailed case study of how their institution implemented its EDI action plan to meet the regulatory compliance requirements of this national research chairs funding program and how it used the plan to help drive equity, diversity, and inclusion activities at its institution. Their article, "From Compliance to Inclusion: Implementing an Equity, Diversity and Inclusion Action Plan for a Federal Funding Program in Canada" describes the activities undertaken by the Vice-President Research Office, including the analyses conducted to identify barriers to participation in the program, actions taken, and results achieved. Importantly they share with us the characteristics of the strategies that were effective in enhancing equity, diversity, and inclusion and how they were included in a larger institutional transformation. They note that their work, as do others in this special issue, can contribute to the "expanding tool kit for research" that administrators play key roles in this area.

The next offering is another in-depth case study of DEI efforts, "Beyond the Kumbaya: A Reflective Case Study of One University's Diversity, Equity, and Inclusion Journey." It comes to us from Chambers, King, Meyers, Millea, & Klein of East Carolina University. The case study examines the process of accomplishing the challenge of moving from merely espousing the objectives of creating a more diverse, equitable, and inclusive institution to what they call "the gritty work of critique, openness, and action." Of particular focus is how those engaged in such a process can move from using measures of progress that just count how many faculty fall into each category of concern to assessing cultural changes that are more difficult to observe and measure. They state, "...we use a reflective case study design to challenge myths that protect the status quo and describe data and proxies for baseline diversity, equity, and inclusion."

The process of reviewing and accepting our next article, “(de)Colonizing Research Services,” taught us many lessons about diversity and how it needs to be infused in our traditional processes. I hope that, as you read it, you will keep in mind the authors’ note that leads off their discussion. As you will see, the article’s format and voice differ from what is typical of most of our articles. It required us to respect and view the way it was presented as part of the lessons it had to teach us about inclusion, particularly the normative ways of functioning of others’ cultures. The authors tell us, “The paper is written as a narrative of our journey together as we make efforts to decolonize research administration. Since storytelling is a validated Indigenous method dating back thousands of years, we wrote this article in a storytelling format appropriate to research in Indigenous contexts.” They expand on why they took this approach in their opening note, and we hope it will have the same impact on you that it did on those of us who engaged in the review and considerations of how to approach that review. The narrative focuses on the efforts of the authors to answer the core questions that shaped their work. These were “How do we Indigenize an Office of Research Services” as well as “How do [existing] research administration practices/policies create (or serve as barriers too) an enabling environment for Indigenous research?” Hillier, Phillips, and Haig Brown take us on their journey to address these questions and share their answers. We hope you find the journey valuable as well.

Castañeda-Kessel, Villanueva Alarcón, and Berke of Utah State University share with us the issues they have identified in engaging early career STEM faculty in identifying authentic diversity, equity, and inclusion (DEI) goals, objectives, and tasks for their research grant proposals in their manuscript entitled “Research Development & Early-Career Faculty: Catalysts of Change for Diversity, Equity, and Inclusion In STEM.” They go on to provide a discussion of the ways that research development professionals can work with these

early-career investigators to help in their ability to respond to federal funding solicitations. They go on to provide us with an overview of at least five potentially effective additional sources of collaboration and resources that faculty may draw upon in these efforts.

The final article in this issue is “The Role of Research Leaders in Enhancing Diversity, Equity, and Inclusion: Directions from Current Research and Opportunities for Systemic Organizational Transformation.” It was developed to provide an overview of the rationale for why we felt it was important to develop this special issue on Diversity, Equity, and Inclusion (DEI) to highlight the central role that research administrators can play, in partnership with others in their institutions, in the recruitment, retention, advancement, and overall career success of faculty who are often underrepresented in universities, medical centers, and other research institutions. Additionally, it discusses the results of national initiatives’ findings concerning what issues contribute to difficulties in recruiting, retaining faculty, and advancing faculty from under-represented groups across disciplines. It also provides some recommendations for a few of the many ways research administrators can target their efforts and examples of approaches to doing so. More generally, we hope that this article, and the others in this special issue, will spur members of the SRAI community and other research administrators across the globe to share with JRA the descriptions and results of research and practice they have engaged in regarding their efforts to enhance belonging, inclusion, equity, and diversity in their settings, whether in a single institution or nationally and internationally.

Overall, we hope that this special issue will further strengthen the view of JRA being a place to share ideas and submit research regarding DEI, as well as continue to increase the degree to which JRA is seen as a resource to which research administrators can turn to learn more about the most innovative and effective strategies for enhancing their DEI efforts.

IMPORTANT NOTICES:

1. I am excited to tell you that, as reflected on our webpage, there has been a significant advancement in the infrastructure to facilitate and enhance the operation of the work of JRA. I am pleased to inform you that after a long and complex process of negotiations and clarifying operational processes, JRA has “gone live” in its move to using Scholar One software to aid in submitting, reviewing, and managing manuscripts. This will lead to a significant increase in efficiency, speed of review, and ease of communication. Getting through this process required considerable time and effort from many individuals. Still, I want to single out the tireless work and intense focus on “getting it right” of Gina Snyder in making the Scholar One system an essential new resource for JRA.

The information necessary to use that system, including the process for creating an account to sign in, is available at <https://www.srainternational.org/resources/journal/become-a-journal-author>.

2. With the implementation of the Scholar One system, updated author guidelines have also taken effect. Please refer to the journal webpage link above to ensure you are using the guidelines in effect if you are submitting a manuscript or intending to do so in the future.

As Editor-in-Chief of JRA, I am privileged to have the opportunity to work with the incredibly hard-working authors and reviewers who provide us with the gifts of their insight and inspiration to make significant contributions to moving the knowledge base of our field forward. We continue to receive submissions that provide direction for continuously improving the work that has been core to our field, responding to new challenges for implementing new technologies, addressing emerging policies and processes required by sponsors, and areas where research administrators are increasingly providing leadership. We are

grateful to receive and be able to present to our readers the incredibly diverse and exciting array of manuscripts we receive that reflect the work of so many talented and committed professionals.

Please email me directly with any input, questions, or suggestions you may have. Beyond the creation and implementation of the new processes, policies, and procedures in the notices above, there is the critical hard work and many contributions of the many people who support the production of JRA on an ongoing basis. The Author Fellowship Committee and the Author Fellow Advisors, under the guidance of Holly Zink, provide essential support and advice to the Author Fellows as they develop and publish their first scholarly articles. I am grateful they will continue providing this unique and vital work for JRA. Producing the JRA, constantly reviewing and improving our policies and procedures, and developing our infrastructure for the future requires a broad and committed team. I have been fortunate to have their collaboration in continuing the tradition of excellence of this journal. It is the team behind the Editor that is essential to the success of the Journal. The Board and committees of SRAI, particularly the communications committee, provide essential guidance and input on all phases of the JRA, both for intentional efforts and as a vital resource for addressing unique situations. Holly Zink, Deputy Editor, is a valued partner and an important source of personal and professional support in what would otherwise be an overwhelming task. The contributions of Gina Snyder are impossible to summarize – in any professional sport, as she is, for the production of JRA, the MVP – I cannot thank her enough.

Finally, if you are a non-SRAI member and wish to have the Journal delivered via email, please sign up through the online system at <https://member.srainternational.org/account/login.aspx>

ARTICLES

THE ROLE OF RESEARCH ADMINISTRATORS IN SUPPORTING DIVERSE FACULTY

Robert Nobles, Ph.D.

Emory University

The responsibility of research administrators to support faculty within institutions of higher education is both a virtue and practice, but how does this change for faculty of diverse backgrounds? On the surface, one could think the service and support we provide are exactly what we do for all faculty. Early in my career, I thought the same, with emphasis on all faculty being the same and attempting not to provide preferential treatment to any but striving for excellence for all. Many of you can likely identify with this philosophy, but as I migrated from Texas to Tennessee, and now to Atlanta, my career progressed from representing an office to a more expansive ideology as a representative of a university. With my matriculation came the realization that all faculty were indeed the same and different at the same time. This paradox will be the focus of this article while providing practical recommendations that research administrators can implement at their own institutions.

Let me start with what is known about faculty. Faculty often spend 8-10 years progressing through their undergraduate and graduate education. Similar to my educational pathway, some faculty progress through their graduate training by obtaining a master's degree while also completing a pre-doctoral fellowship before completing their terminal degree. Many of our faculty also will select a post-doctoral training program to rapidly progress from being an apprentice for research to one who leads research endeavors. Fortunate post-docs will also have the opportunity to teach, which then catapults their preparation to become an assistant professor at one of our great institutions. Then the hard work for assistant

professors begins with having responsibility for research, teaching, and service for the next 5-7 years while demonstrating excellence in each of these categories before being promoted and receiving tenure. During the process of matriculating through tenure is where I began to observe the cultural differences among our faculty.

When I observed faculty working diligently as assistant professors, it became noticeable that minority faculty, both domestic and international, put their heads down and worked diligently to "figure it out." There is usually an underground network of other minority faculty and/or senior administrators they may eventually connect with to help navigate the university. Although this is appreciated by research administrators from a workload perspective, this phenomenon can result in a more difficult road for these faculty as they try to learn the shortcuts to success that many others already know, including the processes of how best to engage with our research offices. It should be noted that my colleagues who are in the majority, particularly those who are male and Caucasian, are generally more confident in reaching out for help or sharing concerns when policies and processes are seen as obstacles to their success. Having said that, I wish all faculty had the same level of confidence in asking questions and expecting the university to be highly responsive to their needs. Ensuring that all faculty, whether minority or majority, are equally welcomed and supported are critical areas where research administrators can step up and help address this differential dilemma by being proactive with their efforts and communication.

An additional observation that I have had over the years is that female and minority faculty members were typically asked to engage

in and accept more service opportunities. This could be based on faculty interest or just the desire for committees to attempt to diversify their membership. Whatever the cause, such service demands can result in far greater workloads for these faculty, impeding their scholarly productivity. The quandary for me as a VP for Research Administration and Institutional Official for our regulatory compliance programs is my desire for inclusiveness and exposure, while also wanting to be protective of minority and female faculty time dedicated to other commitments. In working through this internal conflict, I had to look at my established committees for compliance and regulatory areas (e.g., IRB, IACUC, ESCRO, Biosafety, Radiation Safety, etc.) to see what their composition is from a minority and gender perspective. Consistent with my findings, many of you will find that our committee compositions are out of proportion regarding the total number of female and minority faculty at your institutions. As a minority myself, I note that minority faculty seem to carry the greatest service obligations, both on campus and within their communities. It should be noted that minority faculty are both a minority in their fields of study and communities, so increasing diversity on non-research and non-teaching initiatives further results in ever-growing effort demands on these faculty members. These on-campus service activities may detract from faculty reaching promotion and tenure, so administrators need to be more conscious of these negative impacts as we recruit faculty for our committees, task forces, and working groups.

I will provide one final observation from an experience I had within the past five years. In my career, I had the opportunity to work with some phenomenal leaders and I have observed what they did and did not do to support minority faculty. Related to this topic of supporting minority faculty [and students],

I had the opportunity to visit a colleague in Missouri shortly after they had a campus protest and sit-in. During this time, racial concerns and tensions were high on campus and in the community. During this visit, I invited myself to the president's mansion and had an opportunity to have a discussion with the university president and his wife. Truthfully, this was an unannounced visit and when they opened the door they were really surprised to see me since we worked together some years back. This visit came shortly after the president's announcement that he will be stepping down from the role in the coming months. My primary questions for him were 1) why leave the position now; and 2) what would he have done differently?

What I learned in the conversation was profound, and I want to share it with you. For my first question [why now?], the response was that leadership requires representing all your stakeholders. He added that when you fail to represent everyone fully, you will fail to have a sustainable leadership role. The response resonated with me and reshaped the way I carried out my leadership tone and focus in higher education. Specifically, I began trying to identify my own blind spots and segments of campus from which I was not receiving feedback. I personally brought those groups closer to my groups of engagement so that I could actively keep a pulse of the research experiences across campus. For me this has resulted in my campus feeling heard and developing a sense of trust that the challenges that faculty experience will be addressed appropriately (or at least an objective answer provided of why a challenge can't be addressed yet).

For the second question [what would you do differently?], the answer was short and sweet... He shared that he wished he would have listened more. He admitted to having a blind spot to issues related to minority groups on campus and never thought that this blind

spot would truncate his tenure as a university president. I took this experience back to my institution in Tennessee, as we were having challenges related to recruiting, retaining, and helping our minority faculty excel. When I sat down with the provost and shared my notes, we immediately established listening sessions for our diverse faculty in groups of 8-10 within the same school/unit where possible. What we learned during this listening tour provided significant insight into the culture of our institution towards women and minorities. This propelled us to put together a task force, receive their recommendations, and then make systemic changes and enhancements to our environment, including enhancing the role of the Diversity, Equity, and Inclusion Office in faculty searches; faculty and staff receiving bias and implicit bias training; and developing a regular forum for minority and diverse faculty to engage with senior leadership. Engagement and exposure to leadership is the greatest equalizer that can be provided to our female and minority faculty, but this all starts with “listening.”

Naturally, we all want to do our part in making our environments diverse and inclusive. In closing, I am sharing some simple recommendations you can try at your institution to increase engagement and support for diverse faculty.

Recommendation #1:

Identify female and minority faculty early in their tenure at the university.

Recommendation #2:

Send a welcome letter to female and minority faculty that explains what services are available and provide a point of contact to help them navigate their questions.

Recommendation #3:

Work with schools and departments to present annual research administration updates (written and verbal) to all faculty.

Recommendation #4:

During years 2-3 of the tenure of female and minority faculty, set up a 30-minute meeting with the female and minority faculty members to ask them about their research goals and share how research administration can help them remove obstacles to aid in their success. This should be repeated within the first year after faculty have been promoted to Associate Professor.

Recommendation #5:

Normalize question asking by making it easy for faculty to reach out to gain assistance (e.g., add a welcoming statement in your signature line; add a comment/suggestion box on your website; send an annual satisfaction survey that includes the opportunity for faculty to share more insight and/or request a meeting to discuss research approaches/obstacles, etc.).

Recommendation #6:

Limit the recruitment of minority and female assistant professors for research advisory and compliance committees.

Recommendation #7:

Be intentional and “Listen More” to female and minority faculty by creating forums, small group and individual discussions about needs and research obstacles. This information should be used to develop systemic and systematic enhancements to how your office engages and responds to the needs of diverse faculty.

EQUAL OPPORTUNITIES IN ACADEMIC RESEARCH DEVELOPMENT? FACULTY GENDER BIAS AND STEREOTYPES IN RESEARCH ADMINISTRATION

*Holly R. Zink, MSA**

Research Medical Writer, University of Kansas Medical Center, Department of Surgery

Sarah A. Keim, Ph.D.

Associate Professor of Surgery, University of Kansas Medical Center, Department of Surgery

Lynn Chollet-Hinton, Ph.D., MSPH

Assistant Professor, University of Kansas Medical Center, Department of Biostatistics & Data Science

Colin Cernik, MS

Senior Research Analyst, University of Kansas Medical Center, Department of Biostatistics & Data Science

Kelsey E. Larson, MD

Assistant Professor of Surgery, University of Kansas Medical Center, Department of Surgery

ABSTRACT

Female faculty remain a minority in academic research and women are often perceived to lack the qualities needed to be successful scientists, which may contribute to discrimination and prejudice against female researchers. Research administrators play a pivotal role in the development of strategic, catalytic, and capacity-building activities designed to encourage faculty in attracting extramural research funding. The purpose of this investigation was to explore whether research administrators evaluate extramural grant applicants differently based on gender and different career ranks. Contrary to previous research examining faculty gender biases and stereotypes, our study showed

that applicants were rated similarly in researcher competence across both male and female applicants by research administrators (Hypothesis 1). Our research also showed that female candidates were generally seen as more likeable (researcher collegiality) and were rated higher for mentoring potential than male candidates (Hypothesis 2). Furthermore, consistent with prior research, findings suggest that those in the senior career rank were more highly rated for research competence and skill (Hypothesis 3). Although we did not list a formal hypothesis, our findings did support the notion that senior career rank applicants are more highly rated for biosketch design and comprehension, most likely due to their perceived competence and advanced experience. These findings, while preliminary, suggest that traditional barriers related to perceived female researcher competence are not experienced as they interact with research administrators. The main implication of this study is that research administrators do not appear to significantly contribute to the previously reported discrimination and prejudice against the competence of female researchers.

Keywords:

gender bias; academic researchers; faculty productivity; research administrators; female faculty; gender disparities; academic stereotypes

INTRODUCTION

The percentage of women in academic science has increased dramatically during the past several decades (Abelson et al., 2016). Despite this success, female faculty remain a minority in academic research (Krebs et al., 2020). Issues surrounding gender bias and stereotypes have been addressed over the past 45 years with various pieces of legislation, federal policies, and published literature with mixed results (Easterly & Ricard, 2011). Prior research has demonstrated that female researchers suffer when their extramural proposals are judged primarily on the strength of their curriculum vitae or biosketch (Eaton et al., 2020; Guglielmi, 2018; Tamblyn et al., 2018; Witteman et al., 2019). Women are often perceived to lack the qualities needed to be successful scientists, which may contribute to discrimination and prejudice against female researchers (Carli et al., 2016).

The mechanisms that underpin gender bias and stereotypes in academic research are not fully understood. One unexplored area is the impact research administrators may have on gender bias and stereotypes in academic research. Research administrators play a pivotal role in the development of strategic, catalytic, and capacity-building activities designed to encourage faculty in attracting extramural research funding (Ross, 2017). The purpose of this investigation was to explore whether research administrators evaluate applicants differently based on gender at multiple career ranks. Our goal was to contribute to a deeper understanding of the barriers for female researchers as they interact with research administrators.

BACKGROUND

Underrepresentation of Women in Science

A stark gender disparity persists within academic science (Chan & Torgler, 2020;

Handley et al., 2015; Jena et al., 2016; Moss-Racusin et al., 2012; Reuben et al., 2014; Roper, 2019), including large gender gaps in female faculty representation in research (Abelson et al., 2016; Krebs et al., 2020). Although women represent 50.8% of the current United States population, men have represented the majority of basic science faculty at all ranks for the last 20 years (Bennett et al., 2020). Over the last two decades, female basic science faculty were also consistently underrepresented (24.47% to 35.32%) in United States medical schools (Bennett et al., 2020). It has been shown that fewer women than men embark on a scientific career, and proportionally more women than men drop out of science majors in college. Furthermore, those women who do persevere and obtain scientific graduate degrees often do not achieve academic success along the lines of their male counterparts (Bar-Haïm & Wilkes, 1989).

Effective mentorship is the most critical element to the development of a successful career in academic research (Cochran et al., 2019). Lack of resources and information about how to secure resources were among the most frequently cited academic systemic barriers for female researchers (Cochran et al., 2019). Results suggest that female researchers may have to accumulate more scientific knowledge, resources, and social capital to achieve the same level of productivity and total outputs as their male counterparts (Aguinis et al., 2018). Findings from one study show gender was significantly associated with the number of publications, with female researchers being more likely to have no publications in the last three years versus male researchers (Elkbuli et al., 2020). However, results from that same study also showed that among those with protected research time, there was no significant difference in the number of publications in the last three years based on gender, suggesting that protected research time has the potential

to address gaps in research productivity that may exist (Elkbuli et al., 2020). Reasons why gender differences in protected research time prevail are still unknown but are the topic of ongoing research.

Bias in Academic Research and Research Administration

Research administrators play a vital role in facilitating a supportive research environment and making available the funding for conducting research (Mullen, 2009). Female researchers frequently experience professional and social isolation in their early years, which can have a lasting negative effect on their research development and academic promotion (Davis, 2008; Easterly, 2008; Lowenstein, 2006; Mullen, 2008, 2009). Feminist scholars have outlined the importance of informal mentoring in adult learning and development (Mullen, 2009). Research administrators have a unique opportunity and obligation to elevate the creativity, motivation, and productivity of underrepresented researchers through intentional mentorship (Mullen, 2009). Previous research highlights the link between a research administrator's knowledge of scientists' needs with the ability to help them achieve the academic goals of a successful research program (Easterly & Ricard, 2011; Pogatshnik, 2008; Robinson, 2008). Many solutions have been proposed to reduce gender bias in research, including the use of initials for the first name to mask gender in letters of support and curricula vitae when materials are reviewed for tenure, promotion, or other advancement opportunities (Easterly & Ricard, 2011). However, far too little attention has been paid to reducing bias within local research administration and research support staff.

Theoretical Foundation

Overall, studies on female academic productivity are consistent with the

stereotype content model, role-congruity, and lack-of-fit theories. These theories often report incompatibility of female gender stereotypes with stereotypes about high-status occupational roles. These studies demonstrate that women are perceived to lack the qualities needed to be successful researchers, which may contribute to discrimination and prejudice against female researchers (Carli et al., 2016). Role congruity theory proposes that the greater the overlap between a person's perceived characteristics (i.e., skills, traits, behaviors) and their job role, the greater the perceived competence in that role. The concern is that incongruity can result in prejudice (Eagly & Karau, 2002). The stereotype content model asserts that status predicts competence, and competition predicts low warmth or envy (Fiske et al., 2002). Whereas the lack-of-fit model is grounded on the premise that gender stereotypes dominate in the workplace, shaping the ways applicants and employees are perceived (Heilman & Caleo, 2018). Together, these theories provide a firm foundation for the proposed study.

Study Significance

Previous studies have shown that female academics suffer when their research is judged primarily on the strength of their biosketch (Eaton et al., 2020; Guglielmi, 2018; Tamblyn et al., 2018; Witteman et al., 2019). However, the effects of gender bias and stereotypes from research administration on female researchers' productivity have not been closely examined. Research administration is a predominately female-dominated profession, with over 80% of the profession being women worldwide and 83.5% being women in the United States (Kerridge & Scott, 2018). Central to the entire discipline of research administration is the pivotal role in the development of strategic, catalytic, and capacity-building activities designed to encourage academic researchers in attracting extramural

funding. The significance of the proposed research is to shed light on the role research administrators might play in the judgment, treatment, and productivity of female researchers. This research will contribute to the larger body of knowledge on the gender gap in academic research. To the extent that research administrators see individuals of a certain gender as more or less competent, they may be more or less likely to assist and mentor such individuals. Because stereotypes alter the weight and attention research administrators may assign given aspects of an applicant's accomplishments (Norton et al., 2004), having consistent standards for the value of various accomplishments and easy ways to compare accomplishments across applicants may decrease the activation of stereotypes. Biases in research administration could lead to a disproportionately low representation of women in research due to a lack of support and mentorship, reinforcing the perception that they are not appropriate for or successful in academic positions. Interventions may be needed to ensure women are fairly evaluated and consistently engaged by research administrators at the postdoctoral level and beyond.

Rationale

Many researchers have utilized grant applications, curricula vitae, conference abstracts, and grading rubrics to quantify and assess gender differences in academia. Several studies have shown a significant association between gender and peer-review grant application scores, with lower scores associated with female applicants (Guglielmi, 2018; Roper, 2020; Tamblyn et al., 2018; Witteman et al., 2019). When it comes to reviewing curricula vitae in the academic sciences, studies by Moss-Racusin et al. (2012) and Eaton et al. (2020) showed that participants rated a male applicant as significantly more competent and offered more career mentoring than the identical female applicant (Eaton et al., 2020; Moss-Racusin et al., 2012). Results of these

studies are significant in that faculty were less inclined to mentor female than male researchers, raising the possibility that female faculty may drop out of academic science careers in part because of reduced competence judgments, rewards, and mentoring received in their early career (Eaton et al., 2020; Moss-Racusin et al., 2012). In a similar study, faculty in physics showed a gender bias favoring the male candidates as more competent and more hireable than the otherwise identical female candidates (Eaton et al., 2020). Knobloch-Westerwick et al. (2013) and Myers et al. (2020) reported that conference abstracts from male authors were associated with greater scientific quality, and that collaboration interest was highest for male authors working on male-typed topics (Knobloch-Westerwick et al., 2013; Myers et al., 2020). Similarly, Jackson (2016) found that the use of a grading rubric amplified the effect of implicit gender bias from participants in strongly-gender normative concepts, such as an implicit association of men with science (high implicit bias).

The Current Study

The proposed study will utilize biosketches to assess whether research administrators evaluate applicants differently due to biased assessments based on gender for each career rank (student, resident, junior faculty, or senior faculty), as outlined by Moss-Racusin et al. (2012) and Eaton et al. (2020). One advantage of the biosketch approach is that it avoids the issue of creating either an unambiguously strong or an intentionally weak curriculum vitae, which might act as bias amplifiers (Eaton et al., 2020; Williams & Ceci, 2015). Due to its structure and widespread use, the biosketch acts as part curriculum vitae and part grading rubric for research administrators, allowing a more standard and even-measured approach at each level of training. In addition, this approach will allow for the collection of the participants' own social identities to assess the potential impact of the expression of gender bias and

stereotypes, including the extent to which they share identities with an applicant, which previous studies have not yet addressed (Eaton et al., 2020).

Contrary to previous research examining academic gender biases, we predicted that female and male applicants, overall, would be rated similarly in competence given that our study surveyed a female-dominated research administrator workforce (Hypothesis 1). Based on research on descriptive stereotypes, we also predicted that female candidates would be seen as more likable (researcher collegiality) and would be rated higher for mentoring potential than male candidates, as these traits may be perceived as communal and more typical of women than men (Hypothesis 2). Furthermore, consistent with prior research, we predicted that those in the senior career rank applicants would be more highly rated for research competence and skill (Hypothesis 3). Although we did not have any other formal hypotheses, we also assessed biosketch design and comprehension, and expected that senior career rank applicants would likely be more highly rated for biosketch design and comprehension due to competence in the field.

METHODS

Study Objectives

The primary purpose of the current study was to examine how applicant's gender influences perceptions of research administrators who evaluate those applicants for extramural research funding applications. Specifically, we examined research administrator's perceptions of researcher competence, grant fundability, salary conferral, mentoring potential, and researcher likeability across four levels of academic training, based on the candidate's gender. We modeled our study after two landmark studies on job discrimination in the evaluation of curriculum

vitae and resumes (Eaton et al., 2020; Moss-Racusin et al., 2012), in which the applicant name on a single resume or curriculum vitae was varied while all else was held constant.

Based on the stereotype content model (Fiske et al., 2002), as well as previous research examining scientist gender biases in academia (Eaton et al., 2020; Moss-Racusin et al., 2012), male applicants are typically rated as higher in competence and fundability than female applicants across all levels of training. However, we predicted that this difference would not be as significant in this population as previously reported in the literature since research administration is a predominately female-dominated profession. Furthermore, we also predicted that junior levels of training would have significantly more bias as research administrators might interpret experience as an equalizer at senior levels.

Study Type and Design

This quantitative causal/experimental research applied the stereotype content model and theories of role-congruity and lack-of-fit that relate the gender bias construct to variables of researcher competency in pre-award research administrators. The independent variables were defined as applicant gender and applicant career rank. The dependent variable(s) were defined as researcher competence, grant fundability, salary conferral, mentoring potential, and researcher likeability. Participant gender and participant age were considered as potential covariates.

Population and Sample

A total of 310 emails were sent on Wednesday, June 16, 2021, at 07:15 AM Central to current Society of Research Administrators International (SRAI) members. Emails were also distributed via the International Network of Research Management Societies (INORMS) to up to twenty different professional societies during the week of June 21, 2021, representing

up to 50,000 individuals. Finally, a total of 290 reminder emails were sent on Monday, July 12, 2021, at 01:00 PM Central to current SRAI members who had not yet completed the survey.

Subjects included research administrators who 1) have an active membership in one of the twenty INORMS member associations, and 3) self-identify with at least one of the stated areas of expertise, including clinical and translational research, grant writing and proposal development, leadership, and professional development, pre-award administration, research development, and/or research support operations. Participants were provided with the principal investigator's contact information and were encouraged to contact the study team if at any time they wish to withdraw from the study.

Research administrators were excluded if they did not have an active INORMS member association membership or self-identified with expertise exclusively outside the included areas of expertise. The following areas of expertise were not accepted: administration management, departmental administration, executive or senior leadership, financial management, human resources, legal issues, management and operations, post-award, research contracts and law, research ethics/integrity/compliance, or technology development/transfer as these areas typically do not work with academic researchers in submitting extramural grant applications. As the study survey was provided in English, non-English speakers were excluded from the study. Those participants who do not complete the entire survey were excluded from the final data analysis (n=65).

Creation of Biosketches

Previous literature suggests that stereotypes are most likely to be expressed in the assessment of ambiguous or average targets (Moss-Racusin et al., 2012), which allow room

for several interpretations. For this reason, the biosketches in the current study were created to represent applicants whose qualifications were average overall. First, we solicited sample biosketch content from surgical students, residents, junior faculty, and senior faculty (four career ranks) for use in content creation. These individuals were unaware of our study's hypotheses, and they were told the research team needed assistance in creating average biosketches for general research study. Similar to previous work (Eaton et al., 2020), the basis of the surgical biosketches came from real-life researchers, including real journal titles, national professional associations, and national conferences. Together, this content was used to draft a biosketch at each of the four career ranks.

The applicant names were selected among the most common first and last names indicated in the 2020 Social Security Administration. The names were Bradley Miller (the male condition) and Claire Miller (the female condition). These names were pretested and validated in a similar recent publication (Eaton et al., 2020). The biosketches differed across each of the four career ranks (to reflect the given level) but were identical across candidate gender at each level, with the exception of the candidate's first name (Table 1).

Table 1: Creation of Biosketches

| Career Level | Gender Condition (Only First Name Changed) |
|--------------------------|---|
| Student Biosketch | Bradley Miller Claire Miller |
| Trainee Biosketch | Bradley Miller Claire Miller |
| Junior Faculty Biosketch | Bradley Miller Claire Miller |
| Senior Faculty Biosketch | Bradley Miller Claire Miller |

Analysis

Simple descriptive statistics were tabulated for all variables, including participant demographic and career characteristics and responses to all survey questions. Associations between applicant gender (female vs. male) or career rank (student, resident, junior faculty, or senior faculty) and each dependent variable were estimated using cumulative link mixed models with Laplace approximation for Likert scale outcomes or linear mixed-effects models for continuous outcomes, with participant included as a random effect to account for clustered survey responses for each biosketch pair. Career rank exhibited a monotonic dose-response relationship with Likert score; thus, career rank was modeled as an ordinal predictor. Multivariate models including both applicant gender and career rank as main effects with an interaction term between applicant gender and career rank were estimated. Some regression models could not be estimated due to challenges with model estimation and performance given the small number of participants and unbalanced strata for predictors (i.e., models failed to converge or did not have a positive definite variance matrix). For those associations, dependent sample Sign Tests (for Likert scale outcomes) or Wilcoxon Signed Rank Tests (for continuous outcomes) were used to compare the paired survey responses. Other proposed covariates, including participant gender and age, were not included in statistical models due to small sample size constraints. Statistical significance for all analyses was defined as $p < 0.05$, and analyses were performed using R, version 3.6.1.

Ethical Considerations for a Deception Study

Before completing this survey, participants were told that the purpose of the study was to (a) determine how well research administrators can assess career academics based on small amounts of information and (b) compare standards for extramural funding

success at different universities. However, the study's actual purpose was to explore whether research administrators treat clinician applicants differently due to their gender at differing career ranks. Participants in the study were given, at random, the same biosketch with differing gender-specific names.

The research team intentionally withheld information regarding the study's true purpose from participants to help reduce demand characteristics and socially desirable responses. Demand characteristics are a subtle cue that makes participants aware of the true purpose of the study, or how participants are expected to behave. Demand characteristics could change the outcome of an experiment because participants will often alter their behavior to conform to expectations.

Our study design was modeled from two previous studies, Eaton et al. (2020) and Moss-Racusin et al. (2012), which used a cover story as a deception technique. No harm or reactions from participants to the use of deception was reported in either of these studies. Moreover, there was no indication that the deception would result in an increased risk to our participants. There were no reasonably effective, alternative methods available to achieve the goals of the research. The research question and limited population did not permit a double-blind study method. Any hint or cue related to gender or stereotype bias would have profoundly influenced how the participants responded to the survey. Knowing the true purpose of the study might have motivated participants to act in ways that they think are socially desirable (to make themselves look "better") or in ways that are antagonistic to the study (an attempt to throw off the results or ruin the experiment.)

At the completion of data collection, all participants were emailed a study debriefing form that indicated the study's true purpose. After learning the true purpose of the

research study, participants were given the opportunity to have their data removed from the study. No participants elected to have their data removed from the study. Participants were asked to keep the details of this study confidential until three months after the planned project end date when all data collection was completed.

As a part of our cover story, we asked participants to evaluate how research administrators perceive the formatting and content of postdoctoral biosketches. To support our cover story, four questions on the format of the biosketch were included at the beginning of the survey before participants assess the applicant's competence, likeability, and competitiveness. According to the cover story, the potential benefit of participating in the study for the individual, the greater population, and science, society, and humanity, in general, includes helping to inform cutting-edge academic research regarding biosketch formatting and content for academics. The true nature of the study provides an even more significant benefit

by informing academic research regarding how an applicant's gender influences the perceptions of research administrators who evaluate those applicants for extramural research funding applications.

Results

A total of 35 participants completed the survey and were included in the analysis. The majority of participants were female (82.9%) and living in the United States (91.4%). Small, medium, and large institutions (<10,000; 10,000-25,000; >25,000 students or employees) were approximately evenly represented across participants, and over half of the participants reported feeling at least somewhat qualified to evaluate a biosketch (Table 2). The majority of participants reported expertise related to pre-award (77.1%), grant-writing and proposal development (60.0%), and research development (57.1%), though all expertise categories were represented in the participant group.

Table 2: Demographic and Career Characteristics for All Participants

| | All participants (N=35) |
|---|-------------------------|
| Sex | |
| Female | 29 (82.9%) |
| Male | 6 (17.1%) |
| Residence | |
| Africa | 1 (2.9%) |
| Asia | 1 (2.9%) |
| Europe | 1 (2.9%) |
| United States | 32 (91.4%) |
| Institution Size | |
| Small (Less than 10,000 students/employees) | 10 (28.6%) |
| Medium (10,000 to 25,000 students/employees) | 10 (28.6%) |
| Large (More than 25,000 students/employees) | 15 (42.9%) |
| How qualified do you feel to evaluate a biosketch? | |
| Not at all Qualified | 2 (5.7%) |
| Slightly Qualified | 6 (17.1%) |
| Somewhat Qualified | 9 (25.7%) |
| Moderately Qualified | 13 (37.1%) |
| Extremely Qualified | 5 (14.3%) |

Overall, participants rated the biosketches favorably, with the median responses for all questions scored as 3 or higher (Table 3). Each participant reviewed two biosketches, and the average difference in the Likert response between biosketches was less than 1 for all questions, suggesting that participants tended to respond similarly to each biosketch as a group. However, univariate mixed effects models predicting survey response by applicant gender or career rank while controlling for correlated participant responses revealed that both predictors (gender and career rank) were significantly associated with more favorable responses to survey questions

in all categories. These included biosketch design and comprehension, researcher competence and skill, grant fundability, researcher collegiality, mentoring potential, and salary and competitiveness (Table 4). Most univariate associations held after adjustment for the other predictor. In multivariate models including both applicant gender and career rank, female gender was more strongly associated with higher responses on questions relating to researcher collegiality and mentoring potential, while more senior career rank tended to more strongly predict favorable responses for biosketch design and comprehension, research competence and skill.

Table 3: Survey Response Descriptive Statistics for All Participants

| | Median (Min, Max) | Mean (SD) | Mean difference* |
|--|-------------------|--------------|------------------|
| Researcher competence | | | |
| How easy was it for you to navigate the biosketch? | 5.00 [2.00, 5.00] | 4.44 (0.845) | 0.0857 (0.853) |
| How complete or comprehensive was the information in the biosketch? | 4.00 [1.00, 5.00] | 3.74 (1.11) | 0.171 (1.42) |
| How professional was the biosketch? | 4.00 [1.00, 5.00] | 4.01 (1.06) | -0.0286 (1.36) |
| How well-written was the biosketch? | 4.00 [2.00, 5.00] | 3.86 (1.07) | 0.114 (1.32) |
| Based on the biosketch you read, did the applicant strike you as competent? | 4.00 [1.00, 5.00] | 4.10 (0.995) | 0.371 (1.55) |
| How likely is it that the applicant has the necessary skills for the research project? | 4.00 [1.00, 5.00] | 3.80 (1.11) | 0.514 (1.69) |
| How qualified do you think the applicant is? | 4.00 [1.00, 5.00] | 3.91 (1.02) | 0.400 (1.59) |
| Grant fundability | | | |
| How likely would you be to encourage the applicant to submit an NIH grant, assuming it is appropriate for their level of training and experience? | 4.00 [2.00, 5.00] | 3.93 (1.04) | 0.429 (1.52) |
| How likely do you think it would be for the applicant to make the “first cut” (be in the top tier of applicants) if they applied for an NIH grant? | 3.00 [1.00, 5.00] | 3.30 (1.09) | 0.429 (1.60) |
| How likely do you think it would be for the applicant to be awarded an NIH grant award? | 3.00 [1.00, 5.00] | 3.10 (1.11) | 0.486 (1.52) |
| Researcher likeability | | | |
| Based on the biosketch you read, how much did you like the applicant? | 4.00 [1.00, 5.00] | 3.73 (0.947) | 0.543 (1.31) |
| Would you characterize the applicant as someone you want to get to know better? | 4.00 [1.00, 5.00] | 3.63 (0.951) | 0.457 (1.22) |
| Would the applicant fit in well with other faculty members at your institution? | 4.00 [1.00, 5.00] | 3.67 (1.05) | 0.429 (1.44) |
| Mentoring potential | | | |
| How likely would you be to encourage the applicant to stay in the field if he/she was considering changing research topics? | 4.00 [2.00, 5.00] | 3.76 (0.842) | 0.600 (0.775) |
| How likely would you be to encourage the applicant to continue to focus on research if he/she was considering switching focus away from research? | 4.00 [2.00, 5.00] | 3.81 (0.767) | 0.314 (0.718) |
| How likely would you be to give the applicant extra help if he/she was having trouble mastering a difficult research concept? | 4.00 [2.00, 5.00] | 4.16 (0.828) | 0.0857 (0.658) |
| How competitive overall is the candidate? | 4.00 [1.00, 5.00] | 3.64 (1.14) | 0.371 (1.54) |
| How competitive is their honors record? | 4.00 [1.00, 5.00] | 3.49 (1.28) | -0.114 (1.92) |
| How competitive is their grants and awards record? | 3.00 [1.00, 5.00] | 2.71 (1.49) | 0.171 (2.42) |

| | Median (Min, Max) | Mean (SD) | Mean difference* |
|--|------------------------|--------------------|--|
| How competitive is their professional experience record? | 4.00 [1.00, 5.00] | 3.49 (1.30) | -0.171 (2.08) |
| How competitive is their publication record? | 3.00 [1.00, 5.00] | 2.97 (1.41) | 0.286 (2.05) |
| How competitive is their presentations and posters record? | 3.00 [1.00, 5.00] | 2.50 (1.33) | 0.314 (1.76) |
| Salary conferral | | | |
| Please indicate the starting salary you would recommend for the applicant at an institution like yours (in UNITED STATES dollars). | \$120000 [0, \$350000] | \$129000 (\$83800) | Mean: \$1790 (128000) Median: \$0 [-285000, 350000] |
| Compared to the average applicant for a position at an institution like mine, the applicant I just read about would rank in the top __% for overall excellence (with lower numbers indicating a higher ranking). | 25.0 [5.00, 80.0] | 30.9 (20.8) | Mean: -1.00 (27.9) Median: 0 [-50.0, 50.0] |

* mean difference in participant responses between the biosketch pairs.

Both gender and career rank were significantly associated with applicant grant fundability and salary and competitiveness questions. On average, participants recommended starting salaries that were \$6,000 higher for female applicants (male salary = \$136,000 (SD=79,800); female salary = \$142,000 (SD=99,200)), with markedly different recommendations by career level (student = \$88,600 (SD=49,900); resident = \$87,300 (SD=48,500); junior faculty = \$163,000 (SD=78,300); senior faculty = \$215,000 (SD=96,100)).

Interaction models revealed statistically significant main and interaction effects between applicant gender and career rank for the question "How easy was it for you to navigate the biosketch?". Specifically, female gender and higher career rank were both significantly associated with more favorable

survey responses, while the joint effect of female gender and higher career rank was negatively associated with favorable response (main effects β (SE, p-value): gender = 0.40 (0.004, <0.0001); career rank = 0.15 (0.004, <0.0001); interaction = -0.05 (0.004, <0.0001)). No other interactions were statistically significant (results not shown). It is important to note that these models were underpowered due to small sample size.

Table 4: Univariate, Multivariate, and Interaction Models Estimating Associations Between Applicant Gender or Career Rank and Survey Responses

| | Univariate model β (SE), p-value | Multivariate model β (SE), p-value |
|---|---|---|
| Design and Comprehension | | |
| How easy was it for you to navigate the biosketch? | | |
| Applicant Gender | 0.26 (0.003), <0.0001 | 0.27 (0.58), 0.64 |
| Applicant Level | 0.13 (0.28), 0.65 | 0.13 (0.28), 0.65 |
| Applicant Gender*Level | | |
| How complete or comprehensive was the information in the biosketch? | | |
| Applicant Gender | 0.39 (0.46), 0.40 | 0.48 (0.47), 0.31 |
| Applicant Level | 0.60 (0.23), 0.01 | 0.62 (0.24), 0.009 |
| Applicant Gender*Level | | |
| How professional was the biosketch? | | |
| Applicant Gender | -0.11 (0.46), 0.81 | -0.08 (0.46), 0.87 |
| Applicant Level | 0.28 (0.22), 0.19 | 0.28 (0.22), 0.20 |
| Applicant Gender*Level | | |
| How well-written was the biosketch? | | |
| Applicant Gender | 0.20 (0.46), 0.67 | 0.22 (0.47), 0.64 |
| Applicant Level | 0.41 (0.24), 0.08 | 0.42 (0.24), 0.08 |
| Applicant Gender*Level | | |
| Researcher Competence and Skill | | |
| Based on the biosketch you read, did the applicant strike you as competent? | | |
| Applicant Gender | <0.0001a | -- |
| Applicant Level | 0.89 (0.22), <0.0001 | -- |
| Applicant Gender*Level | | |
| How likely is it that the applicant has the necessary skills for the research project? | | |
| Applicant Gender | 0.86 (0.44), 0.052 | 0.98 (0.45), 0.03 |
| Applicant Level | 0.70 (0.22), 0.001 | 0.74 (0.22), 0.0009 |
| Applicant Gender*Level | | |
| How qualified do you think the applicant is? | | |
| Applicant Gender | <0.0001a | -- |
| Applicant Level | 0.88 (0.23), 0.0001 | -- |
| Applicant Gender*Level | | |
| Grant Fundability | | |
| How likely would you be to encourage the applicant to submit an NIH grant, assuming it is appropriate for their level of training and experience? | | |
| Applicant Gender | 0.84 (0.001), <0.0001 | 1.08 (0.49), 0.03 |
| Applicant Level | 0.81 (0.24), 0.0007 | 0.90 (0.26), 0.0005 |
| Applicant Gender*Level | | |

| | Univariate model β (SE), p-value | Multivariate model β (SE), p-value |
|--|---|---|
| How likely do you think it would be for the applicant to make the “first cut” (be in the top tier of applicants) if they applied for an NIH grant? | | |
| Applicant Gender | <0.0001a | 0.75 (0.44), 0.09 |
| Applicant Level | 0.80 (0.22), 0.0003 | 0.81 (0.23), 0.0003 |
| Applicant Gender*Level | | |
| How likely do you think it would be for the applicant to be awarded an NIH grant award? | | |
| Applicant Gender | <0.0001a | 1.07 (0.48), 0.02 |
| Applicant Level | 0.94 (0.25), 0.0002 | 1.02 (0.27), 0.0001 |
| Applicant Gender*Level | | |
| Researcher Collegiality | | |
| Based on the biosketch you read, how much did you like the applicant? | | |
| Applicant Gender | 1.14 (0.47), 0.02 | 1.14 (0.48), 0.02 |
| Applicant Level | 0.07 (0.20), 0.71 | 0.08 (0.21), 0.70 |
| Applicant Gender*Level | | |
| Would you characterize the applicant as someone you want to get to know better? | | |
| Applicant Gender | 0.97 (0.48), 0.04 | 1.01 (0.48), 0.04 |
| Applicant Level | 0.20 (0.23), 0.37 | 0.23 (0.23), 0.31 |
| Applicant Gender*Level | | |
| Would the applicant fit in well with other faculty members at your institution? | | |
| Applicant Gender | 0.81 (0.45), 0.07 | 0.86 (0.002), <0.001 |
| Applicant Level | <0.0001a | 0.44 (0.002), <0.001 |
| Applicant Gender*Level | | |
| Mentoring Potential | | |
| How likely would you be to encourage the applicant to stay in the field if he/she was considering changing research topics? | | |
| Applicant Gender | 2.37 (0.69), 0.0006 | 2.46 (0.71), 0.0005 |
| Applicant Level | 0.15 (0.23), 0.52 | 0.27 (0.26), 0.30 |
| Applicant Gender*Level | | |
| How likely would you be to encourage the applicant to continue to focus on research if he/she was considering switching focus away from research? | | |
| Applicant Gender | 1.45 (0.60), 0.02 | 1.47 (0.65), 0.02 |
| Applicant Level | 0.04 (0.24), 0.89 | 0.08 (0.29), 0.79 |
| Applicant Gender*Level | | |
| How likely would you be to give the applicant extra help if he/she was having trouble mastering a difficult research concept? | | |
| Applicant Gender | 0.47 (0.57), 0.41 | 0.48 (0.58), 0.41 |
| Applicant Level | 0.14 (0.28), 0.62 | 0.14 (0.28), 0.62 |
| Applicant Gender*Level | | |
| Salary and Competitiveness | | |

| | Univariate model β (SE), p-value | Multivariate model β (SE), p-value |
|--|---|---|
| How competitive overall is the candidate? | | |
| Applicant Gender | 0.84 (0.45), 0.06 | 0.94 (0.48), 0.05 |
| Applicant Level | 0.76 (0.23), 0.001 | 0.80 (0.24), 0.001 |
| Applicant Gender*Level | | |
| How competitive is their honors record? | | |
| Applicant Gender | -0.15 (0.43), 0.72 | -0.17 (0.44), 0.69 |
| Applicant Level | 0.83 (0.24), 0.0004 | 0.83 (0.24), 0.0004 |
| Applicant Gender*Level | | |
| How competitive is their grants and awards record? | | |
| Applicant Gender | 0.56a | 0.29 (0.47), 0.54 |
| Applicant Level | 1.65 (0.35), <0.0001 | 1.65 (0.35), <0.0001 |
| Applicant Gender*Level | | |
| How competitive is their professional experience record? | | |
| Applicant Gender | <0.0001a | -0.35 (0.48), 0.46 |
| Applicant Level | 1.71 (0.39), <0.0001 | 1.72 (0.39), <0.0001 |
| Applicant Gender*Level | | |
| How competitive is their publication record? | | |
| Applicant Gender | 0.005a | 0.57 (0.48), 0.23 |
| Applicant Level | 1.17 (0.28), <0.0001 | 1.23 (0.30), <0.0001 |
| Applicant Gender*Level | | |
| How competitive is their presentations and posters record? | | |
| Applicant Gender | 0.49 (0.45), 0.27 | 0.52 (0.45), 0.25 |
| Applicant Level | 0.38 (0.21), 0.07 | 0.39 (0.21), 0.07 |
| Applicant Gender*Level | | |
| Please indicate the starting salary you would recommend for the applicant at an institution like yours (in UNITED STATES dollars). | | |
| Applicant Gender | <0.0001b | -- |
| Applicant Level | <0.0001b | -- |
| Applicant Gender*Level | -- | -- |
| Compared to the average applicant for a position at an institution like mine, the applicant I just read about would rank in the top __% for overall excellence (with lower numbers indicating a higher ranking). | | |
| Applicant Gender | <0.0001b | -- |
| Applicant Level | <0.0001b | -- |
| Applicant Gender*Level | -- | -- |

ap-values estimated using dependent samples Sign Test

bp-values estimated using Wilcoxon Signed Rank Test

DISCUSSION

The percentage of women in academic science has increased dramatically during the past several decades, and yet a large gender gap remains. The proportion of graduating female medical students has increased on average 0.5% in the last decade, however female full professors still make up less than 10% of all full professors in academic medicine (Abelson et al., 2016). At the current rate, gender equivalence will not be reached until the year 2135. A similar storyline exists in female researcher success. Despite many years of work to diminish gender bias, female researchers often “disappear” after 10 years in academic research (Easterly & Ricard, 2011). While there has been a dramatic rise in female recipients of first-time NIH extramural funding over the last decade (Krebs et al., 2020), female researchers consistently have fewer publications, submit fewer grant applications, and request lower budgets than their male faculty counterparts (Krebs et al., 2020).

Women are often perceived to lack the qualities needed to be successful scientists, which may contribute to discrimination and prejudice against female researchers (Carli et al., 2016). Prior research has demonstrated that female researchers suffer when their extramural proposals are judged primarily on the strength of their curriculum vitae or biosketch, (Eaton et al., 2020; Guglielmi, 2018; Tamblyn et al., 2018; Witteman et al., 2019). Witteman et al. (2019) reviewed over 23,918 grant applications from 7,093 principal investigators and concluded that, “gender gaps in grant funding are attributable to less favourable assessments of women as principal investigators, not of the quality of their proposed research” (p. 531).

While great progress has been made, female researchers are still not achieving the same level of sustained success and promotion as their male counterparts. The purpose of this

investigation was to explore whether research administrators contribute to this disparity in their evaluation of faculty. Specifically, this study evaluated if research administrators assess applicants differently due to biased assessments of their gender for multiple career ranks. The present work goes beyond previous examinations of gender and stereotypes by exploring the potential impact of research administrator’s gender bias on female academic productivity. Research administrators play a pivotal role in the development of strategic, catalytic, and capacity-building activities designed to encourage academic researchers in attracting extramural research funding (Ross, 2017). Our hypotheses were generally supported by the data. Gender bias was not significant across male and female applicants in research administrator’s evaluations of applicant biosketches for extramural research funding applications.

Preliminary Analysis

Overall, research administrators rated the biosketches favorably, with the median responses for all questions scored as 3 (somewhat) or higher (Table 3). Each research administrator reviewed two biosketches, each of a different gender and career rank, and the average difference in the Likert response between biosketches was less than 1 for all questions, suggesting that research administrators tended to respond similarly to each biosketch as a group.

Research administration is a predominately female-dominated profession with over 80% of the profession being women worldwide, and 83.5% being women in the United States (Kerridge & Scott, 2018). Consistent with these findings, study participants were 82.9% female, with 17.1% male. Regarding institution size, the majority of participants were from a large institution with more than 25,000 students/employees (42.9%), with equal representation from small and medium organizations (28.6%, respectively). Lastly,

nearly all participants were from the United States (91.4%), with one participant each from Africa, Asia, and Europe (Table 2).

Participant expertise was largely noted as pre-award (77.1%) administrators who mainly work in grant-writing and proposal development (60.0%), and administration management (57.1%). Followed closely by research development (54.3%), research support operations (51.4%), leadership and professional development (45.7%), post-award (45.7%), management and operations (45.7%), and departmental administration (40.0%). Additional expertise noted included executive or senior leadership (31.4%), financial management (31.4%), research ethics/integrity/compliance (31.4%), clinical and translational research (25.7%), research contracts and law (11.4%), legal issues (5.7%), technology development/transfer (5.7%) and human resources (8.6%).

HYPOTHESIS 1: APPLICANTS RATED SIMILAR IN RESEARCHER COMPETENCE.

Contrary to previous research examining faculty gender biases and stereotypes, our findings show that extramural applicants were rated similar in competence and hireability across both male and female applicants by research administrators (Hypothesis 1). This finding, while preliminary, suggests that traditional barriers related to perceived female researcher competence are not experienced as they interact with research administrators. One implication of this is that research administrators do not play a significant role in the negative judgment or treatment of female researchers. However, with a small sample size, caution must be applied, as the findings need additional investigation.

Gender Evaluations and Research Networks

Given that the research administrative profession is largely female (85%),

traditional barriers related to perceived female researcher competence may not be experienced as they interact with the largely female research administrator population. However, this is a complex and multifaceted topic in previously published literature. Two studies showed that evaluators tend to prefer applicants of the same gender (Casadevall & Handelsman, 2014; De Paola & Scoppa, 2015); however, in two other studies conducted in the same disciplines, evaluators exhibited a preference for applicants of the opposite gender (Broder, 1993; Ellemers et al., 2004).

Recent literature suggests that academic female evaluators are not significantly more favorable toward female candidates. Bagues et al. (2017) examined 100,000 applications and 8,000 evaluators for the qualification evaluations for full and associate professorships in all academic fields. In general, findings suggest that female evaluators neither increases the success rate of female candidates, nor does it alter the quality of selected candidates. In fact, in all but one subsample, Bagues et al. (2017) observed the opposite pattern in success rates; committees with a larger percentage of female members tend to be relatively less favorable toward female candidates. No empirical literature exists examining the relationship between female research administrators and female researchers.

Another consideration is that research networks tend to be gendered (Boschini & Sjögren, 2007; Hilmer & Hilmer, 2007). Zinovyeva and Bagues (2015) suggest that male candidates may receive higher scores as they are more likely to be more acquainted with evaluators and would benefit from these connections. The parameters of this study eliminate any benefit from previously established relationships as the biosketches were fabricated by the study team and no possible connection could have been recognized with any participating research

administrator. However, in the real-world setting, connections between established researchers and their research administrators may play a significant role in applicant evaluation, with or without gender or stereotype implications. More empirical work is needed to understand these connections and the impact of gender evaluations in research administration in this context.

HYPOTHESIS 2: FEMALE APPLICANTS RATED HIGHER IN COLLEGIALLY AND MENTORING POTENTIAL.

Our research also showed that female applicants were generally seen as more likeable (researcher collegiality) and were rated higher for mentoring potential than male applicants (Hypothesis 2). These traits may be perceived as communal and more typical of women than men (Carli et al., 2016; Eaton et al., 2020). While female researchers may score high on mentoring potential, their full potential is rarely reached and there are still stark gender inequalities in research career development.

Inaccessible Mentoring Potential

Female (and especially attractive female) leaders, regardless of their discipline and the reason they were chosen to lead, are consistently rated higher than their male faculty counterparts (Hamel, 2014). Female applicants are consistently rated higher in collegiality and mentoring potential; and yet research also confirms that mentoring potential is often never fully realized in female researchers (Cross et al., 2019). The typically lower faculty status and profile of female researchers, together with the need to align personal factors and ensure a good match, limit female researcher access to quality mentors (Steele et al., 2013). Female faculty can find it difficult and time-consuming to

find a suitable research mentor with similar interests (Levine et al., 2011). Personal and social dynamics were heightened for some female researchers due to individual attributes such as gender, age, cultural differences, past experience and changing needs (Wasserstein et al., 2007).

Mentoring specifically for female researchers in academic medicine has been frequently explicitly or implicitly regarded as an intervention with the goal of reducing gender inequalities in career development, but to date there has been no publications that link mentoring to theories about the origins of such inequality (House et al., 2021). Over 4,200 articles have been published since 2006 specific to mentoring schemes to reduce gender inequalities in academic medicine, and yet no robust evidence of effectiveness in reducing gender inequalities has been reported. For those articles where mentoring was aimed at supporting female researchers, there was little description of what constituted gender-specific mentoring, the terminology used to describe mentoring was inconsistent, and reported outcomes were not gender-specific—limiting further scholarly discourse (House et al., 2021).

One commonly discussed reason for lack of mentorship in the field is that faculty may not want to appear to meet alone with a faculty member of the opposite gender for fear of sexual harassment, false accusations, or the appearance of impropriety. Likewise, some men reported difficulty giving criticism to women (Koopman & Thiedke, 2005). This can create problems for mentoring females in male-dominated fields, even though mentoring is critical, and department relationships are a key component of the climate that may cause women to leave scientific fields (Bates et al., 2016; Callister, 2006). Patton et al. (2017) speculated that female mentees may have less powerful mentors, resulting in diminished academic

success, and that mentors may be less likely to think of female mentees for research mentorship opportunities. Although research is a necessary component of promotion, overall female faculty members tend to spend more time teaching and engaging in service activities, whereas male faculty allot more time for research endeavors (Hill et al., 2005; Varnado-Johnson, 2018). The opposite gender theory behind mentoring and the bias it may bring may be less prevalent in our population as the research administrators were primarily women working with female scientists.

HYPOTHESIS 3: SENIOR CAREER RANK APPLICANTS RATED HIGHER IN RESEARCH COMPETENCE AND SKILL.

Furthermore, consistent with prior research, findings suggest that those in the senior career rank were more highly rated for research competence and skill (Hypothesis 3). Specific to this study, only half of the participants reported feeling at least moderately qualified to evaluate a biosketch; and yet, as a whole, all participants were able to rank and recognize the skills of senior level faculty as higher throughout the study. This finding upholds the success of the study team in creating realistic biosketches and reasonable skill of the research administrators in their ability to evaluate a biosketch.

Associations Between Gender and Rank

Although we did not list a formal hypothesis, our findings did support the notion that senior career rank applicants are more highly rated for biosketch design and comprehension, most likely due to their perceived competence and advanced experience.

In regards to the interaction between gender and career rank, the findings of this study showed that a positive association between

female gender or higher career rank to the question, "How easy was it for you to navigate the biosketch," was diminished when the value of the other variable is high. A higher career rank is associated with favorable scores, but that positive association weakens for women; while a lower career rank weakens the positive association between gender and favorable score. In other words, being both female and having a higher career rank may drop the score, but it does not have major implications as the overall response was still favorable.

Limitations

The relatively small sample size hampered some statistical models and may not provide the statistical power to determine if the findings of this research are true for the general population. Notwithstanding these limitations, the study suggests that research administrators do not play a significant role in the negative judgment or treatment of female researchers. Several questions still remain to be answered. Considerably more work will need to be done to determine the effect Research Administrator's play on the development, productivity, and success of female researchers. If the debate is to be moved forward, a better understanding of how research administrators determine their workload, how that workload effects faculty productivity, and numerous other environmental factors which may influence academic researchers' productivity must be explored.

CONCLUSIONS

Female faculty remain a minority in academic research and women are often perceived to lack the qualities needed to be successful scientists, which may contribute to discrimination and prejudice against female researchers. Research administrators play a pivotal role in the development of strategic, catalytic, and capacity-building activities

designed to encourage faculty in attracting extramural research funding. The purpose of this investigation was to explore whether research administrators evaluate extramural grant applicants differently based on gender and different career ranks.

Contrary to previous research examining faculty gender biases and stereotypes, our study showed that applicants were rated similarly in researcher competence across both male and female applicants by research administrators (Hypothesis 1). Female candidates were generally seen as more likeable (researcher collegiality) and were rated higher for mentoring potential than male candidates (Hypothesis 2). Furthermore, applicants in the senior career rank were more highly rated for research competence and skill (Hypothesis 3) and for biosketch design and comprehension. These findings, while preliminary, suggest that traditional barriers related to perceived female researcher competence are not experienced as they interact with research administrators. The main implication of this study is that research administrators do not appear to significantly contribute to the previously reported discrimination and prejudice against the competence of female researchers.

Holly R. Zink, MSA*

Research Medical Writer
University of Kansas Medical Center,
Department of Surgery
Kansas City, Kansas 66160-8501, USA
Email: hzink2@kumc.edu.

Sarah A. Keim, Ph.D.

Associate Professor of Surgery
University of Kansas Medical Center,
Department of Surgery
Kansas City, Kansas 66160-8501, USA
Email: skeimjanssen@kumc.edu.

Lynn Chollet-Hinton, Ph.D., MSPH

Assistant Professor
University of Kansas Medical Center,
Department of Biostatistics & Data Science
Kansas City, Kansas 66160-8501, USA
Email: lhinton@kumc.edu.

Colin Cernik, MS

Senior Research Analyst
University of Kansas Medical Center,
Department of Biostatistics & Data Science
Kansas City, Kansas 66160-8501, USA
Email: ccernik@kumc.edu.

Kelsey E. Larson, MD

Assistant Professor of Surgery
University of Kansas Medical Center,
Department of Surgery
Kansas City, Kansas 66160-8501, USA
Email: klarson6@kumc.edu.

*Correspondence concerning this article should be addressed to: Holly R. Zink, MSA, Department of Surgery, The University of Kansas Medical Center, 4000 Cambridge Street, Mailstop 2005, Kansas City, Kansas 66160-8501, USA. Telephone: +1 (913) 945-6026, Email: hzink2@kumc.edu.

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APPENDIX A – RESEARCH SURVEY

1. Participant Consent
2. Participant Screening
 - a. What are your areas of expertise in research administration (check all that apply)?
 - i. Clinical and Translational Research
 - ii. Grant-writing & Proposal Development
 - iii. Leadership and Professional Development
 - iv. Pre-award
 - v. Research Development
 - vi. Research Support Operations
 - vii. Administration Management
 - viii. Departmental Administration
 - ix. Executive or Senior Leadership
 - x. Financial Management
 - xi. Human Resources
 - xii. Legal Issues
 - xiii. Management and Operations
 - xiv. Post-award
 - xv. Research Contracts and Law
 - xvi. Research Ethics/Integrity/Compliance
 - xvii. Technology Development/Transfer
3. Randomization
 - a. In order to facilitate randomization, please select the group with the first letter of your last name:
 - i. Group A-F
 - ii. Group G-L
 - iii. Group M-R
 - iv. Group S-Z
4. First Biosketch
 - a. Please open and review the first biosketch.
 - b. Which biosketch did you receive? Please type the first and last name of the individual listed at the _____ top of your biosketch.
5. Design and Comprehension (1 - Not at all 2 - Slightly 3 - Somewhat 4 - Moderately 5 - Extremely)
 - a. How easy was it for you to navigate the biosketch?
 - b. How complete or comprehensive was the information in the biosketch?
 - c. How professional was the biosketch?
 - d. How well-written was the biosketch?
6. Researcher Competence and Skill (1 - Not at all 2 - Slightly 3 - Somewhat 4 - Moderately 5 - Extremely)
 - a. Based on the biosketch you read, did the applicant strike you as competent?
 - b. How likely is it that the applicant has the necessary skills for the research project?
 - c. How qualified do you think the applicant is?

7. Grant Fundability (1 – Extremely Unlikely 2 - Unlikely 3 - Neutral 4 - Likely 5 – Extremely Likely)
 - a. How likely would you be to encourage the applicant to submit an NIH grant, assuming it is appropriate for their level of training and experience?
 - b. How likely do you think it would be for the applicant to make the “first cut” (be in the top tier of applicants) if they applied for an NIH grant?
 - c. How likely do you think it would be for the applicant to be awarded an NIH grant award?
8. Research Collegiality (1 - Not at all 2 - Slightly 3 - Somewhat 4 - Moderately 5 – Extremely)
 - a. Based on the biosketch you read, how much did you like the applicant?
 - b. Would you characterize the applicant as someone you want to get to know better?
 - c. Would the applicant fit in well with other faculty members at your institution?
9. Mentoring Potential (1 - Extremely Unlikely 2 - Unlikely 3 - Neutral 4 - Likely 5 - Extremely likely)
 - a. How likely would you be to encourage the applicant to stay in the field if he/ she was considering changing research topics?
 - b. How likely would you be to encourage the applicant to continue to focus on research if he/she was considering switching focus away from research?
 - c. How likely would you be to give the applicant extra help if he/she was having trouble mastering a difficult research concept?
10. Salary and Competitiveness
 - a. Please indicate the starting salary you would recommend for the applicant at an institution like yours (in UNITED STATES dollars): _____
 - b. Compared to the average applicant in Surgery for a position at an institution like mine, the applicant I just read about would rank in the top _____% for overall excellence (with lower numbers indicating a higher ranking).
11. Salary and Competitiveness (1 - Not at all Competitive 2 - Slightly Competitive 3 - Somewhat Competitive 4 - Moderately Competitive 5 - Extremely Competitive)
 - a. How competitive overall is the candidate?
 - b. How competitive is their honors record?
 - c. How competitive is their grants and awards record?
 - d. How competitive is their professional experience record?
 - e. How competitive is their publication record? How competitive is their presentations and posters record?
12. Second Biosketch (Repeat Survey Sections 4 through 11.)
13. Participant Demographics
 - a. How qualified do you feel to evaluate a biosketch? (1 - Not at all Qualified 2 - Slightly Qualified 3 - Somewhat Qualified 4 - Moderately Qualified 5 - Extremely Qualified)
 - b. Please list an email address to receive the study debriefing email.
 - c. Your gender:
 - i. Male
 - ii. Female
 - iii. Other
 - d. Where is your home located?
 - i. United States
 - ii. North America (Non-USA)

- iii. Europe
- iv. Australia
- v. Asia
- vi. Africa
- vii. South America
- e. What is the size of your institution?
 - i. Small (Less than 10,000 students/employees)
 - ii. Medium (10,000 to 25,000 students/employees)
 - iii. Large (More than 25,000 students/employees)
- f. Please list any additional comments or thoughts you might have about this study.

FROM COMPLIANCE TO INCLUSION: IMPLEMENTING AN EQUITY, DIVERSITY AND INCLUSION ACTION PLAN FOR A FEDERAL FUNDING PROGRAM IN CANADA

Terry Campbell

University of Ottawa

Valérie Bourbonnais

University of Ottawa

ABSTRACT

Like many other countries, Canada's academic system has been challenged to achieve proportionate representation of historically underrepresented groups. Canadian equity law identifies four designated groups (FDG) for whom conditions of disadvantage shall be corrected: women, Indigenous peoples, persons with disabilities, and members of visible minorities. In 2006 the Canadian Human Rights Tribunal issued a settlement agreement with the Canada Research Chairs program, a federally-funded research program, in response to a complaint concerning the lack of representation of the FDG among the program's appointed Chairs. The agreement identified a series of measures and actions, such as setting equity targets and ongoing tracking, that the Program would undertake. In 2017, due to lack of progress in improving equitable participation in the Program, the Program established new requirements for institutions to develop equity, diversity and inclusion (EDI) action plans.

This case study examines how the University of Ottawa implemented its EDI action plan to meet the regulatory compliance requirements of this national research chairs funding

program, and how it used the plan to help drive equity, diversity and inclusion activities at its institution. The study describes the activities undertaken by the Vice-President Research Office, including the analyses conducted to identify barriers to participation in the program, actions taken, and results achieved. Over a two-year period, the University recruited more than 20 research chairs from underrepresented groups, thereby meeting all equity targets and exceeding targets for three of four groups.

In conjunction with the initial implementation of the EDI plan, broader institutional level activities were undertaken, including creation of an advisory committee that guided the development of a broader EDI in Research Action Plan.

Key observations from this study are: effective equity, diversity and inclusion strategies are sustained efforts which are context-specific; compliance requirements can be effective incentives if implemented as part of a larger institutional transformation; and research administrators have a key role to play in this area, which is part of their expanding tool kit.

Keywords:

research management; equity, diversity, inclusion, action plan; canada research chairs

BACKGROUND

Similar to many other countries, Canada's academic system has been challenged to achieve proportionate representation of historically underrepresented groups. In their comparative analysis of Canada, United States, United Kingdom and Australia, Henry et al. (2017) noted that irrespective of the differences in how these four countries categorize the academic work force, there is evidence that underrepresentation occurs everywhere, with women underrepresented relative to men across all groups, and evidence of significant differences in the representation of historically racialized groups. This underrepresentation points to long-standing, inflexible barriers to access and participation (Henry et al., 2017).

Canada's federal employment equity law defines four designated groups (FDG): women, Aboriginal people (referred to as Indigenous peoples), persons with disabilities, and members of visible minorities (Employment Equity Act, 1995). The Canadian Human Rights Commission oversees enforcement of this law whose purpose is to ensure that all Canadians have equal access to the labour market and that employers correct the disadvantages that individuals in these groups experience (Canadian Human Rights Commission, 2022).

In 2003, a complaint was filed with the Canadian Human Rights Commission against the Canada Research Chairs Program, a federally-funded research chairs program established in 2000, concerning the lack of representation of the four designated groups among the program's appointed Chairs. In 2006 the Canadian Human Rights Tribunal issued a settlement agreement in which the Program agreed to implement a series of measures and actions, such as setting equity targets and ongoing tracking, to address the equity issues raised by the complainants (Canadian Human Rights Tribunal, 2006).

Following its initial implementation of the settlement agreement, the Canada Research Chairs Program reviewed progress as part of its regular five-year program evaluations. In the first evaluation, evaluators recommended that universities be more transparent in their Chair selection and renewal processes; however, the next evaluation in 2016 was more critical, focusing on the fact that universities were not meeting their equity targets (Canada Research Chairs Program, 2010, 2016). In response to this 15th-year evaluation of the Program, the Program released its own Equity, Diversity and Inclusion Action Plan in spring 2017 which included additional requirements for institutions—some to be met by October of that same year, and the remainder to be completed two years later, in December 2019 (Canada Research Chairs Program, May 2017).

This case study focuses on how a Canadian university, the University of Ottawa, implemented its Institutional EDI Action Plan to meet the regulatory compliance requirements of the Canada Research Chairs Program, and how it used this to help drive equity, diversity and inclusion activities at its institution.

PROGRAM REQUIREMENTS

The Canada Research Chairs Program is a federal program which funds more than 2000 research chairs in Canadian universities. The Program aims are “to attract and retain excellent researchers in Canadian universities; to improve universities' capacity for generating and applying new knowledge; to strengthen the training of highly qualified personnel (HQP); and to optimize the use of research resources through strategic planning” (Canada Research Chairs Program, 2010, p. 1).

Institutions are awarded two types of Chairs (Tier 1 for senior researchers and Tier 2 for early career researchers) based on the amount of research funding the researchers at

their institution have received over the three previous years from the three federal granting agencies (SSHRC; NSERC; CIHR). Universities then nominate researchers to receive these Chairs. These nominations are peer-reviewed and awarded by the Program.

The Canada Research Chairs Equity, Diversity and Inclusion compliance requirements and timelines were: 1. Posting of Public accountability statements on institutional website (October 27, 2017); 2. Development of Institutional Equity Action Plan (December 15, 2017); and 3. All Equity targets would be met (December 2019) (Canada Research Chairs Program, 2017). Action Plans were required to pass the Program's peer review process. Institutions were required to meet all requirements in order to receive ongoing funding from the Program.

In 2017, the University of Ottawa, one of Canada's research-intensive universities, had an allocation of 75 Canada Research Chairs. The bilingual institution located in the nation's capital of Ottawa was in a rapid growth phase, with a student population of 41,800; 1,250 regular professors; and research revenues which exceeded \$320 M. It had met its CRC targets for only one designated group (visible minorities).

The Canada Research Chairs program defines equity as "...the removal of systemic barriers and biases enabling all individuals to have equal access to and to benefit from the program." Diversity is "... differences in race, colour, place of origin, religion, immigrant and newcomer status, ethnic origin, ability, sex, sexual orientation, gender identity, gender expression, and age" and "...must be accompanied by concerted and meaningful efforts to ensure inclusion." Finally, inclusion is "...the practice of ensuring that all individuals are valued and respected for their contributions and equally supported..." (Canada Research Chairs Program, 2021a, para. 1).

DEVELOPMENT AND IMPLEMENTATION OF INSTITUTIONAL EDI ACTION PLAN

The Vice-President, Research was responsible for the development of the uOttawa Canada Research Chairs Institutional EDI Action Plan (IEDIAP). These activities were led by the University Research Office, Research Management Services, the unit responsible for the internal management of the university's Canada Research Chairs program (CRC).

A review was undertaken of the University's policy and administrative context to inform the development of the Action Plan. This employment systems review included an overview of institutional policies and practices related to the university's management of its CRC allocation, equity data collection, resource allocation, and retention and inclusivity. The review showed that the university had significant gaps in the representation of all four designated employment equity groups in all employment categories, as indicated in the university's 2016 employment equity report to the Federal government (University of Ottawa, 2019).

Staff also conducted a comparative review of existing CRC holders (2013 to 2018) to assess disparities within the distribution of chairs (men, women, visible minorities) and the level of support provided to these groups. Annual start-up funds, tri-agency participation rates and levels of tri-agency research funding were analyzed. Any identified issues were addressed in the action plan, for example, the process for awarding start-up funds was revised and standardized. Feedback was also provided by the Working Group on Diversity and Inclusion, Employment Equity. This group included senior leaders from faculty affairs, human resources, human rights office, and the research office. Members provided advice and support on how to address gaps in University policy (for example, development of a preferential hiring policy).

This analysis identified barriers and practices that could adversely affect the participation of individuals from the FDGs, namely:

1) The inability to recruit sufficient candidates from the FDGs and the lack of mandatory training on the impact of unconscious bias for those involved in the recruitment; 2) The lack of standardized data to monitor and report on performance, both at the institutional level and for CRC holders; 3) The lack of focused attention on activities to support the retention and inclusion of Chairs who are members of the FDGs; and 4) The need for greater institutional commitment to diversity and inclusion. (University of Ottawa, 2019 p. 5)

The university's linguistic requirement that professors teach in both English and French was another challenge. This requirement further restricts the pool of candidates in that a mere 4% of the world's population (300 million) are French speakers (Organisation Internationale de la Francophonie, 2018).

The Action Plan identified actions and indicators to address these barriers (University of Ottawa, 2019, pp. 15-18) (See Annex). The Plan was reviewed internally by key stakeholders and selected Chairholders from the FDGs prior to submission to the national program for peer review. Regular progress reports were provided to the university's senior administration as well as the national program.

RESULTS

In order to meet Program requirements, the original CRC EDI action plan submitted to the CRC Program in December 2017 was updated twice (in December 2018 and September 2019). In early 2020, the latest revision received the ranking of "Satisfy", an indication that the

University could continue to submit new Chair nominations and renewals to the Program.

During the implementation of the CRC EDI Action Plan (from 2017-2020), the University achieved the following results: 1) Increased the representation of the FDGs amongst CRC holders (Table 1 below): the university met all targets set by the CRC Program and exceeded targets for three of the four designated groups (women, visible minorities and Indigenous peoples). Between 2017 and 2020, the university successfully recruited a total of 21 CRC holders belonging to one or more of the FDGs. These Chairs, representing various fields and disciplines, both national and international (U.K, U.S. etc.) recruits, with a limited number of internal nominations, will be instrumental in advancing the university's research in the coming years. 2) In collaboration with key sectors across campus, Research Management Services (RMS) incorporated EDI in the recruitment and selection processes by: providing mandatory unconscious bias training; developing and implementing preferential and selected hiring mechanisms; reviewing internal CRC recruitment guidelines with an EDI lens to limit barriers and increase transparency; and appointing the Special Advisor to the President on Diversity and Inclusion to sit on all selection committees for CRC recruitments. 3) With regards to data collection and reporting, a self-identification form was developed to collect self-reported data of CRC applicants, and gender-based analysis of current CRC holders was performed. Lastly, in terms of strengthening institutional commitment to EDI, in 2018 the Vice-President of Research launched the IDÉE committee to identify EDI priorities for the broader research community. This committee recommended creating a dedicated EDI full-time staff position to lead the development of a broader uOttawa EDI Action Plan for Research, establishing EDI targets for internal Chairs programs, and improving equity and diversity considerations in the selection of Prizes and Awards.

Table 1: uOttawa Target Setting Findings for the Four Designated Groups 2017-2020

| Demographics | Women | | Visible Minorities | | People with Disabilities | | Indigenous Peoples | |
|---------------|------------------|------------------|--------------------|------------------|--------------------------|------------------|--------------------|------------------|
| | Target in Chairs | Number of Chairs | Target in Chairs | Number of Chairs | Target in Chairs | Number of Chairs | Target in Chairs | Number of Chairs |
| December 2017 | 19 | 13 | 9 | 10 | 2 | * | 1 | * |
| August 2020 | 18 | 23 | 8 | 11 | 2 | * | 1 | * |

Source: Internal self-identification data, Research Management Services.

*Numbers suppressed due to small cell size.

In spring 2019, the University of Ottawa was selected as one of 17 Dimensions program pilot sites, a program led by the federal tri-agencies to recognize the equity, diversity and inclusion (EDI) achievements of Canadian post-secondary institutions. The objective of the program is to support cultural change that eliminates obstacles and inequities within the research community (Natural Sciences and Engineering Research Council, 2021a). This program is part of a suite of tri-agency commitments to EDI in research which includes fair access to tri-agency research support and equitable participation in the research system (Natural Sciences and Engineering Research Council, 2021b).

Other accomplishments of the CRC EDI Action Plan included: a Women Research Chairs mentoring group (of approximately 20 individuals) was established in 2019/2020; EDI was included in key strategic planning activities such as the University's Strategic Plan

and the uOttawa Strategic Research Plan 2020-2025; in-house training sessions on Diversity and Inclusion were provided to senior leaders of the Vice-President Research Office to foster a leadership culture of inclusion.

NEW CRC EDI TARGETS

In July 2019, the CRC Program reached an agreement with the plaintiffs of the 2006 Canadian Human Rights Settlement Agreement which outlines the terms of a revised agreement ("2019 Addendum") (Canada Research Chairs Program, 2021b). The Addendum includes setting new equity targets for universities to progressively meet over the next 10 years (Table 2). The University is updating its CRC EDI Action Plan to meet these targets. As of June 2021, the CRC Program reported that 85% (N: 55/65) of institutions had met their December 2019 equity targets (Canada Research Chairs Program, 2021c).

Table 2: uOttawa CRC EDI Targets for Four Designated Groups (2019 and 2029)

| Groups | 2019 Equity Targets | New Targets (2029 deadline) |
|---------------------------|---------------------|-----------------------------|
| Women | 31% | 50.90% |
| Persons with Disabilities | 4% | 7.50% |
| Visible Minorities | 15% | 22% |
| Indigenous | 1% | 4.90% |

ADDITIONAL ACTIONS

In late 2020, the Vice-President Research Office commenced work on the EDI Action Plan for Research to extend EDI to the broader research community. The action plan identifies actions to support institutional commitment to EDI in research, whose goal is to develop an inclusive climate in which systemic barriers are addressed so that uOttawa researchers and trainees from underrepresented or disadvantaged groups can fully participate. This work is guided by an advisory committee composed of a cross-section of University research community members (researchers, graduate students, staff members) representing underrepresented groups, members of key research governance bodies and professors whose research focusses on EDI-relevant areas. The Action Plan addresses five underrepresented groups (women, visible minorities/racialized persons, Indigenous peoples, persons with disabilities, LGBTQ12S+ community members) and identifies four main recommendations: 1) build awareness and recognize excellence; 2) strengthen professional development; 3) provide institutional support and infrastructure; and 4) measure needs, evaluate performance and document lessons learned (University of Ottawa, 2021). In order to maximize integration and impact, the committee ensures close linkages with the University's EDI Strategy which is under development, as well as other related initiatives underway, including an anti-racism task force and the University's participation in the Dimensions Pilot.

EVALUATION AND ANALYSIS

In implementing its CRC EDI Action Plan, the Vice-President Research Office clearly achieved the equity targets set out by the Canada Research Chairs Program and it completed the activities identified in the plan. However, it is unlikely these activities alone

would have achieved lasting change because diversity measures by themselves generally have limited effectiveness and more inclusive approaches are necessary to address systemic inequities.

FROM DIVERSITY TO INCLUSION

Several aspects of the uOttawa CRC EDI Action Plan focus on standard diversity measures, such as the diversity of applicants versus those hired, number of individuals who have taken implicit bias training, number of venues where jobs were posted, number of selection committee memberships approved, and progress towards meeting equity targets. There is mixed evidence on the effectiveness of diversity activities and whether they increase the representation of marginalized groups or reduce discrimination (Noon, 2017). While diversity training or implicit bias training workshops are widely used, there is little evidence of their long-term effectiveness and they may have unintended negative impacts (Dobbin & Kalev, 2018).

Moss-Racusin et al. (2014) note that diversity training programs which place pressure or blame on participants appear least effective in addressing implicit bias. Rather, they propose that training approaches: be grounded in scientific evidence; use active learning techniques, such as problem-solving and group discussion; and be regularly evaluated. This will increase the likelihood of their improving participants' awareness of diversity issues and increasing their propensity to take action. Failing this, they argue that interventions are more likely to uphold the existing system which perpetuates biases. Perceptions and institutional culture can also mitigate effectiveness. Dover, Major and Kaiser (2016) found that diversity measures can be perceived as discriminatory and unfair treatment by members of privileged groups, such as whites and men. Further, Sinclair (National Academies of Science, 2020) notes

that how colleges frame diversity is more often geared to the preference of the establishment than the needs of ethnic minorities.

To improve the effectiveness of diversity training, Dobbin and Kalev (2018) suggest that it be included in a wider program of change. Such a program of change will necessarily focus on creating an inclusive work environment. In higher education, Stefani and Blessinger (2018) note, "...building a culture and mindset of inclusion is imperative in order to create a meaningful learning environment that embraces and values diversity." This perspective is consistent with the growing body of management literature on inclusive leadership (Creary et al., 2021; Ferdman et al., 2020; Moss, 2019; Bourke & Espedido, 2020).

Creating Inclusive Environments through Transformative Change

Bilimoria, Joy and Liang (2008) note that simplistic solutions cannot address systematic, historical, and widespread inequities in academia; rather comprehensive transformation, which addresses organizational systems, structures and processes and individual practices is needed. Such transformation will address key academic career transitions, such as recruitment, promotion and tenure and progress through the pipeline, including leadership roles. Crimmins (2020) notes the need for cohesive commitment by academic organizations and individuals with strong support for diversity and inclusion embedded across all schools and centers in an institution.

An important example of a transformative approach is the U.S. National Science Foundation ADVANCE Institutional Transformation program, started in 2001, which encourages institutions of higher education to address aspects of academic culture and institutional change. Rich findings have emerged from the experiences of the more than 40 institutions which have

participated in this program whose aim is to increase participation of women in the science and engineering workforce (National Science Foundation, 2021). Mechanisms to support retention and development include: faculty workload (O'Meara et al., 2019); faculty networks (O'Meara & Stromquist, 2015); networking and mentoring micro-grants for pre-tenure faculty (Virginia Technical Institute, 2010); and departmental sessions on culture and climate (Bowen & Debinski, 2012).

Bilimoria and Singer (2019) identified numerous effective practices for gender equity transformation from the Case Western University ADVANCE study at the individual, department/faculty and institutional levels (See Figure 1). Outcomes achieved by the six research institutions involved in its IDEAL program included institutionalization of climate surveys, faculty development positions or offices, mentoring programs, search committee workshops and participation in university-wide initiatives such as hiring initiatives.

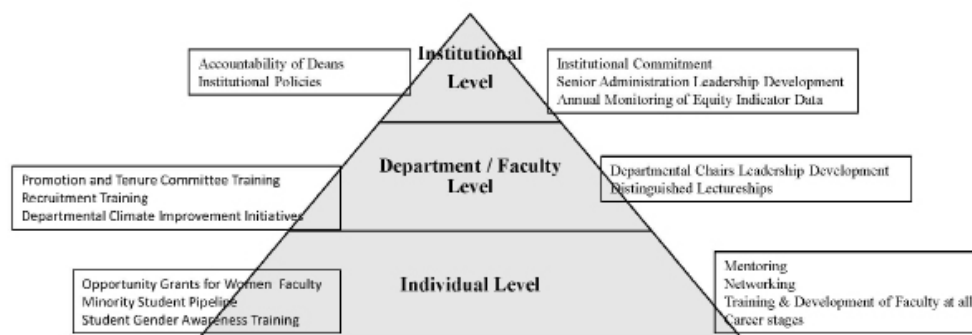
The uOttawa CRC EDI Action Plan contained some transformative elements but was not comprehensive. For example, key internal factors, such as senior administration support and involvement, clear vision with milestones, visibility of actions and outcomes were put in place. In addition, clear outcomes were identified (e.g., increased representation of the FDGs), and the transformation was institutionalized through new structures, tools, and processes for recruitment. The fact that the Chairs were highly coveted, prestigious research positions used for external recruitment provided an opportunity to showcase the value and results of the centrally-administered structured recruitment processes that faculties were required to follow. This helped to drive further reflection and additional changes within the university, for example, a request by some faculty members that EDI be a consideration in all

academic recruitment processes and that it be reflected in the selection process for the internal research chairs program.

As uOttawa has moved forward in developing a broader EDI in Research Action Plan, it has built on the momentum created and lessons learned from implementing the CRC EDI Action Plan. This has included broadening the scope of stakeholder involvement and imbedding engagement and consultation throughout its development processes. An in-house survey

of Canada Research Chairholders on their experiences and EDI activities within their research teams provided valuable information to inform the plan (University of Ottawa, 2021). The implementation of the plan will help the University address aspects of academic culture and will drive institutional change to promote a more inclusive workplace where members of underrepresented or disadvantaged groups are valued for their contributions and have a strong sense of belonging.

Figure 1: Effective Practices for Gender Equity Transformation from Case Western University's ADVANCE Institutional Program, 2003-2008



Source: Bilimoria & Singer, 2019

RECOMMENDATIONS AND LESSONS LEARNED

Key observations from this study are: effective equity, diversity and inclusion strategies are sustained efforts which are context-specific; and research administrators can play a key leadership role in supporting EDI.

Implementation is Context-Specific

There is a growing body of literature that indicates diversity improves the quality of scientific outputs (Valantine & Collins, 2015) and on the effectiveness of individual diversity and inclusion activities themselves; however much more work needs to be done.

Ultimately it is important to recognize that equity, diversity, and inclusion initiatives are cultural transformation activities. Academia has been slow to respond to the opportunities that diversity presents, and it is unlikely to change quickly in dismantling systemic power structures that have been insurmountable barriers to progress.

Because the focus of EDI is to identify and address systemic barriers to participation, including examining those conditions under which they occurred, this work is context-specific, and it must engage the individuals affected. "Nothing about us, without us" must be a guiding principle.

Tools such as critical race theory can be useful to examine power differentials and promote understanding of concepts, such as intersectionality (Crichlow, 2015).

Internal and external factors such as institution size; type; demographics; language; location; local culture and heritage; governance; and regional geopolitics can contribute to barriers. How these barriers are constructed within the institutional ecosystem will in turn influence the strategies and actions needed to create equitable access. For example, consider the 2020 murder of George Floyd, a Black man, by police officers in the United States and the increasing prominence of the Black Lives Matter movement. This tragedy sparked outrage throughout the world, and yet the internalization of this event was experienced differently in various cultures. In Canadian universities, the response, while dramatic, was more muted than in the U.S. and it focused primarily on civil discourse about racism (Corbet & Garriga, 2020).

To some degree, the CRC EDI action plans in Canadian universities are reflective of institutional characteristics and local situations. Smaller universities which are more regionally focused and have fewer research chairs tend to encounter fewer problems in achieving their targets, while research intensive universities, which were located in urban centres and had medical schools, have struggled. Several large universities have been criticized for tokenism because they implemented aggressive preferential hiring strategies to meet the targets. This has prompted fears about faculty retention (Peters, 2022). While the CRC program has not released a public report which assesses the plans, it appears that research-intensive universities have focused primarily on recruitment, training, and data collection activities. On the other hand, some regional universities which had explicit commitments to equity, diversity, and inclusion prior to the

implementation of the CRC requirements have launched innovative inclusion activities, such as an EDI in research web page to support researchers building EDI into their research programs and a collaborative CRC Network for sharing expertise and EDI best practices. When considering EDI in the international context, other influences, such as national and regional geopolitics and the legal and jurisdictional focus of EDI, come into play. For example, in North America the emphasis is on diversity while Asia and Western Europe focus on women but exclude other minority groups (Stefani & Blessinger, 2018).

EDI is Part of the Toolkit for Research Administrators

EDI expertise is an integral part of the growing skill set for all research administrators whether they are leaders of EDI initiatives, delivering client services to their diverse research community or to their own research administration teams. This expertise is of critical importance in Canada as federal funders continue their rollout of equity, diversity and inclusion initiatives and expectations. In EDI the research administrator works with counterparts at funding agencies to clarify policy and to serve as change agents and problem-solvers, filling a critical gap between the scientist and the funder, engaged in activities which are imbedded and specific to the evolving research and innovation ecosystem (Agostinho et al., 2020; Reardon, 2021). Such a role can help facilitate a culture change in academia in which research administrators' skills are more highly-valued (Payne, 2021).

Research administrators in formal EDI leadership roles undertake such activities as: establishing diverse research teams through inclusive leadership practices; promoting organizational learning and change through establishing networks and communities of practice; and leading and championing of institutional EDI initiatives. For front-line

administrators, a basic EDI toolkit might include the following:

1. **self-reflection:** developing self-awareness of biases and privileges and undertaking personal growth strategies to be inclusive and to support mutuality and understanding;
2. **allyship:** developing an enabling mindset; identifying barriers and supporting equitable access for individual clients;
3. **tools for EDI in research:** developing skills to support clients in meeting sponsors' EDI requirements in programs and activities; pursuing customized EDI in research and research design training (e.g., sex- and gender-based analysis); developing tools and providing training to clients; and
4. **awareness of institutional resources:** becoming knowledgeable about institutional EDI resources, such as human rights, harassment, affinity groups, mentoring and networking activities for self, team, and clients.

All research administrators, regardless of their role, will greatly benefit from formal training in EDI concepts and methods. Since the start of its CRC EDI Action Plan, two University of Ottawa team members completed EDI certification programs, and a third EDI practitioner with Ph.D. research expertise was hired, thus increasing the value of their leadership contributions to the University's ongoing cultural transformation. Other positions have been created centrally and in some faculties.

CONCLUSION

A diverse and inclusive research ecosystem creates the conditions where all can thrive and create innovative and impactful research. An in-depth understanding of discrimination and exclusion is necessary in order to address systemic, historical and widespread

inequities in academia. The most effective strategies are sustained efforts that are context-specific and which address identified barriers. Federal compliance requirements can be effective incentives if implemented as part of a larger institutional transformation which includes cross-institutional partnerships and collaborations, effective change management and communications strategies, and evaluation frameworks which measure impact. Research administrators can play a key leadership role in this organizational journey, both on the front lines working with researchers to provide equitable and inclusive services, and in formal roles leading the development of equity, diversity, and inclusion strategies. Through this, they can help to heal the past and shape the future, creating an inclusive climate where all can thrive.

The University of Ottawa acknowledges and honours that its campus sits on the traditional unceded territory of the Omamìwini Anishnàbeg (Algonquin).

Authors' Note

Correspondence concerning this article should be addressed to Terry Campbell, the primary author. She can be reached by email at terry.campbell@uottawa.ca or by phone at (613) 286-3976. The authors thank the Office of the Vice-President, Research and Innovation for its support of this project and permission to use materials.

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ANNEX

Canada Research Chairs Institutional Equity, Diversity, Inclusion Action Plan, 2017-2019

University of Ottawa

Revised September 27th, 2019

UOttawa's Canada Research Chairs Equity Mission Statement

The University of Ottawa strongly supports a workplace environment that removes disparities experienced by the designated groups in Canada: women, Indigenous peoples, persons with disabilities and members of visible minorities, as defined in the Employment Equity Act. To this end, we have implemented various measures throughout the Canada Research Chair (CRC) recruitment and nomination process to promote the full participation of members of these groups.

Objective #1: Increase representation of the four designated groups (FDGs) amongst CRCs.

| | Action | Indicator |
|-----|---|---|
| 1.a | Inform recruitment and selection committees of the CRC Program targets regarding the FDGs and existing gaps at uOttawa. | -Information posted on uOttawa website and shared regularly with Chairs of selection committees. |
| 1.b | Develop and implement preferential and selected hiring mechanisms to increase the representation of the FDGs. | -Preferential and selected hiring process in place and running. |
| 1.c | Target internal potential CRC candidates from the FDGs for CRC positions. | -Number of internal potential CRC candidates from the FDGs. |
| 1.d | Dedicate a number of CRC positions exclusively for the recruitment of FDG candidates. | -Number of preferential and selected hiring positions and number of candidates recruited from the FDGs. |

Objective #2: Incorporate EDI in recruitment and selection processes.

| | Action | Indicator |
|-----|--|--|
| 2.a | Appointment of a new Special Advisor to the President on Diversity and Inclusion (SADI) who sits on all CRC recruitment committees to ensure fair and transparent processes are followed, as well as EDI best practices. | -Position filled for two-year mandate (2018-2020). -Number of CRC selection committees attended. |
| 2.b | Mandatory Unconscious Bias Training Module for all CRC recruitment and selection committees and for research administrators involved in the selection of CRC candidates. | -Number of selection committees and members who took the training. - Number of research administrators who took the training. |

| | Action | Indicator |
|-----|--|--|
| 2.c | Review of internal recruitment and selection guidelines to incorporate CRC EDI requirements, as well as our own CRC EDI Action Plan. | -Ensure compliance with CRC Program requirements and policies. -Guidelines updated in both Official Languages. -Shared with the selection committees and available for consultation (Appendix C in CRC EDI Action Plan). |
| 2.d | Ensure diversity of CRC selection committees (discipline, gender, ethnicity, bilingualism, career stage, etc.). | -Minimum of 2 members from the FDGs on each committee. -All memberships reviewed and approved by VPR. -Committee composition details included in final report. |
| 2.e | Encourage recruitment committee chairs to widely advertise CRC job postings and ensure area of research is broadly defined to obtain a diverse pool of candidates. | -Number of venues where the job is posted (i.e. targeted EDI groups and networks, informal listserves, specialized areas of research). - Monitor number of incoming applications and flag any shortcomings to correct before the closing deadline. -Use of inclusive, unbiased and ungendered language. -Focus on required job qualifications and skills. |
| 2.f | Create an Institutional EDI Attestation Form to be signed by all committee members. | -Form created in both Official Languages. -Number of selection committees signing the form. |

Objective #3: Develop EDI data collection and reporting.

| | Action | Indicator |
|-----|---|--|
| 3.a | Develop a self-identification form and encourage all CRC candidates to voluntarily fill the form. | -Form created and included in CRC job postings. -Number of candidates filling the form. -Number of candidates self-identifying to one or more of the FDGs. |
| 3.b | Perform comparative analysis to assess disparities within the allocation of CRCs. | - Use internal data to run gender-based analysis and generate a report. - Use internal data to run analysis for visible minority groups and generate a report. |
| 3.c | Provide EDI data and statistical reports to senior management and CRCP. | -Provide gender-related data to the Special Advisor on Equity and Diversity for reporting purposes. -Provide EDI target updates and statistics to the VPR. -Produce CRC EDI annual progress report and post on uOttawa's accountability website. |
| 3.d | Collect information related to EDI barriers, solutions and best practices amongst CRC holders. | -Create and distribute survey. -Compile and communicate results. |

Objective #4: Strengthen institutional commitment to EDI.

| | Action | Indicator |
|-----|--|---|
| 4.a | Raise awareness of existing gaps and barriers related to EDI in research enterprise. | <ul style="list-style-type: none"> -Inform relevant sectors/groups (i.e. Research Management Services staff, Faculty administrators, senior University officials, Finance and HR services) of current gaps within allocation of CRCs at uOttawa amongst the FDGs. -Sensitize research administrators to unconscious bias via training and planning activities (i.e. annual retreats and strategic planning exercises). -Creation of IDÉE committee at VPR level. -Encourage managers and employees to include EDI in work objectives, training and performance review. -Review guidelines/policies within internal research programs and literature to identify potential or existing EDI barriers/biases. |
| 4.b | Have open dialogues on potential or existing EDI barriers with CRC holders and various groups/individuals. | <ul style="list-style-type: none"> -Participation rate in EDI related initiatives such as training, information session and mentorship/leadership programs (lead or participate). -Seek input from CRC holders of the FDGs in the development and monitoring of the EDI CRC Institutional Action Plan. -Organize welcome meetings with CRC holders from the FDG to explain the role of the Research Management Services and the OVPR in general to facilitate integration and monitor for any specific need/issue or questions. -Consult chairholders on their interest in a peer-mentoring program. |
| 4.c | Promote research achievements of CRC holders including members from the FDGs. | <ul style="list-style-type: none"> -Publicly announce all CRC nominations and renewals and subsequent research achievements using various social media outlets (i.e. Facebook, Twitter, press releases, uOttawa website, media interviews, etc.). -Increase visibility of CRC within the FDGs. |
| 4.d | Incorporate EDI within institutional planning and priorities. | <ul style="list-style-type: none"> -Include EDI priorities in the University's upcoming Strategic Plan, Transformation 2030. -Include EDI priorities in the OVPR's Strategic Research Plan 2020-2025. -Launch of a University wide self-identification initiative for all faculty and staff in fall of 2019. |
| | | |

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BEYOND THE KUMBAYA: A REFLECTIVE CASE STUDY OF ONE UNIVERSITY'S DIVERSITY, EQUITY, AND INCLUSION JOURNEY

Crystal R. Chambers,
East Carolina University

Beverly King,
East Carolina University

Kristen A. Myers,
East Carolina University

Meghan Millea,
East Carolina University

Amanda Klein,
East Carolina University

ABSTRACT

Diversity, equity, and inclusion are laudable objectives, but how do we move beyond a proclamation of value to the gritty work of critique, openness, and action? One practice in institutional improvement is to focus on what can be counted, but cultural changes are more difficult to see. Finding ways to observe and measure what is inherently difficult to quantify includes quantitative, and qualitative data, proxies, and narratives. As beacons of social change, universities have historically been on the leading edge of ensuring diversity, equity, and inclusion. In the paper, we use a reflective case study design to challenge myths that protect the status quo and describe data and proxies for baseline diversity, equity, and inclusion. Our case study focuses on how one university uses institutional research and introspection to craft policies and practices along its journey toward a more diverse, equitable, and inclusive campus climate.

Keywords:

institutional research; institutional data; climate; institutional policy; diversity; equity; inclusion; faculty

In “An academic Gresham’s Law,” historian Henry Wechsler argues that as higher education institutions diversified, “the arrival of a new constituency on a college campus has rarely been an occasion for unmitigated joy,” but instead a threat to institutional mission, vision, and cultural norms (1981, p. 567). Borrowing from the concept of Gresham’s Law, newcomers will drive away traditional constituencies of students, faculty, and staff. However, as Wechsler explains, these “apocalyptic” fears typically were not realized, and he draws on four historical examples—the integration of poorer students into nineteenth-century New England colleges, of women in the Civil War postbellum era, of Jewish students in the early twentieth century, and Black students during the Civil Rights era. Instead, institutions made accommodations such that majority students were able to self-segregate. Thus, even as institutions diversified, they were hardly inclusive.

During the Civil Rights era, as a more diversified student body by race/ethnicity, sex/gender, and gender identity, socioeconomic status, religion, and sexuality entered the academy at critical mass levels, they began to agitate for change, individually and collectively, on campus in addition to changes in society writ large (Lipset, 1993). Present in these movements were songs of protest and unity, including Kumbaya. Emerging as a cultural artifact brought to the land which would become the United States by enslaved Africans, it is largely believed that

the song survived across the eras in the care of the Gullah-Geechee peoples of the South Carolinian and Georgian coasts, the earliest recording thereof found in 1927 (Winick, 2010). From the 1950s through the 1990s it was recorded by folk artists in the United States and around the world to inspire unity, as a ritual of reverence, and as an anthem of togetherness. Over time, the song garnered negative connotations. Politically, Kumbaya, meaning come by here—a plea for godly intervention and comfort, became a proxy for “weak consensus-seeking” resulting in unrealized policy goals (Winick, 2010, p. 3). Within the social sphere, it derived connotations of “touchy-feely,” “wishy-washy,” “nerdy,” and/or “meek” (Winick, 2010, p. 3). In this vein, the term kumbaya has become a dismissive term of naiveté that glosses over substantive differences to achieve a superficial sense of togetherness.

As we, the authors, reflected upon a year in which we made significant strides in addressing structural inequalities as laid bare by the death of George Floyd and utilizing institutional data analyzed in pursuit of an NSF ADVANCE grant that was awarded in 2020, we were hesitant to use the term kumbaya to describe our case study given its unifying and divisive connotations. However, in March 2021, as diversity, equity, and inclusion (DEI) affirming policies were under consideration by the Faculty Senate, some Senators invoked the dismissive use of the word kumbaya to deride the DEI proposals as “spiritual” or “feel good” with questionable efficacy (ECU Faculty Senate, 2021). Demonstrating the other interpretation of kumbaya, the one of unification and social change, the Faculty Senate ratified each of the measures including adding the cultivation of a welcoming and inclusive environment to the job duties of a unit administrator, a statement regarding the value of DEI on campus, faculty evaluation guidance including the fair evaluation of DEI work and an annual DEI professional development. The chide was

poignant, thus the title of this paper reminds us to move beyond the deprecatory kumbaya and to reclaim it as a term of fortitude. DEI work is not ephemeral, and those who do this work are neither weak nor meek. Given the tendency of academic Gresham’s Law, the pursuit of diversity to the exclusion of equity or inclusion (Wechsler, 1981), promoting DEI comprehensively is necessarily hard, counter-cultural, and thereby revolutionary.

It is through this lens that we employ a reflective case study strategy to describe the experiences of introspection, activism, and interrogation around diversity, equity, and inclusion on one college campus in rural-serving Eastern North Carolina. Here our attention centers on DEI policy advances among faculty. We begin with a description of our institutional context which we follow with our description of making change at East Carolina University (ECU), including our reflections on continual improvement and larger implications for higher education practice.

INSTITUTIONAL CONTEXT

ECU was founded in 1907 as a teacher training school, expressly “for the purpose of giving to young white men and women such education and training as shall fit and qualify them to teach in the public schools of North Carolina” (NCGA, 1907, p. 1169, emphasis added). While this language forestalled desegregation efforts, in the wake of *Brown v. Board of Education* (1954), the state legislature removed this language in 1957 to the chagrin of the institution’s Board of Trustees. Until this point, the institution resisted desegregation in athletics, music, and artistic performances as well as student enrollments, although Black laborers were hired by the campus since the 1920s. In 1962, ECU admitted its first full-time undergraduate student, Laurie Marie Leary-Elliott, who graduated with a B.S. in business administration in 1966. Julia Mae Fields was hired as ECU’s first Black professor in 1971 (ECU News Services, 2021).

Contemporarily, ECU is a typical large 4-year, regional public university. It had a total enrollment in Fall 2020 of 28,798, 83 percent of whom were undergraduates. Its regional focus includes the largely rural population from the 44 counties of eastern North Carolina. Its student body includes students from 47 states, the District of Columbia, and 99 different countries. Racial and ethnic minorities, inclusive of federal racial/ethnic classifications but exclusive of Non-Resident Alien and Unknown statuses, made up 33% of the undergraduate student population and 26% of the graduate student population. ECU has 10 degree-granting colleges/schools/institutes and is classified as a primarily residential undergraduate campus with High Research Activity Doctoral University by the Carnegie Commission on Higher Education and has a special classification for Community Engagement.

ECU is located in Greenville, NC, and it has approximately 7,000 employees, about 2,000 of whom are faculty members. In 2019, racial/ethnic minorities constituted 37% of North Carolina’s population and 42% of the population in Eastern NC (United States Census Bureau, 2019). In the same year, only 21% of ECU faculty identified as racial/ethnic minorities. While Black/African American and Hispanic faculty combined comprised 10%

of the faculty, within the Eastern region, they comprised the majority of persons minoritized by race and/or ethnicity. See Table 1 for percentages by race/ethnicity categories. We elaborate further on classifications and challenges thereto in our discussion of establishing baseline data.

By gender, women comprise 51% of the faculty; 60% as non-tenure track instructional faculty, and 43% tenure track. We use the term gender here, rather than sex, as we believe that individuals respond to questions about sex or gender with their gender identities, even when the response choices consist of only male, female, and no response. But here again, classification schemas evade simplicity, and we engage in this warranted discussion below. Within the tenure track faculty, the female presentation declines as rank increases, 56% of assistant professors are women, 49% of associate professors are women, and 31% of full professors are women. As a collective, the proportion of racial/ethnic minorities within each gender is approximately the same.

Table 1: ECU Faculty & Students by Race/Ethnicity Compared to Percentages within North Carolina and Eastern North Carolina, 2020

| | North Carolina | Eastern NC | Faculty | Students |
|-----------------------|----------------|------------|---------|----------|
| Am. Indian/Al. Native | 1% | 3% | 0% | 1% |
| Asian | 3% | 1% | 10% | 3% |
| Black/Af. Am. | 21% | 27% | 6% | 17% |
| Hispanic | 10% | 9% | 4% | 7% |
| Nat. Hawaiian/OPI | 0% | 0% | 0% | 0% |
| Two+ Races | 2% | 2% | 1% | 4% |
| White | 63% | 58% | 78% | 69% |

Note: Racial/ethnic minority categories used here are those used by the National Center for Education Statistics, i.e., Black/African American, Hispanic, Asian, Native Hawaiian/Other Pacific Islander, American Indian/Alaskan Native, and Two or more races. To be consistent with U.S. Population Estimates, ECU percentage calculations exclude Non-permanent residents and faculty/students with unknown race/ethnicity.

Culturally, North Carolina is indelibly shaped by populist ideals, contouring towards political and religious conservatism tempered by pro-business moderates. As described by Christensen (2010) in *The Paradox of Tar Heel Politics*:

The state lit the cigars for corporate executives but was hostile to organized labor; it generously spent money on roads and universities but was stingy when it came to the poor. State leaders sought a measure of fairness towards its black citizens, so long as it didn't threaten the system of segregation. ... The state's voters are willing to elect liberals who they think will look after the average man—as long as he does not transgress southern, racial customs. (pp. vii-viii, x)

Thus, when Governor Terry Stanford began establishing a foundation for racial integration, he did so quietly, in contrast to Alabama's Governor George Wallace's schoolhouse door stance. It was a business decision. The reverence for southern customs and mores extends beyond race and ethnicity, to include traditional notions of "good" expressions of gender and sexuality.

Therefore, it is not surprising that the state made national headlines with its Public Facilities Privacy & Security Act of 2016, also known as HB2 or colloquially called the "Bathroom Bill" which established sex-segregated public bathrooms. More recently and closer to home, when the Trump/Pence 2020 reelection campaign hosted a rally in Greenville, on the campus of East Carolina University on July 17, 2019, rally attendees chanted "Send her back!" referencing U.S. citizen and House Representative, Ilhan Omar. The suggestion was that she be sent back to Somalia, due in part to her public positions in support of marginalized people. Two days after the rally, ECU's Interim Chancellor released a statement affirming the

university's commitment to the open exchange of ideas as well as the diversity and safety of the community. Many faculty, staff, and students, including the Faculty Senate, were dissatisfied with the Interim Chancellor's response with one professor writing an editorial lambasting him for not adequately preparing the ECU community for the trauma of the rally. The professor cited conversations with worried students whose families reportedly asked them about transferring schools due to safety concerns. Thus, it was expected that in 2020 efforts to make changes would be met with resistance.

As the culture wars continue with people in the United States more polarized than ever (Iyengar et al., 2019), colleges and universities, as microcosms of the larger society, are intellectual centers where ideas are exchanged (Menand, 2010) and where policies and practices can be forged to cultivate a more harmonious, welcoming, and inclusive society, a site where we can tinker towards kumbaya. As evident in the above discussion, establishing a baseline set of data from which progress can be measured is challenging. However, we press forward using the best data available.

MAKING CHANGE

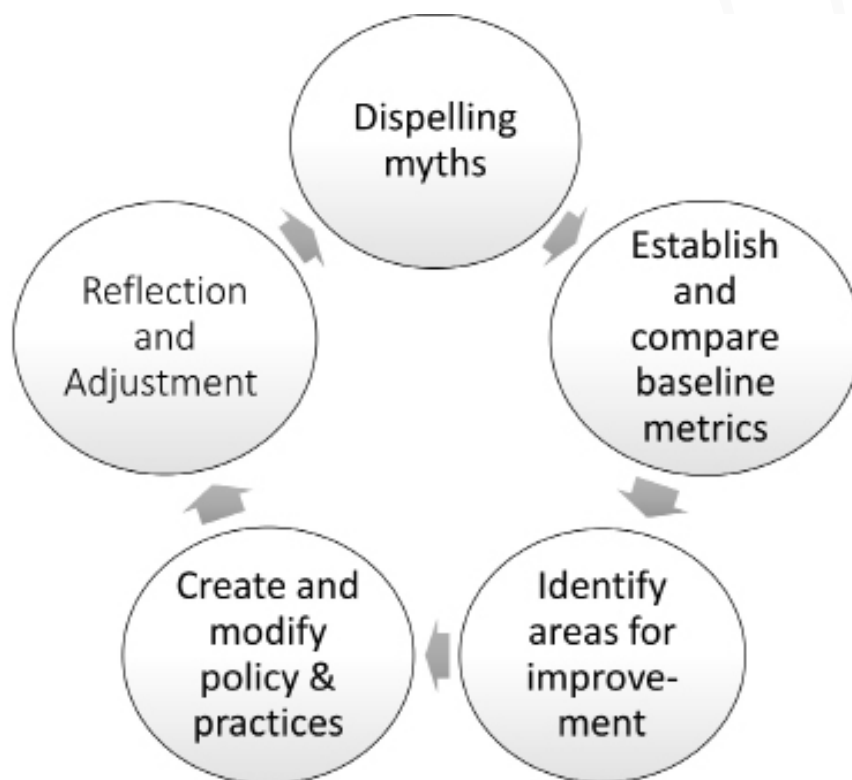
In 2020, ECU applied for and received an NSF ADVANCE grant to implement internal support of structural changes that encourage DEI among faculty in science, technology, engineering, and mathematics (STEM). This achievement is the culmination of the collective efforts of changing teams of mostly women, work forwarded in collaboration with the Faculty Senate in light of George Floyd's murder in that same year. The broader goal is that institutional cultural changes will not be siloed exclusively in STEM fields, but rather DEI will infiltrate the ECU way of thinking—it will be universal in our hiring, retention, evaluation, and promotion values and practices.

THE PROCESS

Because diversity work is ever evolving along multiple dimensions, it is not a goal with a measurable objective but rather an ongoing undertaking of improving campus climate. Equity, justice, inclusion, and belonging are factors that must be intentionally incorporated so that everyone feels part of the university community. Borrowing from continuous improvement processes as applied in higher education (Temponi, 2005), we assert that changing campus culture is an iterative

process that starts with (1) dispelling myths around DEI work, (2) establishing baseline metrics and comparing them over time, (3) identifying shortcomings, (4) addressing them through policy and practice, and (5) reflection and adjustment (See Figure 1). The sections of this paper follow this process. The following section describes and dispels myths about DEI work.

Figure 1: Our Process



The next section of this paper describes how ECU has used quantitative and qualitative data to establish baselines and mark progress over time. These data indicate areas for improvement followed by actions taken at ECU. The paper concludes with a critique of the process thus far and goals for future work.

STEP 1: DISPELLING MYTHS

Kumbaya, the song that once galvanized social, political, and cultural movements in solidarity, has become shorthand for superficial consensus seeking that fails to accomplish crucial interrogation

(Winick, 2010). In much the same way, the revolutionary work diversity, equity, and inclusion movements on college campuses in the 1960s and 1970s have been subverted and reinterpreted as touchy-feely, kumbaya efforts. Rather than kumbaya representing strength and power in togetherness and harmony as it once did, its meaning has been appropriated in the political arena by people trying to disparage one another and dismiss critics as naive (NPR, 2012). Consistent with the dichotomous connotations of kumbaya, this section dispels dismissive myths around DEI work to realign our mental models around solidarity. Here, we describe five common myths or misperceptions about DEI, delineated based on our analysis of the literature and confirmed in our own experiences of meeting resistance while doing this work on campuses. Some of these misperceptions are unfortunate side-effects of misinformation. Others are calculated tools deployed to resist change and protect privilege. We discuss the socio-political dynamics of each, exploring how they create and exacerbate opposition to institutional cultural change. Table 2 summarizes the myths and their repercussions for DEI work on campuses.

Myth 1: DEI work is no longer necessary

Most university campuses are diverse places, so there is no need to continue this work: “mission accomplished.”

Data on diversity at universities reveal that diversity has only slightly increased over time and that several racial and ethnic groups remain underrepresented, as does the proportion of women in many fields. Heilig et al. (2019), citing data from the National Center on Education Statistics, report that university faculty have become increasingly diverse by race/ethnicity over time, and the nonwhite faculty has increased by 50% over the past 20 years. However, the increase has not radically changed the face of the faculty. Black, Indigenous, and People of Color (BIPOC)

faculty remain underrepresented on most campuses. A discussion of the use of this term in lieu of racial/ethnic minorities follows in the section on establishing baseline data.

According to the National Center for Education Statistics,

Of all full-time faculty in degree-granting postsecondary institutions in fall 2018, approximately 40% were White males; 35% were White females; 7% were Asian/Pacific Islander males; 5% were Asian/Pacific Islander females; and 3% each were Black males, Black females, Hispanic males, and Hispanic females. Those who were American Indian/Alaska Native and those who were of two or more races each made up 1% or less of full-time faculty.

They note that percentages were based on full-time faculty whose race/ethnicity was known. Race/ethnicity data are not collected for nonresident aliens. Given that Black and indigenous people make up about 15% of the population in the United States, according to the Bureau of the Census, this means that they are underrepresented as faculty. When BIPOC faculty are hired, they are often not retained (Fries-Britt et al., 2011; Turner et al., 2008). Although the faculty has become more diversified by gender, women remain underrepresented in general, and are especially underrepresented in the STEM fields, with further underrepresentation among BIPOC women (Bruning et al., 2015; Myers et al., 2019). The need for DEI work is not an accomplished mission but rather it should be framed as an ongoing challenge, requiring commitments of time and resources to make and sustain progress.

Table 2: 5 Myths and Their Negative Impact on DEI Work on Campuses

| Myth | Negative Impact | The Reality | A More Effective Approach |
|--|--|---|---|
| DEI work is no longer necessary because campuses are diverse places | Divestment from initiatives to recruit and retain minoritized faculty. | Most universities are still primarily staffed by members of dominant groups. | DEI work is an ongoing challenge, requiring commitments of time and resources to make and sustain progress in diversifying campuses. |
| DEI work is not everyone's responsibility | Trainings "preach to the choir" and put undo burden on marginalized people to educate dominant group members. | DEI is everyone's responsibility, particularly those with authority, power, and resources to make change. | We must charge all people in positions of authority to take responsibility for removing barriers and rectifying inequities in the workplace |
| DEI work is about compliance with state and federal policies | Superficial annual trainings substitute for reflexive institutional change. | State and federal policies are stop-gap provisions in case of violations. They do not substitute for reflexive self-study and collaborative institutional transformation. | Required trainings should be designed and implemented so as to create reflexive change over time. |
| DEI work exacerbates rather than heals rifts | People who identify problems with equity and inclusion are silenced and further marginalized. | Ignoring problems ensures that they continue. DEI work provides tools for effective conversations about problems. | Hard conversations should be facilitated and embraced as a necessary part of institutional transformation and DEI success. |
| DEI work leads to the hiring and promotion of less qualified faculty | Creates backlash against minoritized faculty and supports the continued focus on hiring and promotion of faculty in dominant groups. | Hiring pipelines are filled with highly qualified minoritized candidates. | Deficit-minded approaches should be rejected as racist/sexist and achievement-minded approaches should be embraced and implemented. |

Myth 2: DEI work is not everyone's responsibility

Many people misperceive that DEI work is narrowly defined as either the responsibility of the campus diversity office, the marginalized communities, or the academic disciplines of social sciences and humanities. First, because most universities have created programs and special offices for DEI programming, professional development, data collection, and compliance, some people assume that these offices can independently and completely handle all DEI work on campus. These units do important work to make campuses welcoming and affirming places, but they are limited in their scope and impact. Often, professional development (PD) programs are attended by people already sensitized to DEI work. This type of selection bias means that the PD programming may not be reaching the target audiences (Anderson, 2019). These national trends are observable at ECU.

Second, members of dominant groups may assume that DEI work is only the purview of people who have had their voices or perspectives diminished, specifically women, BIPOC, and LGBTQ+ people. This misperception may be due to a misunderstanding of identity politics and concerns about cultural appropriation (Henning, 2013). By this, we mean that some people who occupy privileged positions in society recognize inequities and injustices, but they remain silent out of fear that speaking up might be (mis)read as speaking for or speaking over marginalized others. Thus, well-meaning potential allies might opt out of DEI work by being over-cautious about offending people who could benefit from advocacy. These people in privileged positions may not recognize that, due to their positionality, they possess resources, situational power, and the ability to make positive change, should they choose to advocate for people with less power and privilege (Crenshaw, 2017). We need to do a better job of training and providing skills

and resources to all people in all positions of authority and who have various access to financial, social, and political capital so that everyone knows the role they can and must play to interrupt and undo inequities in the workplace, as the Wharton School (2020) argue. DEI work is more likely to engender sustained transformational change when members of dominant groups are invested in and act in accordance with DEI goals. In his ethnographic research, Anderson (2019) shows how a university can be transformed when DEI work is part of the daily routine of workers in units across campus, not just in DEI offices. Rather than siloing DEI work in spaces with like-minded and similarly trained people—the “choir”—routinizing DEI work throughout campus, making it part of the mission of various campus entities, creating stakeholders beyond the choir. This model of broad participation in DEI work is the foundation for ECU's ADVANCE grant funding that taps advocates and allies from the dominant groups to lead and participate in the DEI transformation of our campus.

Third, some people assume that DEI work is not appropriate or possible in disciplines that do not study or teach diversity and by this logic, departments like physics, chemistry, and engineering would have no expectations about contributing to the DEI culture on campus. Since 2001, NSF has invested over \$270 million in universities across the United States to support ADVANCE projects that engage campus-wide strategies to transform the culture from one of inequity and exclusion to one of diversity, equity, and inclusion in science, technology, engineering, and math disciplines. Research from scholars including Steele et al. (2005), Tennial et al. (2019), and Zhang et al. (2016) can guide academic programs that struggle to diversify for various structural reasons. Steps that administrators and faculty in those programs can take include updating the curriculum to include work by and about women and BIPOC; staffing

courses with women and BIPOC faculty, and/or bringing in experts in the field to guest lecture; varying assignments to account for different styles of learning and collaboration; using examples in class that acknowledge diverse lived experiences. In some fields, simply changing a pronoun in an example from “he” to “she” or “them,” or changing a hypothetical name from “Tom” to “Jamal” can do a lot to decenter privilege and to help diverse students feel included in their fields of study (Goar et al., 2013). These are small, easy, and impactful ways that everyone can make a difference. Thus, the assumption that DEI work is not everyone’s job is incorrect. DEI work is for and about everyone. Broader participation across the university and academic disciplines is necessary to transform university cultures so they are inclusive, equitable, and diverse.

Myth 3: DEI work is about compliance with state and federal policies

Title VII of the 1965 Civil Rights Act prohibits workplace discrimination based on race/national origin, and sex, among other protected classes. Similarly, Title VI provides protections for students in educational settings with Title IX of the Educational Amendments of 1972 explicitly prohibiting sex discrimination, closing loopholes in practices such as differential financial aid packages, access to academic programming, and athletics based on sex (Chambers, 2016). Except where prohibited by state law, most state colleges and universities state that they are equal opportunity institutions that practice affirmative action. Towards these ends, federal and state agencies require DEI training to ensure compliance in hiring, student admissions, and sexual harassment law, among others.

Many people assume that ticking the box of annual mandatory workplace training on diversity and equity is sufficient to kickstart cultural changes on our campuses. However, daily practices and processes need reflection

and revision. While some research has documented positive impacts of annual training in shifting attitudes (Kalinowski et al., 2013), one-and-done diversity training is ineffective at transforming an entire university in the long term (Kalev et al., 2006). Instead, models that provide comprehensive, high-quality initial training, supported by ongoing, iterative training doses over time are recommended (Corriveau, 2015; von Thiele Schwarz et al., 2016). Such recursive PD provides opportunities to check in with allies about challenges and successes (Tannen, 2007). Quality ongoing training can change practices and culture, such that members of workplace communities reflect and grapple with DEI challenges as they arise. DEI issues that are regularly discussed and resolved do not build up or divide, they are addressed rather than shelved. The repeated doses keep DEI ever-present so that it is a collective lived experience. The normalcy of conflict resolution and awareness gives voice to marginalized groups and makes challenges to the status quo less confrontational and more conversational. Effective, reflexive training that is grounded in institutional culture and based on data collected by and about that institution can improve “organizational socialization” (Griffin, 2020), both for new hires and for long-term faculty. Training can provide clarity on roles, responsibilities, and procedures, as well as help hold positional leaders accountable when policies are violated.

Myth 4: DEI work exacerbates rather than heals rifts

When the people who call out and problematize inequality are blamed and seen as the problem, rather than focusing on the issue, it can silence those who observe, experience, and report discriminatory practices and attitudes (Myers, 2005). This became evident in the language used around the Black Lives Matter movements in 2020. Media outlets signaled value judgments in their coverage and word choices labeling

activists as “violent protestors” or “peaceful demonstrators.” The conversations shifted from the message to the method of expression. The focus on method over message is a recurrence of the rhetoric and media coverage around the Civil Rights moments in the mid-1960s which continue to impact receptiveness to calls for cultural change. For example, common portrayals of Martin Luther King, Jr. and Malcolm X are of them as juxtaposed opposites. These depictions ignore the commonalities shared between these men, downplaying Martin’s more radical ideas as well as Malcolm’s ethic of care (Baldwin, 1986; Grimm, 2015; Kelly & Cook, 2005; Teixeira et al., 2015).

Highlighting the need for DEI does not create or exacerbate rifts, it does not cause injustice, it identifies where injustices exist. The work of DEI asks the people within the university to bear witness and act. Rather than denigrate those who see injustice, we should be grateful because the critique of the system identifies areas for improvement. This is how the interrogative process of academic writing works (Peterson, 2020). The invitation to be critiqued and challenged is how we expand knowledge and understanding. This response to challenges of the dominant paradigm (re)centers on the feelings of discomfort and anger experienced by members of dominant groups when structural inequalities are brought to their attention. In her book, *White Fragility*, Robin DiAngelo (2018) describes how to develop racial stamina and move beyond argumentation, silence, and withdrawal to gratefully inviting critique that sparks personal reflection and movement toward transformation.

DEI work redirects attention to the structures and pathways to dismantle entrenched systems of power and privilege so that society can be more just and equitable (Kendi, 2019). Diversity and equity work threaten the status quo precisely because of their effectiveness at changing culture, practices, and structure.

DEI work involves laying the ground rules necessary to have difficult conversations, build bridges across intellectual camps (Best, 2021), and transform institutions into equitable and inclusive places not only for the most marginalized but for all faculty.

Myth 5: DEI work leads to the hiring and promotion of less qualified faculty

Dating back decades, affirmative action policies incited claims that paying attention to diversity, equity, and inclusion when hiring leads to the recruitment and retention of unqualified employees. Numerous scholars have pointed out that this claim erroneously presumes that members of protected classes (people of color and women) are less qualified than the dominant group (White-Lewis, 2020; Sensoy & DiAngelo, 2017; Kang & Kaplan, 2019). However, scholars like these and other researchers have demonstrated repeatedly that claims of under-qualified hiring and advancement are not supported. This assumption fuels overt and subtle discriminatory practices.

In a not-so-subtle questioning of qualifications, in May 2021, the UNC-Chapel Hill Board of Trustees offered Nikole Hannah-Jones the Knight Chair in its Hussman School of Journalism and Media on a term contract rather than including tenure as was recommended by the faculty and provost. After public pushback, highlighting her qualifications as a Pulitzer Prize winner and MacArthur Fellowship recipient whose work spotlights civil rights and racial injustices, the Board ultimately offered her tenure in June (Jaschik, 2021; Stripling, 2021). Hannah-Jones declined UNC’s offer, explaining, “At some point when you have proven yourself and fought your way into institutions that were not built for you, when you’ve proven you can compete and excel at the highest level, you have to decide that you are done forcing yourself in.” This public case reminds faculty that the qualifications of marginalized faculty

are often questioned and discounted. We define marginalized and minoritized below. Varying standards undermine basic equity and inclusion as well as the ultimate success of these faculty members. Many faculty members in similar positions suffer in silence when dominant groups doing the discounting escape scrutiny and thus the consequences are borne by the minoritized faculty members. DEI values inclusive excellence, building rich, productive pipelines of diverse scholars and instructors (Doscher & Landorf, 2018; Posselt, 2014; Williams, 2007; Williams et al., 2005). This approach is self-fueling in many ways: when students see themselves represented in their faculty, they are more likely to enter that field themselves (Myers et al., 2019). Institutions should work to reject deficit-minded approaches as racist and sexist and, instead, embrace achievement-minded approaches when working to diversify faculty (Griffin, 2020).

Although these myths are persistent and pervasive; these assumptions that limit DEI work do not hold up under scrutiny. Research demonstrates repeatedly that these misperceptions are inaccurate. Why, then do they persist? Misperceptions are either entrenched in the protection of the status quo, dismissed as no longer relevant, or projections of the dominant groups recentering their discomfort by blaming problematizing people as overly sensitive. However, not collectively working toward diversity goals, equity in resource allocation, and inclusion in the institutional cultural climate has real-life consequences that are borne by the marginalized faculty members. Universities must move beyond dismissive kumbaya attitudes to the unifying, fortifying kumbaya dispositions of the 1960s that aggressively challenged social norms in the spirit of broad inclusion.

STEP 2: ESTABLISH BASELINE METRICS AND COMPARE OVER TIME

It is impossible to measure progress without a baseline. At ECU, we have worked collaboratively across the university leadership, institutional research, and the faculty to establish baselines, develop proxy metrics, and track progress over time. At ECU, we want a faculty workforce demographically reflective of the region and the students; a faculty that provides students with a rich set of learning opportunities and experiences, role modeling, mentorship, and sponsorship. Beyond the numbers, we want to create a welcoming and inclusive environment where faculty can cultivate their intellectual pursuits and share learned knowledge and creative activities with students. However, before we can get to this cultural aspiration, we must engage the structural diversity (Hurtado et al., 1998) and limitations thereof within our faculty ranks. This means being able to “count” the faculty to measure diversification progress (OED, 2021); however, counting by identity groups is not a straightforward process. Defining terms, reporting data and even the data collection process itself are all fraught.

In the introductory section of this paper, we described some baseline metrics on faculty diversity at ECU. Our metrics demonstrate that Black and Latinx faculty are underrepresented compared to student demographics and among our service area of eastern North Carolina. These seemingly straightforward counts are wrought with decisions and judgment. Often the term minority is used as shorthand for people in the United States whose race or ethnicity is less than 50%, a numerical minority. Furthermore, the term minority is also used to identify women, who are numerically in the majority but are included as minorities because they do not have access to the same power and

privilege as males or the dominant group. Thus, one can be in the numerical majority by race/ethnicity, sex/gender, or even sexuality within a given context and still because of power dynamics be rendered minoritized. Similarly, the term marginalization marks the distance from power, thereby rendering those on the margins as opposed to closer to power centers marginalized.

The term underrepresentation is strictly about numerical representation. It reflects the proportion of individuals from a given group as compared with a broader demographic: regional, state, national, or global. The National Science Foundation uses the term underrepresented minorities (URM) and has several programs focusing on underrepresented minorities which includes peoples of African, Latinx, and Indigenous heritages but typically excludes peoples of Asian heritages. We believe this practice should be interrogated as in many places (not our own) faculty of Asian heritages are not overrepresented (Chambers, 2020). Furthermore, many Asian faculty are subject to accent (among other forms of) discrimination (Li & Beckett, 2006). Moreover, the Asian pan-ethnic identity includes a diversity of peoples of different ethnic heritages who may be more different than alike. There are different opportunity sets by migration patterns and time in the U.S. The conception of URM reinforces model minority myths that leave people of Asian heritages open to discrimination and hate crimes (Atkin et al., 2018; Shih et al., 2019; Shams, 2020). The term we believe most appropriate when speaking collectively about faculty minoritized by race and ethnicity is Black, Indigenous, and People of Color (BIPOC). The term acknowledges that White is a color and the failure to recognize it as such furthers colorblind White dominance and dysconsciousness about race/ethnicity (Chambers, 2020). In short, we believe that White peoples should not be allowed through language to escape into a purportedly neutral

“racelessness.” Being White and whiteness has meaning (Cabrera, 2018). BIPOC as we use it in this manuscript is inclusive of people of Black African heritages whether of more recent immigrant heritages from the African continent, Black peoples from the Caribbean, and other parts of the African diaspora. It includes people of the 774 recognized and unrecognized indigenous tribes residing in the land occupied by the United States. It also includes people of Asian and Latinx heritages. All of these terms are contested (Noe-Bustamante et al., 2020).

In addition to the way we categorize and name people, the questions we ask as we collect data, the way we ask them, and the response options provided influence what is collected, counted and reported. Since its inception in 1790, the U.S. Bureau of the Census (n.d.) has collected race/ethnicity and sex/gender data on individuals within the United States. However, this process of classification is a continually evolving one. Reflecting the ways that race is a social and political construction (Feagin, 1991; Bonilla-Silva, 1997; Myers, 2005), the federal government has recategorized race/ethnicity numerous times as the positionality of different groups evolved. The changing categorization of African Americans over time is itself a powerful illustration of race relations in the United States (Brown, 2020; see infographic at Pratt et al., 2015). Major changes occurred between 1960 and 1970, with a marked increase in categories for ethnicity. In 2000, people could choose more than one category to represent their race and/or ethnicity and in 2010, the Census form asked two questions about race/ethnicity. In the first question, people are asked to choose an “ethnicity,” with the options of Hispanic or Not Hispanic. The second question asks about “race” with instructions to choose as many as apply. A combined race and ethnicity question was under consideration for 2020, in which people would be offered all the race and Hispanic options in one place and could, additionally, be able to supply more detail about their

origin, tribe, or race (Krogstad & Cohn, 2014). However, this change did not take place and the race/ethnicity definitions in the 2020 census remained the same as in the 2010 census.

In our biological and sociological understandings, distinctions between sex and gender implicate meaningful identities beyond binary classifications of male and female, man and woman. Despite folk knowledge, neither sex (Davis, 2015; Fausto-Sterling, 2000) nor gender (Butler, 1999, 2004; Connell, 1987) are binary with only two categories; additionally, neither is a static biological fact. Instead, both sex and gender are socially constructed spectrums, with structural and interactional consequences for individuals based on their categorization (Risman, 2004; West & Zimmerman, 1987). To better reflect and capture people's lived reality, calls for changes to quantitative measures of gender, in particular, are ongoing. For example, Westbook and Saperstein (2015) not only critique the misuse of biological categories (male/female) to measure gender (man/woman), but they also point out that neither binary measure captures the spectrum of gender identities and performance prevalent in today's society. New research shows that more members of Gen Z, people born between 1997 and 2015, are rejecting the gender binary than previous generations, calling for more gender-inclusive language to reflect gender fluidity (Parker & Igielnik, 2020). Despite a myriad of problems with traditional measures of sex and gender, fixing these measurement problems is not easy. As Westbrook and Saperstein (2015) note, measurement is both an art and a science—both of which are affected by larger social and political contexts.

Debates on the inclusion of sexuality and gender identity classifications occur among professional researchers, in regulatory agencies, and at the federal level. At issue is the ability of individuals to be able to identify and be counted versus the unveiling of those with

minoritized statuses and potential subjugation to dominant parties who could do harm, well-meaning intentions notwithstanding. During the creation of the 2020 Census, this debate expanded to include sexuality indicators. For years, census questions regarding households reveal same-sex partnerships while not providing space for individual identification (Bitterman & Hess, 2021). Ultimately, proposals to include LGBTQ+ persons in the count failed for rationales both supportive and sinister (Velte, 2020).

Data collection is further complicated by a growing number of people choosing not to disclose personal data such as race/ethnicity for a variety of reasons (Rubin et al., 2018). Because demographic information is submitted voluntarily, it is therefore private and legally protected from unwanted discovery; there can be gaps in our knowledge based on that data. For example, in some years, data on faculty and staff at ECU have been collected less systematically than in other years and there were significant numbers of faculty for whom we did not have basic race/ethnicity or sex/gender data. Some of these data were filled in at the level of the University of North Carolina System Office for state and federal reporting purposes. For example, gender, as operationalized by binary biological sex, might be assigned based on a decision rule such as assigning male if the person's campus ID ended in an odd number and female if it ended in an even number. Obviously, this assignment produces inaccurate counts of male and female faculty. State and federal reporting allow for "unknown" race/ethnicity and when race/ethnicity data are not systematically collected, many unknowns can result. The variation in the number of unknowns over time calls into question the numbers within other race/ethnicity categories. At ECU, the percentage of faculty for whom race/ethnicity was unknown was 30%, 25%, and 18% in the years 2016, 2018, and 2020 respectively. How can accurate

baseline and trend data on race/ethnicity be assessed with this much variation in the unknown category?

Universities and state systems are, in many cases, constricted in the data they collect by federal reporting requirements which mandate which data elements and response options are to be reported to the Department of Education. Outside of race/ethnicity and gender operationalized as binary sex, few if any diversity metrics are part of the reporting requirements. As such additional demographic data typically is not regularly collected by higher education institutions. As mentioned previously, this places a binary restriction on response options related to gender/sex; federally mandated questions regarding race/ethnicity, although allowing for more response options than in decades past, are also limiting. To cite just one example, any faculty member who selects “Hispanic” in response to the question on ethnicity is subsequently reported as Hispanic without regard for those who might prefer to identify themselves as multiple races in addition to the Hispanic ethnicity. Faculty and staff within institutions can, and sometimes do, collect data on other metrics which are useful in assessing faculty diversity (e.g., religious preference, sexual orientation, dis/ability, and the like); however, this requires a great deal of organized effort from, and collaboration among, university employees. The “data people” on most campuses (that is, Offices of Institutional Research), often have their hands full meeting federal and state reporting mandates and, thus, may not be able to assist with the collection of additional DEI-related data.

Even when reporting locally, Institutional Research (IR) personnel are constrained by privacy rules and regulations. Especially in DEI work, some pieces of information are unknowable without violating individuals’ rights to privacy. When there are small sample sizes of reported demographic

attributes, the identifiability of the group members keeps IR from providing those numbers; this, in turn, can undermine the tracking of underrepresented groups to determine if progress is being made in making the university a diverse and inclusive environment. For this reason, at ECU we have tried to find other quality indicators that inform a sense of our climate of inclusiveness and the equitability of resource distribution and workloads.

Since 2015, there has been an overt, concerted effort at ECU to establish baselines and monitor progress on difficult-to-measure indicators of equity and inclusion. Coordination between faculty and administration has yielded a series of surveys that individually provide specific insights and when taken together provide a narrative about the campus climate. We provide an overview of these data collection efforts in Table 3. Information regarding the number of faculty by rank and tenure statuses disaggregated by race/ethnicity and gender is reported discretely (not intersectionally) to the Faculty Senate. This includes statistics on the diversity of the faculty and administration, and initiatives in place to enhance the hiring and promotion of women as well as racially and ethnically minoritized faculty. These data-informed conversations combined with the lived experiences of minoritized faculty, and the social climate of the region, state, and nation have prompted faculty engagement around the issues of DEI.

For example, the Black Faculty Organization (BFO) is an employee resource group whose membership bolsters each other through the challenges faced by many Black faculty such as their disproportionate service burdens (Social Sciences Feminist Network Research Interest Group, 2017) and racial battle fatigue (Hartlep & Ball, 2019). As employee resource groups (ERGs) are defined and voluntarily led by faculty with some support from the Office of Equity and Diversity, the onus is on the employees

to create and maintain resource groups as well as develop and promote supportive activities. Other faculty and staff groups such as the LGBTQ+ group provide valuable social networking experiences. To persist, ERGs need both interest and leadership which effectively adds to the service burden of minoritized faculty. Thus, these informal groups, like the Hispanic faculty group, can wither when the individual drivers of the group leave the university or are pulled away by other service responsibilities. There are other models of ERGs that serve the needs of the minoritized faculty and staff with institutional support and shared resources across groups for common activities (Lerma et al., 2020).

STEP 3: IDENTIFY AREAS FOR IMPROVEMENT

Creating a climate of equity and inclusion includes professional development training, ongoing reminders and nudges, continual introspection, and critique. What we see from faculty demographics described in the first section of this paper is that women and BIPOC faculty are underrepresented relative to the population at large. We can also see that their representation diminishes at higher faculty ranks, but the question of why is not addressed in these metrics. Perhaps, a climate of exclusion contributes to their lack of professional success. Much easier to grasp are institutional policies, procedures, and practices as well as administrative accountability for improvement. As such, we planned to devote time in the next step to analyze faculty recruitment and hiring, evaluation and advancement policies, procedures, and practices as well as inquired into opportunities to positively influence administrative engagement. Given other institutional stresses, the university was amenable to accountability “carrots” but not “sticks.”

We also agreed that leadership must prioritize equitable access to resources and workload distributions. When attempting to measure equity, resource allocations and workload equivalences can serve as direct indicators of disparities as well as indirect evidence of climate concerns. The 2016 Faculty Salary and Equity study conducted at ECU by an outside consultant, with input from Faculty Senate representatives, found that while there were individual faculty members who were underpaid relative to their institutional peers, there were no systematic differences in faculty salaries by race/ethnicity or gender. Underpaid faculty were reported to their respective deans and the redress of the pay gaps was the colleges’ responsibility. However, in an accompanying analysis of faculty work productivity, institutional research found that women faculty had 25% more service responsibilities than male faculty. Whether service load differentials here are voluntarily incurred is irrelevant as they point to broader workload disparity trends, and patterns of gender-based workload discrimination (O’Meara et al., 2018; O’Meara et al., 2021). Perhaps related to differences in workload distribution, ECU women’s faculty produced 23% fewer peer-reviewed journal articles and received 26% fewer external grants. Thus, the lower research productivity of women in 2016 could be related to their higher service loads and/or their 29% lower start-up funding. These differences in start-up funding have since been addressed by associate deans of research and the Office of Research, Economic Development and Engagement.

We are making progress. In a 2021 examination of startup packages from 2015 to 2020 by the ECU ADVANCE Team (THRIVE), there were no differences in startup packages by gender. It is expected that the 2016 faculty salary and workload equity study for academic affairs will be replicated in the next couple of years.

Table 3: Select DEI Data Collection

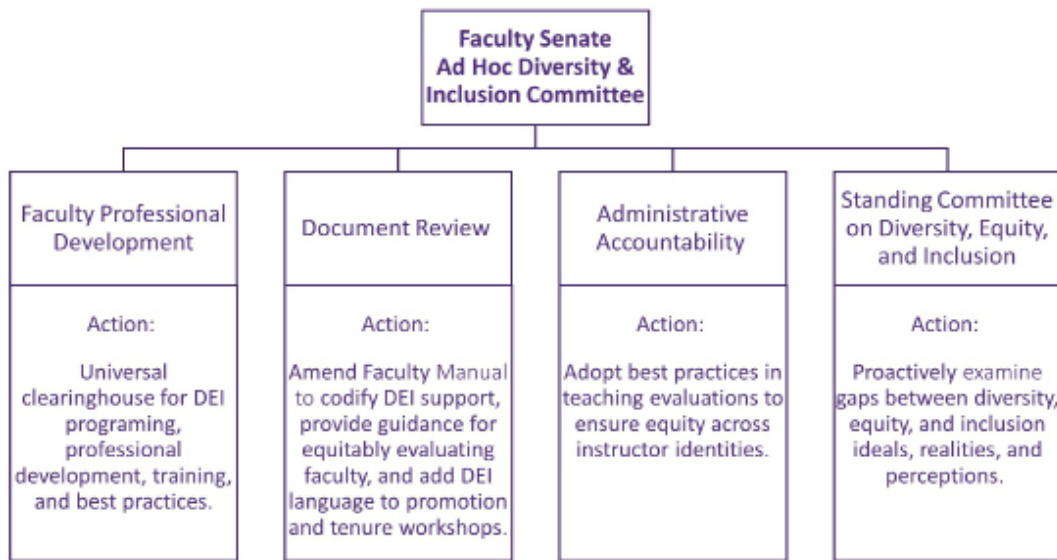
| Year | 2012 & 2015 | 2016 | 2017 | 2018 & 2020 | 2019 | 2016 & 2021 |
|--------------------|--|---|---|--|--|--|
| Survey Title | Collaborative on Academic Careers in Higher Education (COACHE) | Faculty Salary Study (Academic Affairs, Tenured and Tenure Track Faculty) | Qualitative Inquiry on the Perceptions of STEM Women Associate Professors | Faculty Engagement Survey | Faculty Survey of Attitudes and Experiences Relating to Race/Ethnicity, LGBT Status | Analysis of the Equity in Startup Packages by Gender |
| Survey Description | Job Satisfaction, Retention, and Exit Surveys administered by the Harvard Graduate School of Education | Secondary data analysis of faculty salaries and workload in academic affairs conducted by institutional research. | Phone Interviews conducted by the ECU ADVANCE Team | Survey conducted by Modern Think at the direction of the UNC System Office | Survey deployed by ECU ADVANCE Team regarding faculty experiences and perceptions of discrimination as well as institutional climate and resources. | Multiyear analyses of startup packages by gender conducted in 2016 and 2021 by the ECU ADVANCE Team |
| Key Findings | Women and racially/ethnically minoritized faculty expressed lower job satisfaction than White men | No systemic differences in salaries although some outliers. Men log more research and creative activities products than women. Women perform 25% more institutional service than men. | Women described barriers to advancement and shared stories of unfair treatment. | Lack of administrator accountability. Significant differences in campus experiences by race/ethnicity. | Respondents witnessing discrimination: 32% by sexuality, 28% by gender, & 39% by race/ethnicity. Respondents experiencing discrimination: 10% by sexuality, 13% by gender, and 15% by race/ethnicity. Approximately one-third of respondents believed a minoritized sexuality (16%), gender (28%), or race/ethnicity (39%) could negatively influence being hired at ECU. Respondents indicated they did not believe that ECU has a welcoming and inclusive environment by minoritized sexuality (27%), gender (24%), or race (20%). | In year one, there was a significant difference in startup packages with men receiving more and larger awards than women. By 2021 there were no differences in startup packages by gender. |

STEP 4: CREATE AND MODIFY POLICIES AND PRACTICES

We used data about our faculty diversity, our survey indicators about inclusion, workload, and start-up package inequities to help frame our NSF ADVANCE proposal. George Floyd died while we were awaiting funding notice and the Faculty Senate Officers were able to use the data collected and strategies delineated in the grant proposal to put forth a statement advocating for immediate change. The statement, entitled Faculty Officers Statement and Commitments in Response to Racism: A Call to Action, committed the Faculty Senate to the creation of a standing DEI committee as well as to increase the engagement of BIPOC faculty in the Senate and Senate committees more broadly. The Faculty Officers, including one member of the ADVANCE Team, also demanded the following of the university:

1. Increased investment in the recruitment and retention of minoritized faculty;
2. The hiring of a full-time associate director within our Office of Faculty Excellence devoted to DEI professional development in the contexts of teaching, research, interpersonal relations, and leadership;
3. The provision of resources to employee resource groups; and
4. The establishment of DEI goals for each unit and accountability measures for academic administrators in their pursuit of these goals.

The Officers formed an Exploratory Committee on Diversity and Inclusion (D&I) which began and completed its work in the Fall of 2020. The committee was composed of faculty from all nine colleges, across faculty and administrative ranks. It also worked in partnership with the Office of Equity and Diversity, the Office for Faculty Excellence, and the Department of Intercultural Affairs within Student Affairs. The committee initially met to identify and define ECU's issues with equity and diversity that impact and are impacted by faculty. Based on these collective listening sessions, the committee was further broken down into four subcommittees tackling initiatives that were achievable, practical, and impactful. See Figure 2 for a digest of subcommittee designations and their work. Once an announcement of the ADVANCE grant was made, co-PIs on the grant were added to subcommittees of the D&I committee, enabling a smooth translation of the data work conducted in preparation for the grant, in addition to proposed changes to policy and practice. In addition to previously collected data, these subcommittees conducted independent research, gathered data, and studied models of policies and DEI approaches at other universities.

Figure 2: Organization and Actions of the Exploratory Committee on Diversity and Inclusion

The initial work of the subcommittees was to discover and draw on resources, research, pedagogy, expertise, and programming already dedicated to and grounded in DEI work across the ECU campus. Each subcommittee is assigned a different area for a review of current policies, practices, and outcomes related to the university's DEI implementation efforts and climate assessments.

- The Faculty Professional Development Subcommittee provides a clearinghouse for programming and training that supports DEI work. By having a centralized, faculty-led group, DEI programs can reach a broad audience, can be enhanced with our discipline-based expertise, and are enriched with insights from faculty members' lived experiences. In addition, this committee can collect attendance counts and hours of professional development participation of faculty, staff, and administrators.
- The Document Review Subcommittee is examining the criteria that outline the scope and responsibilities of faculty members described in the Faculty Manual to ensure that diversity, equity, and inclusion are included within this definitive text. In addition, this committee is reviewing the criteria and process for promotion and tenure to ensure that it is sufficiently flexible to reward faculty for broad contributions to teaching, research, and service while accommodating differences in workloads and experiences that systematically align with minoritized statuses.
- The Administrative Accountability Subcommittee examined the research on student evaluation of instruction and how biased assessments from dominant groups systematically underrate faculty from different racial and ethnic groups (Chávez & Mitchell, 2020). This committee is working with administrators who evaluate faculty to ensure that performance appraisals do not penalize faculty members for their identities. This committee also brings best practices in

faculty reviews to administrators to ensure they are current with DEI research around performance assessments.

- The Standing Committee on Diversity, Equity & Inclusion within the Faculty Senate oversees the other three subcommittees and identifies ways for them to collaborate and work effectively within the institutional system. This committee assesses the quantitative and qualitative data on DEI, aligns areas for improvement with the activities of the other subcommittees, and provides annual critiques of the status of the campus climate with respect to DEI.

Proposals from the Document Review and Standing Committees were adopted by the Faculty Senate in March 2020. The initial introspection of the Faculty Senate Exploratory Committee on Diversity and Inclusion illuminated the vast wealth of expertise already existing at our institution, across departments and fields. Faculty and staff have demonstrated expertise in identifying gaps in our campus's DEI work and following their critique with useful and practical solutions.

By design, ECU's ADVANCE team, the THRIVE@ECU project, was knitted into the work of the Faculty Senate Exploratory Committee and as such was poised to continue the work after the committee was dissolved. This includes oversight of policy innovations, such as those that would change search committee composition and define administrator accountability metrics, as well as partnerships with our Office of Faculty Excellence and Office of Equity and Diversity to provide professional development and support for all faculty, while focusing on women in STEM.

The goals of THRIVE are to change culture by increasing the multicultural competencies of faculty and leaders through professional development, create support systems for minoritized faculty and implement structural change. The THRIVE@ECU team

uses the metaphor of a tree to illustrate our goals, emphasizing connections through support, core support through policy and accountability, and outreach through professional development (see Figure 3).

To achieve goal one, we adapted Advocates and Allies (A&A), an intersectional approach to disrupting White male hegemony, by organizing White men faculty and administrators to become change agents. This year we hosted two A&A Allies trainings virtually, due to the coronavirus pandemic, and were able to attract the highest number of participants using the online format. In 2021-2022 we will host an Advocates workshop in person, the scheduling of which is still in progress. In the meantime, we have identified a colleague, a White man, to forward this project.

Figure 3: THRIVE Goals



In addition to our A&A adaptation we:

1. Reviewed current search and personnel committee chair training for efficacy;
2. Held a leadership retreat for deans, directors, and department chairs featuring Menah Pratt Clark (Virginia Tech) whose

remarks focused on the integration of DEI into strategic planning;

3. Hosted a broader launch of THRIVE featuring Beth Mitchneck (University of Arizona) who provided a data-centered explanation of bias in the academy with strategies for addressing it; and,
4. Provided an outdoor public viewing of and panel discussion on *Picture a Scientist*, a documentary on sexism in academic environments.

To advance goal two we:

1. Hosted two community learning exchanges (Militello et al., 2014) focused on women and BIPOC in STEM, respectively;
2. Launched a professional chapter of oSTEM (Out in STEM) to build community among queer STEM faculty and staff as well as build awareness in the broader campus and Greenville community;
3. Provided funds for individual STEM women to attend research productivity and leadership professional development programs; and
4. Reached out to include underrepresented areas in STEM in our ongoing work.

We made significant progress on goal three policy developments and will continue with the creation of accountability practices and incentives for faculty, department chairs, and deans. To monitor our progress, ECU will collect data, surveys, and narratives that will be collated and reviewed both by internal and external reviewers. While the NSF ADVANCE initiatives specifically target DEI in STEM, systemic institutional climate changes will benefit all faculty.

STEP 5: REFLECT & ADJUST

A reflective case study is an approach to traditional case study methods wherein the researcher examines their present condition and past antecedents to understand a phenomenon within a case bounded by time and place (Hamilton & Corbett-Wittier, 2013; Tardi, 2019). The reflective case study approach accentuates researcher reflections as participant observers. As a racially, ethnically, and disciplinarily diverse team, the researchers participated in the advancement of inclusive excellence policies for faculty as faculty leaders, institutional researchers, equity officers, and scholarly practitioner-research advocates for institutional change; the reflective case study approach is an appropriate inquiry method (O'Reilly et al., 2017). In congruence with this method, we use thick description techniques to detail the phenomenon of bringing institutional data to bear on our DEI goals. We detail much of this above, including attention to institutional policy and practice, our reflections on what happened, how it happened, what we learned, and what we would do differently in pursuit of our goals. As such reflective case study design is as much a tool for the improvement of personal practice as well as a tool to be shared within a professional learning community. We provide evidence of our credibility and reliability through thick description and our audit trail. In addition, results were confirmed through triangulation with institutional documents, peer debriefing, and collaborative writing (Denzin & Lincoln, 1994; Drew et al., 2008; Yue, 2010).

Upon reflecting on this year of DEI work we acknowledge that we accomplished much in a short amount of time. We also know that we cannot rest on these achievements.

As was demonstrated through integration processes after the Civil Rights Era, policy changes do not readily translate to changes in culture. Therefore, ongoing vigilance is needed to ensure that changes on paper become changes in practice and that changes in practice become changes in habits of mind and ways of being.

While we encountered limited outright opposition, we did engender “friendly fire,” ally on ally incursions often in the form of microaggressions (Sue, 2010). Through this we learned that it is important to practice mindfulness in how we engage others, to recognize our connections as players on “one team,” and to quickly reconcile and extend grace generously. We also learned the importance of self-care and how engaging in a collective ethic around self-care can allow embattled team members to recuperate while others continue to move ahead.

In terms of things we would improve or do differently, our focus on addressing deans, directors, and department chairs while research-driven (Gmelch & Miskin, 1993), often was to the exclusion of other senior academic leaders. In the future, we endeavor to be more inclusive. In addition, while advancing policy proposals through Faculty Senate processes, we did not provide forums for Faculty Senators to provide feedback or voice concerns in advance of the March 2020 meeting. Given time constraints within the meeting, this left some Senators with the option to participate in the up or down votes without a fuller discussion of their concerns. While most measures passed with supermajorities, if some Senators feel railroaded in a particular action, there could be reactionary policy advocacy in the future. Overall, we found significant support for this DEI work across campus constituencies. This was amplified by the Chancellor’s endorsement of our efforts with the Board of Trustees, the faculty, and his administration.

In this vein, a dedicated few were able to move a campus community toward conscientiously engaging in DEI reflection and dialogue: Are we a campus that values diversity, equity, and inclusion? How do we demonstrate that commitment?

CONCLUSIONS

For too long diversity, equity, and inclusion have been either ignored outright or fueled by empty rhetoric. The three prongs of D-E-I have been aggregated into a singular initiative assigned to an office or people with “diversity” titles. At ECU, diversity, equity, and inclusion have distinct meanings that collectively describe a campus climate that is ever evolving into a more welcoming space that listens to the voices of marginalized groups and transfers that knowledge into action. With the collaboration of the Office of Institutional Planning, Assessment, and Research, the Office of Diversity, Equity, and Inclusion, and the faculty and administration, ECU is having conversations around data, lived experiences, leadership, and inclusive governance.

This paper describes a reflective case study about ECU’s experiences with (1) dispelling the myths around DEI work, (2) engaging in data-informed introspection, (3) identifying ways for improvement, (4) translating those observations into action, and then (5) reflecting and evaluating progress in an iterative evolution of improving the campus climate for all people. In this interrogative process, we have had to face some hard truths and accept criticisms as opportunities to do better. We do not identify with the dismissive fragility critique; we are well beyond kumbaya as a derogatory reference of naiveté that glosses over the difficult work to achieve superficial unity. Rather, our DEI work is developing a climate of listening to marginalized voices, re-thinking processes, and inviting critique.

In 2012, during a panel on ECU's history regarding racial integration, Justice Henry Frye, the first African American Chief Justice of the North Carolina Supreme Court, said:

Positive change does not come about by osmosis. Positive change comes about when somebody looks at a situation and says, "This needs to be changed. This needs to be better," and they set to work to make things better. (Copper, 2013, para. 9)

We have moved beyond the appropriated, dismissive interpretation of kumbaya and are reclaiming it as a rally of power and fortitude to persevere through the hard work of making DEI a way of life on our campus.

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(DE)COLONIZING RESEARCH SERVICES

Sean Hillier

York University

David Phipps

York University

Celia Haig Brown

York University

ABSTRACT

The 2015 Calls to Action from the Truth and Reconciliation Commission of Canada (TRC) prompted universities to consider Indigenization. Subsequently, in recognition of the need for a prior step, decolonizing became the focus. At York University (Toronto, Canada), while faculty hiring policies and curriculum development addressed some aspects of the calls, there was limited focus on staff involvement. David Phipps, then Executive Director of the Office of Research Services within the Division of the Vice-President Research and Innovation approached Associate Vice-President Research Celia Haig-Brown with the original focus, “What about Indigenizing the Office of Research Services?” Our work began. “How do research administration practices/policies create (or serve as barriers to) an enabling environment for Indigenous research?” became the driving question. Building on the university’s commitment to Indigenous Futures as a research opportunity in our Strategic Research Plan¹, the Journal of Research Administration’s special edition on equity, diversity and inclusion provides a perfect site to reflect on our work and, we hope, provoke further discussion of the potential for decolonizing research services in other institutions of higher education. We begin this reflection and

provocation in the article title. We bracket the (de) in the word decolonizing in the title to indicate our understanding of the complexity of a university, based as it is in a colonizing model, engaging in decolonizing work.

Keywords:

decolonization; indigenization; research; research services; indigenous

Authors’ note to readers who seek guidance:

This paper is written as a narrative of our journey together as we make efforts to decolonize research administration. Since storytelling is a validated Indigenous method dating back thousands of years, we wrote this article in a storytelling format appropriate to research in Indigenous contexts. You may find that it is not written in the conventional style expected by most western academic journals. All the content of a traditional article (background, literature review, methods, results, discussion) is there but only by engaging with the story will you, the reader, fully understand the content. As either Indigenous scholars or scholars working in Indigenous contexts, we have crafted our research output to reflect Indigenous methods and a culturally appropriate form of scholarly dissemination. In this special edition focused on Equity, Diversity and Inclusion, readers have the opportunity to benefit not only from the unique content of this contribution but also from its Indigenous-inspired form.

Some of this work was undertaken by a single author. Some was undertaken collectively. Relatedly, the voice of the storytelling moves at times between first person singular and

1. <https://www.yorku.ca/research/wp-content/uploads/sites/39/2020/07/Final-SRP-2018-2023.pdf>, p. 22.

first person plural. This movement reflects the iterative and collaborative nature of the research. Some work happened in sequence, and some happened in parallel. For example, Sean was conducting the research project proper while Celia and David were conducting the first three workshops described below. Their stories come together in workshop 4. The conclusion then reveals how this limited scale project took on a life of its own and led to direction to the university as a whole.

The article ends with Implications for Research Administration. We encourage you not to skip to the conclusions but to work with the story and imagine how it applies in your context. Some questions that you can consider along the way include:

- What are the colonial drivers of research administration at your institution that serve as barriers to authentic engagement of Indigenous research and Indigenous researchers? How can the research undertaken by Sean Hillier in this article inspire similar efforts to create recommendations for decolonizing research administration in your institution?
- As your institution develops frameworks responding to opportunities for decolonization, does your office of research administration fit within these frameworks and do you have leadership for action such as that offered by AVP Celia Haig Brown?
- How can staff educate themselves by holding workshops by staff for staff as described by David Phipps?
- How can the office of research administration take responsibility to support Indigenous researchers and their community work, especially Early Career Researchers?
- How can the office of research administration take responsibility to

support engagement of non-Indigenous researchers with Indigenous communities as we describe below?

We wrote this story to illustrate these questions and to provide guidance and inspiration to you. We encourage you to do the work to read our story in its decolonized format to seek that guidance and become inspired to start your own journey of decolonization.

Now, on with our story...

OUR CONTEXT

Our work started with the release of the Indigenous Framework (fall 2018) and it is located at York University in Toronto, Canada. The area known as Tkaronto has been caretaken by the Anishinabek Nation, the Haudenosaunee Confederacy, and the Huron-Wendat. It is now home to many First Nation, Inuit and Métis communities. We acknowledge the current treaty holders, the Mississaugas of the Credit First Nation. This territory is subject of the Dish with One Spoon Wampum Belt Covenant, an agreement to peaceably share and care for the Great Lakes region.

This article tells our story of first steps to decolonize research administration at a large, research intensive, suburban university in the largest city in Canada. We determined that story was the best approach for an article concerning Indigeneity in the academy (Archibald, 2008). As the story unfolds, we contextualize our work, introduce ourselves, present working statements on relevant terms, detail the process of creating a series of decolonizing workshops for people in the Office of Research Services (ORS), and, finally, focus intently on the outcomes of an embedded research project conducted by Indigenous health researcher and assistant professor Sean Hillier.

Socio-historical Context

Why are universities so impervious to the existence of de facto forms of institutionalized discrimination that they are unable to recognize the threat that some of their accustomed practices pose to their own existence? (Kirkness & Barnhardt, 2001, p. 2)

Indigenous futurity considers how indigenous revivals might be viewed as expressions of “futurity,” operating in resistance to those assumptions that consign Native American [Indigenous] peoples and lifeways to the past. (Teuton, 2018, n.p.)

While racism is mostly thought of as a kind of violent rejection, racist institutions in fact often do not want to fully expel the racial other; instead, they wish to maintain that other within existing structures. (Cheng, 2001, p. 12)

We begin with the acknowledgement that schooling in the Americas, as a historical and contemporary practice, has been and in most instances continues to be a powerful tool of colonialism (e.g. Battiste, 2013; Regan, 2010). Ironically, some might even say perversely, we work within and against the university as our way to counteract its shortcomings. Our goal is to create conditions that move the institution toward making it more accessible and inclusive, useful and desirable for all who seek the strengths it has to offer and to use those strengths to protect, advance, and engage with diverse knowledges. Recent publications (e.g. McGregor et al., 2018; Styres & Kempf, 2022) provide specific examples of the struggles to have university personnel at all levels develop understandings of “the diversity of Indigenous research methods...[These] relationships require work, commitment, energy,

communication, and continuous engagement” (McGregor et al., 2018, p. 307). There are no quick solutions. As people directly involved with research administration and conduct, we live daily with Māori scholar Linda Tuhiwai Smith’s words, “The word ‘research’ itself is probably one of the dirtiest words in the Indigenous world’s vocabulary” (2012, p. 1). At the same time, we are conscious of and take up the challenge expressed in the now classic article—completed in 1991 and republished extensively—by Cree scholar Verna Kirkness and Alaskan immigrant Ray Barnhardt. They conclude The Four R’s—Respect, Relevance, Reciprocity, Responsibility—this way:

The only question remaining is, can those who are in a position to make a difference, seize the opportunity and overcome institutional inertia soon enough to avoid the alienation of another generation of First Nations people, as well as the further erosion of the university’s ability to serve the needs of society as a whole? (2005, p. 15)

We also place our work purposefully within current articulations of Indigenous futurities. Deeply rooted in knowledges and understandings of the past including Indigenous traditions and the impacts of settler colonialism, such theorizing recognizes an imagined future always arising from current circumstances. In this light, our article fits with the theme of this special issue on equity, diversity and inclusion for research administration. Always conscious of the past experiences of many Indigenous Peoples with Eurocentric educational institutions, we imagine, indeed we dream of and work toward, a university that takes responsibility for creating respectful and relevant conditions with and for Indigenous faculty and students to engage in ethical community-engaged and driven research with full and appropriate institutional and administrative support.

And now a word about terminology. Always organic, always evolving, the politics of working in and with Indigenous knowledges, research, communities, and Peoples inside the academy requires constant attentiveness above all else. Simultaneously, it requires flexibility and openness to change which sometimes involves a circling back to Indigenous languages more fitting with contemporary awareness and traditional contexts for naming. For example, in this article and in the current discourse in our university, the term Indigenous is used to signify Peoples, communities, nations and knowledges that exist in relation to the first peoples—of Canada primarily—but then, within a broader consideration, the first peoples and nations across the globe where colonization and the creation of borders and new nation-states have often worked to erase, exclude and replace existing Indigenous “sovereign nations.” (See Stewart-Harawira, 2005, pp. 1-31). Most important, Indigenizing the academy has come to refer to an acceptance of the legitimacy of Indigenous knowledges and the influence of Indigenous scholars within its walls. Before such acceptance, which requires fundamental shifts in much of what universities have considered legitimate knowledge(s), recognition and unpacking of the colonial roots and legacies of academe are essential. Even as the word Indigenous has come into common parlance, it is called into question as a term that, like Indian, Native, and Aboriginal, homogenizes difference. Many Indigenous People identify themselves with a larger grouping of peoples such as First Nations, Inuit, or Métis, or with a specific nation, such as Secwepemc, Anishinaabe, Cree or Mi’kmaq and sometimes with communities within those nations such as Stuctwesecm, Tk’emlúps, or Qalipu. The complexities and intricacies of varied traditional knowledges are most often based in specific relationships to and with land, waters, the sky, and the animals, which affect and challenge the work universities must do and the ways that work is named.

Which brings us to ‘decolonizing’, a word highly debated and often employed by users who seek to only take up surface level actions. We must ask ourselves, can we even decolonize such highly colonial institutions, such as universities and academic research institutes? For us, in order to even start the discussion of decolonizing our institutions, it is important to have at minimum a cursory knowledge of colonization, often sadly lacking in some of our most knowledgeable colleagues. Ania Loomba (2005) gives a brief and effective overview of what modern European colonization has brought to the globe. Pointing out that “... by the 1930s colonialism had exercised its sway over 84.6 percent of the land surface of the globe,” (p. 19), she further defines colonialism as “the forcible takeover of land and economy, and, in the case of European colonialism, a restructuring of non-capitalist economies...” (p. 23). Inextricably linked to this restructuring were schooling systems that all too soon morphed into industrial and residential schools where training for labour was the main goal with an accompanying eradication of Indigenous languages, ways of being, and related forms of knowledge seen as integral to the creation of a pliable workforce (e.g., Haig-Brown 1988, TRC 2015). If we are to decolonize, if this is even possible, we must first recognize what structures and practices within the university are based in the limited set of possibilities defined by dominant European-based understandings of the way things should be in educational institutions. For us, in this project, considerations moved beyond a focus on faculty, students and curriculum to address research offices, administrators, and staff, their existing structures, supports, and practices. We were expressly focused on those aspects which have been and continue to be incompatible with much of the research related to Indigenous Peoples and communities and the conduct of research by Indigenous faculty members and students. What started with an emphasis on research services led to a much bigger view of the need for change across the

university. In the final analysis, in our everyday work, we three authors look towards

...not the replacement of one unjust power with another unjust power... [but] a revolutionary humanism, neither assimilationist nor supremacist, in which the Manichaeon logic of dominant/submissive as it applies to people is finally and completely dismantled, and the right of every human being to its dignity is recognized. That is decolonization. (Smith, 2020, p. 25)

Our work with its focus on research services resonates with and builds on Montsion's consideration of the spaces for Indigenous student services in Ontario universities. In particular, his conclusion that Indigenous students are framed in "contrast to non-Indigenous students and their unspoken relationship to their settler identity," (2018, p. 143) led us to see the importance of speaking directly to settler-Indigenous relationships with our colleagues in the Office of Research Services (ORS).

Begin at the beginning: Who are we to do this work?

While in some ways, this article may read as a simple report and set of recommendations on research administration, looking more deeply into the process that guided our work provides a specific example of the necessity of taking the time to listen to Indigenous scholars and scholars of Indigeneity as one university turned its attention to research services. Let us begin the story of our work together by introducing ourselves as we have been taught is appropriate in work related to Indigeneity. As professor and Canada Research Chair Deb McGregor writes in her co-edited text (2018, p. ##), "An important and appropriate place to start applying an Indigenous approach to research is with 'self-in-relation' (Absolon, 2010; Graveline, 2000; Kovach 2009)."

Sean Hillier: Kwe! My name is Sean Hillier, I am a queer Mi'kmaw scholar registered with the Qalipu First Nation and grew up on the southwest coast of Newfoundland. My mother is Mi'kmaw and my father is of western European descent with family arriving on the island of Newfoundland in the 1700's. I am an assistant professor at the School of Health Policy & Management, Special Advisor to the Dean on Indigenous Resurgence in the Faculty of Health, and York University Research Chair in Indigenous Health Policy & One Health. My collaborative research program spans the topics of aging, living with HIV and other infectious diseases, and antimicrobial resistance, all with a concerted focus on policy affecting health care access for Indigenous Peoples in Canada.

David Phipps: Hi, I am David Phipps. I was born in England to white, British parents. When I was two years old, we emigrated to the land that some now call Canada when my father relocated to work in Ottawa on the traditional and unceded territory of the Algonquin people. I attended Queen's University in Kingston, Ontario (on traditional Anishinaabe and Haudenosaunee territory) obtaining my Ph.D. in Immunology in 1991. I moved to Toronto (on traditional territories of the Anishinabek Nation, Haudenosaunee Confederacy and the Huron Wendat) for post-doctoral research in HIV/AIDS. I have been a research administrator (non-academic professional staff) since 1996 and have a passion for innovation in my field and in supporting growth of my profession. In fall of 2017, the Indigenous Council at York University released the Indigenous Framework. The Indigenous Framework embraced faculty and students but didn't once mention professional staff. That was the start of my ongoing journey of personal and professional decolonization.

Celia Haig-Brown: I am Celia Haig-Brown, Associate Vice-President Research at York

University at the time of writing and a professor in the Faculty of Education. I am a white woman of Anglo ancestry (my father came directly from England and my mother from several generations in the US). I was raised on the banks of the Campbell River in Kawkwaka'wakw territory; my children were born in Secwepemc territory and my grandchildren in the complex territories in and around Toronto—Wendat, Haudenosaunee Confederacy, Anishinaabek, now home to Indigenous Peoples from many nations. I have been working in post-secondary education with Indigenous students and researching in Indigenous contexts for more than 40 years. I have seen land acknowledgements—one small step of the university decolonizing—go from non-existent, to sparse, then from eye-rolling semi-tolerance to institutional embrace, and subsequent critiques of tokenism (e.g. King, 2019). In terms of truth and reconciliation, I remain with my 2018 position articulated in a national keynote: no reconciliation without more truth. Some of what this paper brings is more truth about the limitations of university support for Indigenous researchers. And maybe at this point we have to acknowledge no reconciliation just now. More on reconciliation, another problematic term, later in the paper.

Decolonizing research at York University: The institutional context

Sean: On November 5, 2017, York University launched the Indigenous Framework² as one approach to advancing the goals of the Truth and Reconciliation Commission³. Support at the highest levels of administration is integral to any serious engagement. In our case, commenting on its launch, President Rhonda Lenton is quoted as saying, “This

new framework will advance our vision of being a connected University through expanded participation of Indigenous students, faculty and staff, as well as increased engagement with Indigenous knowledge and communities”.⁴

The Indigenous Framework’s 10 recommendations are worth articulating in full as they served as the stimulus for York’s current progress:

1. Expand the role of the Indigenous Council.
2. Increase the number of Indigenous faculty.
3. Enhance the recruitment and academic success of Indigenous students.
4. Expand Indigenous programming and curricular offerings which explore Indigenous life, cultures and traditions.
5. Facilitate research that is relevant to Indigenous life, and respects Indigenous approaches to knowledge and learning.
6. Engage with Indigenous communities to enrich the learning process.
7. Establish spaces for Indigenous cultures and community within the University.
8. Ensure that the perceptions and experiences of Indigenous community members are reflected in the classroom, on campus and in university life.
9. Develop and expand educational opportunities for Indigenous communities.
10. Ensure the process for developing, implementing and evaluating this framework involves Indigenous community members both within and outside the University.

Although the tenets of the Framework resonate with work conducted previously in

2. <https://indigenous.info.yorku.ca/framework/>

3. <https://nctr.ca/about/history-of-the-trc/trc-website/>

4. <https://yfile.news.yorku.ca/2017/11/05/york-university-launches-indigenous-framework-appoints-special-advisor-to-the-president-on-indigenous-initiatives/>

other universities (see Mihesuah & Wilson, 2004; Kuokkanen, 2008), York's version demanded our immediate attention. In particular, recommendation five proved relevant to the work of the Division of the Vice President Research and Innovation (VPRI).

"Facilitate research that is relevant to Indigenous life, and respects Indigenous approaches to knowledge and learning."

This article outlines the process and outcomes of developing a series of five workshops focused on non-Indigenous research administrative staff in the Office of Research Services. Significantly, the ways some staff members have taken up their own personal and professional journeys of decolonization are recounted. Integral to the conduct of the workshops was an embedded research project designed to review the ways that York University attempts (and often fails) to support Indigenous researchers, students, and Indigenous ways of knowing. Most notably, this part of the project moved into and beyond the original intent of the workshops and its outcomes are unpacked below. The concerns researchers raised, and the immediate effects of their words took the original proponents into disturbing, but fertile, ground for change. It is in this element of our work that the potential and need for real structural transformation in the university becomes evident. It also serves as an indication of the importance of taking the time to listen to those scholars most directly involved with Indigenous research.

Introduction to the Office of Research Services

David: The Indigenous Framework makes recommendations for the institution as whole as a way to influence faculty and students' actions and understandings of Indigeneity and ultimately transform the university for the better. While the roles of non-academic

(i.e. administrative support) staff may be seen to be implicit in helping deliver on the Framework, there are no specific references to them or to their roles and responsibilities. In addition to research supports in Faculties and organized research units/research centres, York University has central research administration offices including the office of Vice President Research & Innovation (VPRI) which includes the Office of Research Services (ORS) and the Office of Research Ethics (ORE) and we work closely with the Office of Research Accounting (ORA). As we considered the potential roles of research administrators in supporting the Indigenous Framework, we arrived at the following question: How do York's research administration practices/policies create (or serve as barriers to) an enabling environment for Indigenous research?

More specifically: how do our practices/policies take seriously Indigenous knowledges; how may Indigenous approaches to knowledge creation differ from those of colonizing traditions and what does this mean to our work in research support offices; and what can we do in our professional roles to support the Indigenous Framework?

The staff in central research administration offices are diverse in terms of age, racial background, religion, and sexual orientation: however, all are non-Indigenous. Some staff have been in their roles for 17 years while some are in their first year. Approximately 1/3 of staff are unionized. Most staff had heard of the Indigenous Framework but were not familiar with its details. The potential to raise staff awareness of issues related to colonization and decolonization was seen as a first step to understanding how our policies, practices and procedures need to change to reduce barriers to research support and move closer to those that are relevant to Indigenous contexts and respect the varieties of Indigenous approaches to knowledge and learning. Recognizing that the work of

decolonization is primarily a responsibility of non-Indigenous people, the two lead research administrators Celia and David took up the challenge.

Drawing on the ongoing advice, support, and review of Dr. Ruth Green, Special Advisor to the President on Indigenous Issues & Associate Professor, York University, the two worked to develop a series of five workshops that were delivered over a 12-month period. The overall objectives of the workshops were to engage staff in educational experiences that challenge colonial paradigms; raise awareness of opportunities to decolonize our practices/policies; highlight the need for continuing learning; and ultimately reduce barriers to Indigenous related research. Further to those broad objectives, we set out to identify those practices that create barriers; to brainstorm more appropriate approaches; to develop specific guidelines/policies/practices; to implement changes; and to evaluate our steps over time.

Reviewing existing literature, we found few references to research administration in colonial context. In a notable exception in the *Journal of Research Administration*, Simon Kerridge undertook an international review of research administration (Kerridge, 2021). Research administration exists in colonial contexts around the world wherever research in Indigenous contexts is supported in institutions predicated on a colonial model. This is true for Canada, US, Australia, and New Zealand which have well-established research management associations as well as for other jurisdictions in which research administration is emerging as a profession.

Creating the Workshops

Celia: As we began planning the workshops, we recognized that they could only ever be a start to an ongoing process of decolonizing, a process that the Truth and Reconciliation Commission has challenged Canadians to

engage in. Like Indigenization, reconciliation remains a distant and elusive goal. We concur with Datta that reconciliation is “not a static process,” but rather it is “complex, relational, and deeply rooted in the Indigenous history of colonization, land rights, self-governance, cultural heritage, socio-ecological justice and environmental well-being” (2020, p. 5). Despite this complexity, we do have a responsibility to act, to begin the process of moving toward the goal. I found myself thinking of a comment Paulo Freire made in a course I took with him years ago about the need for radical change in inequitable and unjust societies. Not holding out hope for immediate change in institutions where too many people are used to a comfortable sameness, he made clear, “In the meantime, we must wait, acting.” In other words, the difficulty, some might say the impossibility, of what we are setting out to do is not an excuse to do nothing. In the case of decolonizing the VPRI/ORS, our actions took shape with the workshops and began what we know can only be a long journey. As noted above, I first became involved when David came to my office to talk excitedly about Indigenizing ORS. Talking together we quickly agreed that decolonizing was a prior step and began our plan.

Table 1: The Five Workshops

| Workshop | Description |
|--|--|
| 1. Setting the Stage | <ul style="list-style-type: none"> • Description of the treaty, the Dish with One Spoon Wampum Belt: Ruth Koleszar Green. • Understanding York's Land Acknowledgement https://yfile.news.yorku.ca/2019/01/14/new-video-explores-the-importance-of-understanding-the-land-acknowledgement/ • Colonisation Road, a video by Indigenous filmmaker Michelle St. John that uses humour to create an accessible approach to the persisting effects of colonization. http://www.cbc.ca/firsthand/episodes/ccolonisation-road |
| 2. Colonization | <p>The Kairos Blanket Exercise https://www.kairosblanketexercise.org/</p> <ul style="list-style-type: none"> • An experiential, three-hour workshop designed to walk participants through colonization in Canada from pre-contact to current times. • Conducted jointly by one Indigenous and one non-Indigenous facilitator • Not without controversy because Kairos was developed by Christian Churches, but we consulted with various Indigenous knowledge keepers who felt that the experience was a useful one especially when contextualized by the first workshop. |
| 3. Decolonization | <ul style="list-style-type: none"> • 30 minute video by Celia Haig Brown from her research with the children and grandchildren of residential school survivors regarding their relationship to education broadly defined. • https://www.vtape.org/video?vi=6733 • Discussion with Celia on some of the themes arising from the film that are relevant to thinking about how to (re)design research administration practices: <ul style="list-style-type: none"> » Importance of language revitalization » Intergenerational effects of the schools » Self-determination "Our own systems, our own ways" » Caring for each other » Reciprocity » Land (e.g. sustainability) » Equity, diversity, inclusion and decolonization (EDID) – for some people, the journeys to understanding are more difficult than for others • How these themes relate to research administration |
| 4. Examining our own practices | <ul style="list-style-type: none"> • Presentation of the research project by Sean Hillier <ul style="list-style-type: none"> » Goals and methods of research project » Data: primarily qualitative examples » Conclusions from qualitative data » Recommendations |
| 5. Applying awareness to our practices | <ul style="list-style-type: none"> • Three staff presented their initial efforts to begin the process of decolonizing their practices <ul style="list-style-type: none"> » Knowledge mobilization » Research ethics » Pre-award grant support • Evaluation survey |

For many reasons, attendance at the workshops for the staff of the ORS was optional. And interest ran high. Overall, there were 38 unique participants out of 52 central research administration staff (73%), although the majority did not attend all five workshops. Workshops ranged from 1-3 hours and an evaluation questionnaire (approved by York's Human Participants Review Committee, York's nomenclature for our Research Ethics Board [REB]) was distributed at the last session. Staff were provided with information on available supports for anyone feeling distressed or experiencing discomfort through attending the workshops.

As the first three workshops were underway, we recognized the need to identify what researchers saw as existing barriers to authentic engagement in research that is relevant to Indigenous life, and respects Indigenous approaches to knowledge and learning. The VPRI funded and Celia and David worked with Sean to create an Indigenous based and led research project to achieve this objective. Sean as the lead researcher documents the experiences of Indigenous researchers and some non-Indigenous researchers who conduct research with Indigenous Peoples as they related to York's research administration. The impetus for involving Sean was to avoid the recapitulation of conventional power structures and a potential lack of trust on the part of the study participants. A non-Indigenous President or Vice-President may be seen as central to creating those conditions Indigenous scholars are being asked to critique. Particularly for untenured faculty, this situation can limit responses as well as run the risk of re-traumatizing researchers when they are asked to recount years of challenges and efforts to overcome administrative barriers in front of those who are at least partially responsible for them. The results of the research are the focus of the rest of the paper. Ranging well beyond the attention on research supports,

the outcomes of this work have given York some clear challenges to extend our focus on decolonizing research to similar needs within the larger context of the university. Let's turn to Sean for this part of our story.

Workshop 4: Examining our own practices.

Sean: Having started my appointment at York in August 2018, I was approached shortly thereafter in September of 2018 to meet with Celia and David about a research opportunity they wanted to explore. At our initial meeting, they discussed the newly released Indigenous Framework and their interest in understanding how Indigenous faculty and other faculty who do Indigenous research perceive and interact with the VPRI and especially the ORS. They discussed their conceptualization of a new Indigenous workshop series for their staff to start the process of understanding colonialism and decolonization. As part of this process, they asked if I, as a new researcher to the institution, would be interested in conducting part of this work with them. In the proceeding weeks, the three of us met several times to discuss the proposed research, which focused on my speaking with colleagues about their perceptions and interactions with research services at the institution. Together, we solidified the research questions to be explored and I detailed the process by which I would independently conduct the research.

The research explored York University's research administration practices, particularly the barriers faced by Indigenous researchers, and the impacts those barriers have on research productivity, students, and the broader community. Considering the Indigenous Framework and its possible application to the ORS, ORA, REB, and the VPRI, we asked: how do our practices/policies create (or serve as barriers to) an enabling environment for Indigenous research; how do our practices/policies consider Indigenous approaches to knowledge; how are Indigenous approaches to knowledge different from

those of colonising traditions; and, what can administrators and staff do in their professional roles to support the Indigenous Framework?

In response to these questions, we captured experiences, opinions, and recommendations for York's research administration practices from Indigenous faculty members and non-Indigenous faculty who do extensive Indigenous related research.

The VPRI provided funding for the research which allowed the hiring of a research assistant and purchase of necessary materials including traditional medicines and gifts for participants. In early October, I attended my first Indigenous Council meeting at York where I spoke with members about the proposal. At that meeting, I gained their approval to move forward with the research and reported back to them at every meeting until the completion of the final report. Following their approval, I submitted an ethics protocol for approval, which was finalized and approved in December 2018.

Over the next five months from January 2019 to May 2019, I met with 17 participants, 12 Indigenous and five non-Indigenous (whose research programmes are substantially Indigenous focused). They ranged in academic rank from Ph.D. Candidate/Instructor to Full Professor, with the majority being Assistant Professors. This research incorporated storytelling as an Indigenous-informed method to gather knowledge (see Archibald, 2008; Kovach, 2009). This research thus incorporated storytelling as an Indigenous-informed method to gather knowledge. Participants were able to share their experiences, worldviews, and ways of knowing and being through traditional storytelling. Participants were consented through the offering of tobacco, based on their Indigenous tradition, at the start of each meeting. Upon completion of storytelling, the audio

recordings were transcribed and uploaded into the software program SQR*NVivo 2017. The transcripts were then coded within the software program. Carrying out the coding for this research started by creating analytical codes and categories from the data. These 17 meetings yielded 76 pages of transcripts, with 142 distinct "impactful quotes extracted" across 16 major themes.

To summarize, the participants addressed several major themes—specific to York but with possible implications for other places. Throughout the discussions, all faculty participants noted demanding teaching and service loads for Indigenous faculty members. Researchers also agreed that York does not appear to value or recognize Indigenous research as 'real research'. Faculty members commented on having a lack of time to build and maintain respectful community relationships, something that the university does not appear to prioritize.

A recurring theme amongst most participants, especially junior faculty, was a lack of knowledge about the ORS, the services they offer, or the overall function they hold. Of the researchers who were aware of the ORS, most were critical of it, calling their procedures unhelpful and counterproductive. However, not all interactions with ORS were negative. When faculty members used ORS services (excluding research ethics), they tended to have a positive interaction.

Researchers noted a general lack of support for hiring, funding, and retaining graduate students. Research ethics was a wildly contentious issue for all researchers interviewed. Researchers also found the ethics process to be cumbersome, with REB staff being unhelpful during external community reviews.

Participants did not believe research at York University lived up to the principles of

ownership, control, access, and possession (OCAP®)⁵. There was significant concern from researchers about how York values Indigenous knowledges in relation to the tenure and promotion process. Indigenous faculty frequently used the words ‘token’ and ‘tokenism’ to illustrate their points.

A number of Indigenous and non-Indigenous faculty members stated that they no longer keep their research money at York, instead holding it at other institutions or in community-based organisations. Researchers had concerns about the Finance and Accounting department, particularly the additional work imposed on them. Control over financial systems and processes posed a concern for most Indigenous faculty members. Researchers felt limited in what they could purchase and expense. Virtually every researcher discussed the lengthy process of getting paid by the university, either for reimbursements themselves or for participants and partners on their projects.

In July 2019, I attended the fourth workshop to present my initial findings. No one attending had received a copy of my findings prior to this. During this three-hour meeting, staff from the VPRI listened intently, asking only a few clarifying questions of the material and quotes being presented to them. They had been briefed on the importance of placing the voices of the Indigenous scholars at the forefront and focusing on what they had to say; attendees were asked to listen to the presentation rather than focus on formulating their own questions. As attendees left, they were asked to review the presentation slides in order to digest the information and come back with a response to their bosses as to how any issues presented could be within their purview and how they could address those issues.

I subsequently completed the final version of the 38-page report and its findings were presented to the Indigenous Council of York University for their review. Upon receiving endorsement of the report and its eight recommendations from the Council, I forwarded a final copy to the VPRI. In September 2019, the three of us met with the Vice-President Research and Innovation and discussed the recommendations. This discussion touched on the fact that they moved beyond his jurisdiction to take up many pan-university issues affecting all facets of life for Indigenous researchers. Therefore, he agreed with the three of us that, because this report had a reach beyond the VPRI and impacted all senior administration and their units at the university, it should be brought forward to the Presidents and Vice-Presidents (PVP) weekly meeting for further discussion and potential action.

Celia: A slight aside at this point. As we had been with the smaller group of research administrative staff, we were fully cognizant of the potential for defensiveness in response to the recommendations and wanted to ensure that it was also clear to all senior administrators that it would be an inappropriate response to the challenges issued by Indigenous faculty. Here was an opportunity to really listen. By making this clear from the outset, we hoped to sidetrack comments beginning with accomplishments the university could already claim, “But we already....” Rather, the opportunity being presented, the deeply thoughtful contributions made by the participants called for and allowed for responsiveness on the part of each and every member of the President and Vice-Presidents’ (PVP) group to move to the next level of considering support for Indigenous faculty, students and knowledges. The reception was for the most part very positive; there were a few claims that much was

5. <https://fnigc.ca/ocap>

already being done and, despite our efforts, there were a few understandable and perhaps inevitable desires to detail the initiatives already in place. It is simply not enough.

Sean: In January 2020, I presented the eight recommendations (Table 2) and fielded questions from the PVP about the report. The President of York University after the meeting noted that she fully endorsed the report and its recommendations, pledging to provide a written response to the Indigenous Council within six months. Again, we suggest that these recommendations may have some implications for other educational contexts where Indigenous researchers are engaged.

David: Recently the Council of Ontario Universities released a report on the experiences of Indigenous faculty at universities across Ontario (Council of Ontario Universities, 2020). The findings of the report align with Sean's research on the experiences of Indigenous faculty at York. For example, "many pre-tenure Indigenous faculty

participants noted that the amount of service they are engaged in is very different from the responsibilities of non-Indigenous peers. Pre-tenure Indigenous faculty described providing consultation and representation at all levels of the university" (Council of Ontario Universities, 2020, p. 9). Apart from a call to action on research ethics, the report is silent on research administration services, something that Sean's research specifically highlights. However, the report did call for institutions to better support and recognize Indigenous research and Indigenous researchers. "As part of Indigenization and reconciliation efforts, new frameworks and approaches to supporting and recognizing Indigenous researchers are needed" (Council of Ontario Universities, 2020, p. 3). Addressing the eight recommendations from Sean's research will provide new frameworks and better research supports for Indigenous research and Indigenous researchers.

Table 2: Recommendations for York University

| | | |
|---|--|--|
| 1 | Indigenous faculty must be recognized for their extensive workloads. Service, teaching, and research responsibilities must be reasonable, appropriate, and meaningful. | This includes reviewing tenure and promotion requirements to establish the standards of excellence by which Indigenous teaching, research and service can be assessed moving beyond colonial practices for tenure and promotion. |
| 2 | York must hire a central Indigenous Research Officer and support staff to assist with funding opportunities, collaboration, application processes, navigating administration, and pre and post-award support that is specific to Indigenous faculty members. | This position should report to an Associate Vice President Indigeneity, a position also recommended. |

| | | |
|---|---|--|
| 3 | York and VPRI must make a public statement entrenching support for Indigenous ways of knowing and being, research, and practices. This includes a commitment to improving processes on campus and within Indigenous communities. | |
| 4 | York must work to reconcile Indigenous ways of knowing and being and the ways in which Indigenous research is conducted with its own specific needs for accountability. | There are clear conflicts in how the university must address its need to abide by tax laws and granting agency rules while also respecting the need to pay communities and participants in a timely way, the amount allowed to be paid for honoraria, the requiring of SIN numbers from Elders, etc. |
| 5 | ORS must take a leadership role in assisting non-Indigenous faculty members to engage with Indigenous communities. | Currently, the support of non-Indigenous faculty members conducting Indigenous research falls on the shoulders of the few Indigenous faculty members at the university. ORS must step in and provide guidance with the following: approaching communities respectfully, understanding Indigenous methods and knowledge systems, best practices for working within communities, and OCAP and ethics considerations. |
| 6 | York must commit to hiring more Indigenous faculty members | Indigenous faculty believe there is a dire need to hire more Indigenous researchers at York University. This is in addition to the recent hires made by the university for 2019-2020, as the institution still remains far below representation targets |
| 7 | York must commit to recruiting and providing adequate funding and supports for Indigenous graduate and undergraduate students. | We cannot support our research without Indigenous graduate and undergraduate students. More and more Indigenous researchers are noting that their communities ask for Indigenous trainees and do not want to work with non-Indigenous students. Once recruited, Indigenous students must be properly supported and funded for their degree requirements and research projects. |
| 8 | The university must respond to the contents of this document with an action plan and/or response to the points noted. Indigenous faculty and students have again given their time to tell the institution and its leadership their concerns and needs. In concert with the Indigenous Council, the university must take time and effort to respond to them. | The university is asked to provide an update to the Indigenous Council in 6, 12, 18, 24, and 36 months, from the date of this report, in the form of a written and oral report on their response and action plan, including a timetable of action items which address the contents of this document. Additionally, all subsequent reports should address the status of any outstanding deliverables. |

Workshop 5: Applying awareness to our practices.

Celia and David: The impacts of the fourth workshop and in particular, Sean's recommendations, are ongoing. One of the most important lessons that anti-racist and decolonizing education has shown is that one workshop or one course is never enough to address systemic racism. That being said, we see the outcomes of our project as one small contribution to that ongoing work. The presentations in the final session and the results of our assessment questionnaire serve as specific demonstrations of the possibility that lies even with this short voluntary set of educational and action-oriented workshops. During the fifth and final session, we heard from three attendees about the work they had been doing provoked by the earlier workshops including Sean's list of recommendations. The three presenters addressed ethics concerns, knowledge mobilization, and deepening their own learning.

Procedures related to human participants ethics review had been found to be particularly problematic. The earlier implementation of unique procedures including the involvement of Indigenous researchers on an Indigenous advisory sub-committee to REB had unintended consequences. The move has created perceptions of a two-step process, one that could delay approval processes for researchers working in Indigenous communities and that created an additional service burden for Indigenous researchers who served on the committee even as it was an effort to address respectful community research. In an immediate response to this feedback the Senior Manager & Policy Advisor, Research Ethics worked with Sean and Ruth to clarify the process and revise approaches to decolonizing research ethics procedures that consisted of five sequential steps: listen,

reflect, collaborate, innovate, implement. Since that time, York has begun the process of establishing an autonomous Indigenous REB.

While knowledge mobilization was not identified as problematic in the research, the non-Indigenous Manager of Knowledge Mobilization has a Master of Arts degree in Native & Canadian Studies and a previous career as an adult literacy practitioner focused on Indigenous adult learners. He reflected on the role of his earlier experiences in relation to the four workshops. He framed his thoughts through his understandings of an Indigenous lens as: purpose, knowing, action, understanding.

The third presenter, a pre-award administrator supporting large scale research grants went beyond the five workshops and deepened her own developing understandings by enrolling her whole family in a week-long program called the Manitoulin Island Summer Historical Institute (MISHI)⁶. From the program's website,

"The goals of MISHI are: to teach participants about Anishinaabe history on Manitoulin Island, with a focus on site-specific experiential learning; support the historical and educational resources of the Ojibwe Cultural Foundation (OCF); and to build bridges and strengthen the relationships and cooperation between OCF and York University."

Finally, in the following selected comments from the workshop evaluations that participants completed at the end of the last session, shifting understandings and commitments become evident.

6. <https://robarts.info.yorku.ca/research-clusters/hip/manitoulin-island-summer-historical-institute-mishi/>

Selections from the Workshop Evaluations

These optional evaluations (approved by the Human Participants Review Committee/REB) were circulated to all participants at the end of the last workshop. Sixteen completed surveys were returned representing 42% of the attendees. While each of the five workshops were identified as at least one respondent's favourite, session #2 (Kairos Blanket) was identified as the favourite by the most respondents (n=8). The responses demonstrated that staff appreciated the learning opportunity and were ready to reflect on their own professional roles as they relate to decolonizing research administration policies and procedures.

For the question "What does decolonizing mean to you?" we received a number of responses showing how staff are moving their understandings of decolonizing into their research administration practices.

"Finding ways in which we can do our work in ways that the university can come together to better understand the cultures and ways of life of the Indigenous people to ensure that we work to respect them and their cultures when we perform our duties. Keep them and their cultures in our thoughts and respect their ways of life."

"It means a greater understanding, openness, and thoughtfulness. Decolonizing is a process, one where we continually need to consider different perspectives and think about our actions deliberately."

"The responsibility to critically assess my professional practices, values, beliefs for the purpose of delivering services more aligned to Indigenous people."

"Recognize the systems put in place that privilege settlers or traditional scholars and how these systems could be reviewed and improved to recognize different ways of knowing."

All sixteen respondents answered the question, "Do you feel a personal or professional commitment to decolonizing?" All responded positively.

"Both. I want to be better in both, a better Canadian."

"Absolutely! Is a key consideration in the development of policies and procedures."

"Yes, everyday (since these decolonizing workshops) I think about the land I walk on, use, and its history."

Respondents were asked to reflect on their professional roles and procedures that may create barriers to authentic engagement of Indigenous researchers. Many commented on the lack of flexibility offered by York's research policies and procedures.

"The VPRI is very process driven, it is regimented and has many rules that put stakeholders into a single category without consideration for things such as Indigeneity. There are reasons for these processes and practices, but I believe we really need to consider the idea of becoming more flexible and thoughtful."

"Our policies and rules are rigid."

"Processes and structure such as deadlines, needing written contracts are problematic sometimes for Indigenous research."

"Looking at our policies and practices is important, but we also need to meaningfully engage in broader system level changes."

"We are very policy driven—as a large institution this is common. However, we must be willing and able to alter our practices to be more accommodating of Indigenous persons and other communities."

These comments and the three specific examples above are illustrations of the journeys each research administrator is undertaking to learn more about Indigenous issues to help them critically assess their own administration practices. Each individual step—early as they are—supports the overarching program of decolonizing at York University informed by the eight recommendations from Sean's important research.

Continuing to apply awareness to our practices

In further developments out of the workshops and in direct response to Sean's report, the Office of Research Ethics, guided by the Indigenous Council has begun the process of establishing a fully autonomous Indigenous Research Ethics Board. Meetings with Indigenous faculty taking the lead and non-Indigenous researchers providing their input are in process. Sean is chairing this committee and Celia is one of the participants.

David has now worked with the Manager of York's Knowledge Mobilization Unit ("KMb York") to respond to recommendation 5,

"ORS (Office of Research Services) must take a leadership role in assisting non-Indigenous faculty members to engage with Indigenous communities". This recommendation is consistent with one call for action identified by the Council of Ontario Universities. "A review of policies and practices related to engagement with local Indigenous communities should be aimed at ensuring the development of mutually beneficial relationships; specific attention should be paid to engagement with Elders" (COU, 2020, p. 19)

Knowledge mobilization is an emerging research administration practice analogous to industry liaison which creates connections between researchers and communities/ organizations beyond the academy so that research can inform broader societal impacts (Phipps & Shapson, 2009). Writing in the Journal of Research Administration, Phipps and colleagues from KMb York published on their processes for supporting knowledge mobilization and research impact in grant applications (Phipps et al., 2017). A core element of knowledge mobilization is stakeholder engagement as illustrated in the co-produced pathway to impact that underpins knowledge mobilization at York (Phipps et al., 2016). Guided by, and with input from and ultimately approval of, the Indigenous Council at York University, KMb York took up the challenge presented in recommendation 5. Following an environmental scan of Canadian universities (summer 2020) and researching existing guides for Indigenous research, KMb York developed a Guide to help non-Indigenous researchers prepare to engage in a research project with an Indigenous community. The Guide will be launched as an interactive web tool and will be incorporated as part of a new service offered by KMb York, thus taking some of the burden off Indigenous faculty who are constantly asked about best approaches for work in Indigenous communities. As non-Indigenous research support staff we are

assuming at least some of the responsibility for teaching our colleagues some of what we are learning. While we have presented on this tool and the associated research services to support its use (Haig-Brown et al., 2021), it will be formally presented in a forthcoming publication.

LIMITATIONS AND FUTURE DIRECTIONS

This research and its implementation were based on qualitative research methods where small N surveys, such as ours, administered in a specific context give insights into existing circumstances and demonstrate the potential and possible need for larger studies. This research was based in Toronto and grounded in the experiences of Indigenous researchers and researchers working in Indigenous contexts from within our university. The barriers reported herein serve to inform efforts at other universities and in other jurisdictions, recognizing that follow-up studies will need to be adapted to those new contexts. While some challenges might be shared between institutions (Council of Ontario Universities, 2020), the approaches to address these challenges should be developed to serve specific campus and community settings.

York leads Research Impact Canada⁷, a network of 23 research performing organizations including the University of British Columbia and University of Calgary, both of which have dedicated units supporting Indigenous research (see below). Through Research Impact Canada, York University has convened a working group on equity, diversity and inclusion (EDI) for research administration. This complements the EDI Special Interest Group of the Canadian Association for Research Administration.

7. www.researchimpact.ca

Through these channels this research and its implications can be further shared and developed to facilitate decolonizing research administration across Canada.

Concluding Thoughts

Celia: These small steps are only the beginning of what it will mean to respond fully to Sean's presentation of his research in the fourth session. The report developed from Sean's research made it clear that much remains to be done. That work is ongoing with the development of a Decolonizing Action Plan and a Decolonizing Working Group guided in collaboration with the Indigenous Council and PVP.

While the five workshops for research administrators have concluded, the research has been taken up and the eight recommendations remain before PVP for implementation. We shall continue to monitor the results of all the recommendations, recognizing that institutional change too often moves at a sloth's pace, but where there is a will, the way becomes possible. Most important we keep in mind the challenge from Kirkness and Barnhardt (2001) with which we started the paper: a clear delineation of responsibility lying with each and every non-Indigenous administrator to learn, to come to know, and to act in as informed a way as possible in supporting research by and with Indigenous peoples and communities. It is no longer acceptable for non-Indigenous administrators, staff and faculty to turn to any Indigenous person who happens to be in close proximity and ask innocently, "What do you think we should do?" At York, we have clear direction from the Indigenous community. We will work in close concert with the Indigenous Council recognizing that in our enthusiasm we will make mistakes. We will recognize the authority of PVP to implement this work, with the oversight and

direction of the Indigenous Council. We also recognize the need to move to a better model where Indigenous Peoples and knowledges are truly leading the institution in ways that have not been possible under the current structures. We will learn and we will continue our own work to decolonize in order to create a future where Indigenizing such a colonial institution as the university becomes a real possibility. Never losing sight of the fact that decolonizing is not a metaphor (Tuck & Wang, 2012) and that the Land Back movement takes its own name seriously (Manuel & Klein, 2020), in some ways, we see our tiny steps within the context of research administration services as part of the efforts toward real reconciliation of people and land and the relationships we all have with one other. Keeping in mind York's Strategic Research Plan and the research opportunity articulated in Indigenous Futurities, we recognize that what we do today in our various roles almost always involves an imagined future. The imagined future in this case must never lose sight of the past, the creation of the Canadian Nation through the colonization and exploitation of Indigenous lands.

Implications for Research Administration

1. In Canada there are many efforts to decolonize research including dedicated offices such as the Indigenous Research Support Initiative at the University of British Columbia⁸ and the Indigenous Research Support Team at the University of Calgary.⁹ Research administrators are encouraged to engage Indigenous leadership on their campus and in local communities to begin to understand the barriers to authentic engagement of research in Indigenous contexts. Only through a commitment to engaging with Indigenous researchers, knowledges, methods, and communities will research

administrators move to any depth of understanding of the best ways to serve Indigenous researchers and their work.

2. Research administrators can use tools such as the Indigenous Engagement tool referenced above, plus others to see how universities are approaching decolonizing research.
3. After engaging local Indigenous leadership, research administrators may choose to adapt the workshop design for their own offices to begin their journeys of decolonizing research administration. It is important that these are delivered by staff for staff but guided by Indigenous leadership, especially the researchers most directly affected. As settlers/colonizers this is our work to do. Do not further burden Indigenous scholars by asking them to do it for us.

Authors' Note

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Sean Hillier, Ph.D.

Assistant Professor & Special Advisor to the Dean of Health on Indigenous Resurgence
York Research Chair in Indigenous Health Policy & One Health
School of Health Policy & Management
348A Stong College, Faculty of Health, York University, 4700 Keele St.,
Toronto, Ontario, Canada, M3J 1P3
(416) 736-2100 x 22056
shillier@yorku.ca

8. <https://research.ubc.ca/vpri-competitions-initiatives/indigenous-research-support-initiative>

9. <https://research.ucalgary.ca/engage-research/irst>

David J. Phipps, Ph.D., MBA

Assistant Vice President Research Strategy & Impact
5th Floor Kaneff Tower, York University, 4700
Keele St
Toronto, Ontario, Canada, M3J 1P3
(416) 736-5813
dhipps@yorku.ca

Celia Haig Brown, Ph.D.

Professor, Faculty of Education
279 Winters College, Faculty of Education, York
University, 4700 Keele St.,
Toronto, Ontario, Canada, M3J 1P3
(416) 736-2100 x 55474
haigbro@yorku.ca

Correspondence concerning this article should
be addressed to David Phipps, Assistant Vice
President Research Strategy & Impact, 5th
Floor Kaneff Tower, York University, 4700
Keele St

Toronto, Ontario, Canada, M3J 1P3, dhipps@
yorku.ca

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RESEARCH DEVELOPMENT & EARLY-CAREER FACULTY: CATALYSTS OF CHANGE FOR DIVERSITY, EQUITY, AND INCLUSION IN STEM

Monica Castañeda-Kessel, Ed.D.

Utah State University

College of Engineering

Grant Development Manager

Idalis Villanueva Alarcón, Ph.D.

University of Florida at Gainesville

Engineering Education

Associate Professor

Ryan Berke, Ph.D.

Utah State University

Mechanical and Aerospace Engineering

Associate Professor

ABSTRACT

Problem Statement: Early-career science, technology, engineering, and math (STEM) faculty members are often challenged when identifying authentic diversity, equity, and inclusion (DEI) goals, objectives, and tasks for their research grant proposals. Advancing DEI has not been one person's job but rather the responsibility of a highly organized network within a system. Research development professionals have been and will continue to be critical resources for developing DEI plans and broadening participation. Their value is partly due to relationship-oriented processes that research professionals cultivate and shepherd as well as the inherently cross-disciplinary nature of the day-to-day work. **Observation:** In FY 19, 53% of the highest growth in R&D was in biological, biomedical, and health sciences followed closely by engineering. While many complexities are involved in advancing DEI within our universities, colleges, and workplaces, this article is focused on

early-career STEM faculty and research development professionals' roles to facilitate DEI linkages within research. **Analyze:** First, descriptions of the recent federal definitions of diversity, equity, and inclusion are provided in research development; This is intended to anchor the discussion and propel the ideation for early-career faculty in federal funding solicitations. Next, a few examples of how early-career STEM faculty engaged in authentic DEI activities with a research development professional are provided. **Reflect and Recommend:** Finally, five potential DEI partners for collaboration and resources for early-career STEM faculty are provided to support brainstorming as faculty begin to develop their own DEI engagement for research. Context drives design, and research development resources are mechanisms for authentic engagement in DEI for faculty.

Keywords:

early-career, grant writing, professional development, diversity, equity, inclusion, STEM faculty

INTRODUCTION

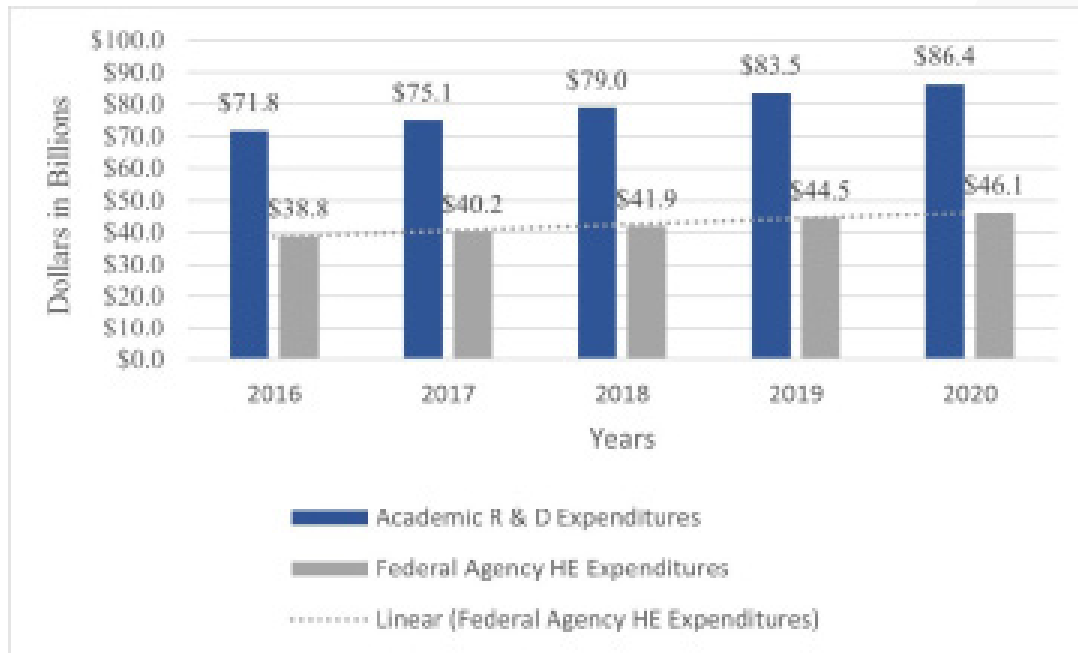
Diversity, equity, and inclusion (DEI) have been pervasive buzzwords in media, society, and legislation. However, these three words have profoundly impacted faculty, students, and the workforce on a day-to-day basis. The importance of each of these to innovation, research, and our society as an integrated whole cannot be discounted. This article is intended to provide research staff and administrators with a new resource to address the grant requirements formatively emerging in our competitive academic landscape.

Importantly, it was developed as a key resource for supporting authentic research engagement in faculty grant development. In addition, the authors acknowledge it is a starting point for decision-makers and other faculty mentors to successfully engage with faculty without resorting to tokenism or deficit thinking. We anticipate this article will be utilized in workshops, online courses, mentoring sessions and as a starting point for some organizations for where to begin with their faculty. Although this resource is relevant to multiple fields, the purpose of specifically creating a resource directed at STEM is intentional. The volume of new faculty attrition in STEM fields when juxtaposed with the high growth of the research dollars would seem to suggest that moving beyond “bootstrapping it” is the only sustainable solution. Many research staff, administrators, and faculty are thoughtfully seeking to engage in DEI nationally, and collectively we have provided a steppingstone.

Theoretically, people are often concerned about their roles and the overall impact they may have. Most faculty members’ contracts have defined how they allocate their day-to-day effort: a) research, b) teaching, and c) service (Carter et al., 2021; Jaschik, 2020, September 23; Moore & Ward, 2010). President Biden has issued several parallel and capacity-building executive orders that

direct federal agencies’ implementation and reporting. In conjunction with the new Congressional budget allotments for the agencies, this could be a critical tipping point in academia and our society for DEI. This period may be among a handful of times in research development that multiple agencies will intentionally and synchronously address DEI and underserved populations through integrated policy and programming instead of isolated funding mechanisms and deficit-oriented programs and requirements.

As a baseline for the magnitude of the amount of funding in the system, in 2020, the entire U.S. Research & Development (R &D) Ecological System was a thriving \$656 billion (Borroughs, M.; NSF NCSSES, 2021; Gibbons, M.; NSF NCSSES, 2021), and the U.S. Academic Research & Development Ecological System (ARDES) was \$86.3 billion (Figure 1). Nearly half of the funding was awarded to higher education institutions through federal agencies (Borroughs, M.; NSF NCSSES, 2021; Gibbons, M.; NSF NCSSES, 2021). With the projected increases, there will be many opportunities across multiple federal agencies, particularly the top six agencies for grant awards, for all faculty. According to the NCSSES, in FY 19, 53% of the highest growth in R &D was in biological, biomedical, and health sciences followed closely by engineering (NSF NSB, NSF, 2020).

Figure 1: Academic R&D Ecological System (ARDES) Expenditures

Note. Data from NSF NCSES HERD, 2021; Castañeda-Kessel, 2021.

The new Executive Orders have uniformly defined diversity, equity, and inclusion (E.O. 13985, 2021). Diversity is defined as “the practice of including the many communities, identities, races, ethnicities, backgrounds, abilities, cultures, and beliefs of the American people, including underserved communities” (Exec. Order No. 13985, 2021). Equity is defined as “meaning the consistent and systematic fair, just, and impartial treatment of all individuals, including individuals who belong to underserved communities that have been denied such treatment” (Exec. Order No. 13985, 2021). Inclusion is defined as “the recognition, appreciation, and use of the talents and skills of employees of all backgrounds” (Exec. Order No. 13985, 2021). The importance of these intentional, unified definitions was to propel and make diversity, equity, and inclusion efforts for all people. It created transparency by providing a defined standard for all agencies and awardees.

Conceptually, diversity, equity, and inclusion are not new in research development, but the progress has been incremental due to many factors. One of the Government Accountability Office (2018) observations was that agencies and awardees had not counted participants uniformly. During the last twenty years, multiple funding mechanisms and solicitations across the top six federal agencies in STEM have impacted many lives to create awareness, access, and develop career pathways in healthcare, engineering, computer science, and others (Borouh, M.; NSF NCSES, 2021). These projects have met with mixed results depending on their implementation, evaluation, and reporting. As with anything, getting the grant was half the journey. Implementing, evaluating, reporting project impact were unique processes requiring much stewardship. However, some believed these mechanisms had done little to erode the systemic challenges of women, ‘people of color,’ those who have been

underserved, marginalized, and adversely impacted by poverty or inequality (Exec. Order No. 13985, 2021). These critical gaps between project acquisition scope of work goals and closure and policy on the ground were why Executive Orders and legislation harnessing the resources of these federal agencies were needed if an intentional systemic change was to occur.

GRANT DEVELOPMENT AND DIVERSITY, EQUITY, AND INCLUSION IN THE NATIONAL CONTEXT

Grant development has provided opportunities for collaboration to develop complementary partnerships and elements that can build capacity, support students, and develop new knowledge. As a result, grant proposals have required some thoughtful consideration to integrate research and teaching elements effectively. This can be enabled by successfully identifying and narrowing targeted components, time management, and reviewing previously awarded projects in the portfolio. Searching through an award portfolio saved early-career faculty time and helped them get a sense of what has been funded and is fundable in a particular agency program.

Within the top six federal agencies for STEM, many solicitations encouraged DEI environments through direct engagement with the target populations (National Science & Technology Council [NS&TC], Interagency Working Group on Inclusion in STEM [IWGIS], 2021). However, it was essential to consider what made sense within the local context and research. Federal agencies have sought the creation of sustainable, equitable opportunities for minority and underserved populations. For example, at the National Science Foundation we see new programs like Racial Equity in STEM Education which

“seeks to support bold, ground-breaking, and potentially transformative projects addressing systemic racism in STEM. Proposals should advance racial equity in science, technology, engineering, and mathematics (STEM) education and workforce development through research (both fundamental and applied) and practice” (NSF, 2022). What this looked like will vary from location to location due to the context, although there are persistent national trends. At the Department of Energy (DOE), “the Equity in Energy initiative is designed to expand the inclusion and participation of individuals in underserved communities, such as minorities, women, veterans, and formerly incarcerated persons, in all the programs of the Department of Energy and in the private energy sector” (DOE, 2022, para. 1). As research development professionals, most of us have consistently believed in, recognized the values, and enabled equitable and inclusive practices that benefit everyone with improved productivity, innovation, and transparency.

On the other hand, many faculty members have believed in DEI but are not sure what behaviors or attitudes they personally can foster in their classrooms or labs that demonstrate this support. One interesting study that provided insight about DEI implementation was learned from companies attempting to understand innovation and gain market share. Research in academia has been all about innovation, and we do not usually turn away market share. According to Hewlett et al. (2013), two kinds of diversity were identified after surveying and engaging 1,800 professionals, 40 case studies, focus groups, and individual interviews: inherent and acquired. “Inherent diversity involves traits you are born with, such as gender, ethnicity, and sexual orientation. Acquired diversity involves traits you gain from experience” (Hewlett et al., 2013, para. 3). Companies with at least three inherent and three acquired diversity traits were 45% more likely to report growth in market share over the previous year and 70% more

likely to capture new markets. RD has created opportunities to create win-win situations for the entire campus and community.

In other words, firms with more diversity “out-innovated and out-performed others.” Inherent diversity was not enough; there were six behaviors which “fostered innovation,” and these behaviors are replicable to classrooms or lab settings: a) Creating opportunities for everyone to be heard, b) Making it safe to propose new or unusual ideas, c) Giving team members decision-making authority, d) Sharing credit for success, e) Providing actionable, clear feedback, and e) Implementing and providing feedback within the team (Hewlett et al., 2018, p. 47). “These findings constituted a powerful new dimension of the business case for diversity.” These six behaviors provided helpful context for how a grant will build capacity and respect for the inter- and intra-team interactions. Furthermore, it may set the stage before the grant to create an environment that will attract people who are diverse.

Below are two observational case studies of how a research development professional, the first author, engaged with early career faculty (second and third author) to create DEI-centered opportunities within their grants and the process that led to their success and impact in their initiatives. There is also a third observation describing when the research development professional, the first author, worked with administrators to reposition a rejected proposal for a more appropriate grant opportunity “fit” to achieve DEI-centered initiatives.

Observation 1: Have an Open Door & Create Connections

“Got a minute?” Dr. Berke poked his head around my door. He is an Assistant Professor in Mechanical and Aerospace Engineering. He is interested in the role that environments play on a material’s ability to withstand heterogeneous failure mechanisms. This

included the mechanical characterization of solids and structures in challenging environments and high temperatures.

“Of course!” said the first author. He described how he had attended an Allies Training on Campus. Allies on Campus is two pieces of training for students, faculty, staff, and community members to show their support and commitment to LGBTQIA+ people (USU Allies, 2021). He wanted to participate in the training because he had various orientations and backgrounds in his classes and lab. He wanted to let them, and others know via the post-workshop sticker that he had been trained and provided a safe and inclusive learning environment. The workshop asked participants to sign a behavioral contract; a key premise is that respect and support are for all people regardless of race, ethnicity, gender identity or expression, age, disability, national origin, religion, and sexual orientation.

The seed of inspiration was planted for Dr. Berke via the workshop, but he wanted to personalize it, to make it his own. He began to look for resources but found that there was not even a national organization for students who were LGBTQIA+ in engineering. Disappointed, he had come to talk and ideate. “I just want to help my students, let them know that they are safe and welcome.” We both realized that organizationally, you have to start with what you have in your context, which may be directly tied to a specific college or major.

Figure 2: USU Allies on Campus sticker used to designate safe spaces (top) and DIC plot of the resonant bending mode of a vibrating plate (bottom) which shares many visual elements the sticker from Dr. Berke's Lab.



"How would you feel about collaborating? We leverage your engineering background, knowledge about the field, career pathways, lab and invite someone who has similar strengths with a social science background."

"Would it be possible to collaborate with someone who specializes in LGBTQIA+ studies?"

"Sure. Let's do a little research and talk to a few people." We found a fantastic collaborator, Dr. Renee Galliher, and later we found the evaluator for our project. It was clear that

this would be fundamental research about an underserved population in engineering. This project problem statement was about defining basic questions about the target population. Initially, the project's purpose was to explore career development and professional identity trajectories of the LGBTQIA+ to pursue careers in engineering. The specific objectives were to (1) assess the prevalence of engineering disciplines as a career path for LGBTQ+ college students; (2) explore in greater depth the professional and personal identity development of LGBTQ+ students in engineering, with a specific focus on perceptions of inclusiveness vs. alienation/marginalization; and (3) identify the barriers and support systems which promote or discourage LGBTQ+ participation in engineering. The approach is sequential mixed methods. To date, the project has surveyed 412 students in different regions of the U.S. in seven significant fields, including engineering, to determine the similarities and differences (i.e., General Measures, LGBTQ+ Climate Inventory, Career measures, Discrimination & Depression, Qualitative) among the students.

Drs. Berke and Galliher did not win on the first submission; it did not stop us. We met again and went through the reviews: they wanted more detail about who the potential participants were, what departments they would come from potentially, and more detail in the evaluation. We also talked to the Program Officer for some insight. We revised and resubmitted. We waited. Then, we finally received the Recommend. "Investigating the Career Development and Professional Trajectories of Disadvantaged Students in Engineering" was funded by the National Science Foundation (Proposal ID #1828227). This nationwide survey of LGBTQ+ college students from all majors determined no statistically significant differences between colleges/majors (Galliher et al., 2019, Galliher & Berke, 2021; Lea et al., 2019). In other words, everyone felt equally "discriminated

against and depressed” based on survey metrics (Berke et al., 2019; Cragun et al., 2019; 2020). Although the data was preliminary, this data was helpful information as the university and others began to scaffold supports and develop retention strategies for students.

Upon closer inspection, a statistical latent profile analysis (Parmenter et al., 2021) revealed that the survey respondents sorted relatively cleanly into four categories: Vocational Identity-Focused, Sexual Identity-Focused, Intersectional Achieved (i.e., focused on both identities), and Intersectional Diffused (i.e., struggling with both identities). Among these categories, respondents were much more likely to belong to the sexual identity-focused category (46%) as opposed to vocational identity-focused (8%) or intersectional achieved (21%), suggesting that sexual identity may form a “bottleneck” that LGBTQ+ populations must overcome before establishing and addressing career goals, which may discourage participation in fields like STEM where students must commit to a major early in order to complete course sequences with many prerequisites (Parmenter et al., 2021).

The next survey will be a nationwide survey of LGBTQ+ college students in engineering. They will look for trends and conduct interviews. It will open this fall for engineering students from all over the U.S. to participate. This has not been an easy or predictable journey. COVID-19 impacted the dissemination of the second survey, and bots tried to get the human incentives. These are all a part of working with students and technology, and for the following survey, we are ready for them.

The P.I. speaks authentically in his broader impacts in other projects now, having worked in this project. It has given him fresh insight into the human factors and their impact on student lives. The feedback and engagement from working with non-engineering

collaborators have expanded his vision and ability to articulate the impact of work on an at-risk student population. Dr. Berke and his students started the first Utah State University (USU) Out in Science, Technology, Engineering, and Math (oSTEM) chapter too. Authentic engagement has a positive ripple effect in the context.

TIP: Authentic engagement and cross-disciplinary collaboration are a winning combination for everyone.

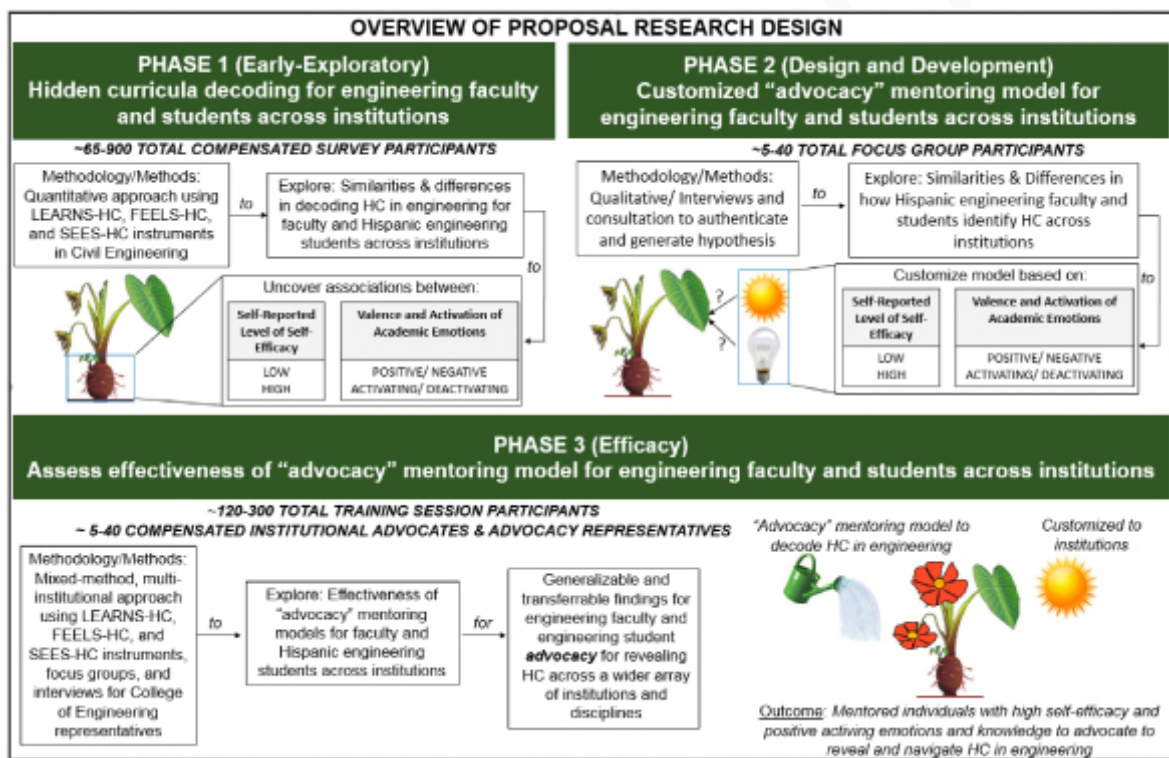
Observation 2: Big Vision Requires Mapping and a Plan

Many early-career faculty have visions for what they would like to see happen in their careers or labs, but not all of them will create the time and space to map a plan to move toward their goals. Dr. Villanueva exemplified planning and diligence by making herself a vision and planning mini-goals to work toward those routinely. We both loved a good plan, and this was where dialoguing with your research development professional could bring a new perspective to your proposal. She created a writing schedule and set up a routine check-in to discuss progress. Dr. Villanueva recognized that the complexity of her CAREER (Proposal ID #1653140 and 2123036) project involving Primarily White Institutions (PWIs), Hispanic Serving Institutions (HSIs), and Historically Black Colleges and Universities (HBCUs). It included a national model to understand how hidden curriculum (messages systemically transmitted and structurally supported and sustained) influence underserved minority groups in their decisions and actions in engineering. To successfully navigate these levels of input she felt she required an advisory board and mentors to help her develop the necessary leadership and researcher skills she envisioned in the grant. Her ability to engage strong advisory board members and dialogue with them about potentialities has become a hallmark of her collaborative style. She has

created a new level of transparency for herself and others by discussing her challenges with her potential advisory members. She was also deeply committed to her participants at the institutions and making sure that they were both seen and heard. She wanted to ensure that the participants had full contributions no matter their rank or position. Dr. Villanueva actively gathered the insight and wisdom to

distinguish her research. We actively talked about an anchoring graphic that helped clarify the proposed work's direction and purpose. It provided reviewers with a map of the proposed research and narratively foreshadowed what would be elucidated in the grant. She hand-drew the original graphics later finalized (Figure 3).

Figure 3: Dr. Villanueva Alarcón's NSF CAREER Map Example (Proposal ID#1653140 and #2123016)



One of the benefits of drawing the critical points of the workplan early in the grant process was that many STEM professionals, particularly engineers, are already trained to draw. Mentally, as a trained engineer, Dr. Villanueva was able to see her project with more clarity, and as an educator, she knew that her participants' needs were paramount. When she vetted the graphic and received feedback from her advisory board, their questions became about the participants, not

the research. This was a shift and allowed her to move forward with detailing the objectives and tasks (Villanueva et al., 2018, 2019, 2020; Mejía et al., 2018). As a result of her work, she became the first person to ever receive a Presidential award, PECASE, at the home institution where she submitted this grant. She continues to map out her visions and expansions of this work, to this day.

TIP: Create a map for your vision and work to articulate the vision clearly.

Observation 3: Don't Be Afraid to Reposition Your Work

Several years ago, I worked as a grant writer for a partnership between a large hospital system and a Dean of Health Sciences and Human Services. I routinely applied for and received healthcare funding. There was a particular grant that the Dean wanted. She wanted the Health Services Resources Administration grant. We applied for it and scored well, but it didn't win; the Dean felt something wasn't quite right. She reached out to another former Dean and asked her to look at our proposal. She did. I remember being nervous because I had never seen a nursing CV as long and varied as hers. She didn't find much; she suggested a few more citations, and so she and our dean decided she would "have a listen." I was surprised, but she came back and told us that they didn't believe our rural Primarily White Institution (PWI) could implement a diversity grant of \$750,000 despite all our partnerships. We got our reviews back, scoring well, but we didn't win. I knew what to do. I asked the Dean if she minded if a different agency funded the concept. She said, "No, we need to do this." Our region had a 25% nursing shortage, had many rural health provider shortage areas, and had a large emerging Latino population. I applied to another federal agency, added more partnerships, including more hospitals. Long-story-short, we won over \$1,459,411 (grant) and additional leveraged cash match (\$680,000) (Proposal #CB-15163-06060) because we didn't give up. That project served 2,200 participants with seven high school partners, five hospitals, and long-term care centers.

TIP: Your context and problem are unique. Find the right fit to succeed, and don't be afraid to reposition. If you need to improve your document, then do the work.

FIVE POTENTIAL DEI PARTNERS FOR COLLABORATION

There are at least five potential hubs in STEM to build DEI capacity, engaging minority and underserved populations in a continuum of engaged scholarship and participation in research development. These are not comprehensive but rather suggestions for places to start. A primary mechanism for fostering welcoming and diverse research environments in science and engineering is supporting underrepresented STEM groups in your research grant project. This can be done in various ways. However, one of the most effective is knowing who the student organizations' advisors are for the target population you are interested in recruiting. By connecting with these advisors and the student officers, you can learn about student events and opportunities to recruit and disseminate information. Another is to post your recruitment publicly and electronically. For example, the recruitment and onboarding of diverse S&E undergraduate and graduate personnel for the project might occur through the usual channels as well as professional organizations such as Society for Women in Engineering (SWE), Society for Hispanic Professionals in Engineering (SHPE), National Society of Black Engineers (NSBE), Success of Chicanos/Hispanics and Native Americans (SACNAS), and Out in Science, Technology, Engineering, and Mathematics (oSTEM). There are parallel professional organizations in other STEM fields.

TIP: The recruitment and dissemination to underrepresented and underserved populations are essential elements for faculty to describe in the grant using narrative or visual data.

A second partner, some often underutilized stakeholders in STEM, are Minority Business Enterprises, Minority-Owned Businesses, and Women-Owned Businesses. Small

business entrepreneurs often are innovators in their fields. Some solicitations require collaborations led by small businesses. In 8(a) programs, disadvantaged businesses can compete for set-aside and sole-source contracts and other items (U.S. SBA, 2021). This is something explored in advance to develop relationships with people with similar interests. Small business centers, Women's Business Centers, and other incubators can connect you to these innovators. Some universities have engaged industry liaisons who help faculty develop these relationships since they are mutually beneficial.

TIP: Start early and allow some time to provide support and explanation from your Business Manager about the forms, particularly if the small business does not have a federally negotiated indirect cost rate.

The federal national laboratories are the third partners in STEM that support a diverse array of science and engineering. The national labs have an inclusive work environment maximizing talents and innovation. As leaders, they have three primary ways of creating awareness, engagement, and sustaining support for diversity, equity, and inclusion: a) Engage Minority Serving Institutions and Associations for STEM Training and Education; b) Provide employees Diversity-focused Education Programs; and c) Working with Minority-Owned Businesses to ensure and promote diversity throughout operations (NREL, n.d.-a). In addition, DOE's substantial student internship programs for project participants focused on selecting underrepresented groups nationwide. These programs place internships across the DOE laboratory system and are often funded through grants (NREL, n.d.-a). This can be a long-term win for students determining different career pathways. In a recent survey, NREL found that 52% of its personnel had completed internships at national labs prior to employment (n.d.-b). This approach

provides an excellent opportunity for students to become familiar with laboratory work, laboratory health and safety protocols, research planning, execution, and information dissemination. In many cases, students have been hired after graduation.

TIP: The national laboratories have robust, inclusive programming and routine cycles for application. You need to collaborate to effectively participate.

The fourth partner in DEI activities development and capacity building were the MSIs, HBCUs, HSIs, and TCUs that serve thousands of students in STEM nationally. According to the U.S. Department of Education, approximately 20 years ago, an Executive Order enacted MSIs. There are 102 HBCUs established primarily before 1964 to educate African Americans in the U.S. (E.O. 13532, 2017), which was Promoting Excellence, Innovation, and Sustainability at Historically Black Colleges and Universities. There are 274 HSIs in the U.S. that enroll and educate 40% of the Hispanic students (E.O. 13935, 2021). Tribal Colleges and Universities (TCUs) include 35 public and private institutions to respond to the higher education needs of American Indians. (E.O. 14049, 2021) White House Initiative on Advancing Educational Equity, Excellence, and Economic Opportunity for Native Americans and Strengthening Tribal Colleges and Universities was enacted TIP: Partner with MSIs, HBCUs, HSIs, and TCUs because they have excellent students and faculty and are located all over the U.S.

The final mechanism was to partner with land-grant university extension programs. Their ability to engage special populations was a part of their service delivery because they were county-based. These were generally statewide and served a continuum of learning across the lifespan. "Cooperative Extension provided county-based educators (most of whom have graduate degrees) who work

with local citizens and interest groups in a variety of program areas including 4-H Youth Development (4-H, 2022), Agriculture, Family & Consumer Sciences, Health and Nutrition, Community Development, Water and Natural Resources, Forestry, Emergency, Climate Variability, Volunteerism, and some Human Services" (APLU, n.d.-a). According to the Association of Public and Land-grant Universities (APLU), "215 campuses and 26 university systems, including 79 land-grant institutions including 19 HBCUs" are direct access points (APLU, n.d.-b, para. 2, 4).

TIP: Extension programs may be a secret weapon to successfully serving minority and underserved populations because the infrastructure has existed statewide for years. Extensions have programming for all ages and are in all U.S. states.

CONCLUSION

Faculty are engaged in research, teaching, and service as they have always been but what has changed are the opportunities to engage with the environments, agencies, and participants. Research collaboration has occurred throughout their careers, and it was a pivotal time to make a professional difference by creating space for those less well-represented. No one entered or stayed in academia by accident. People generally sought some level of mastery to be experts in their fields or at the least to contribute to something novel (Lewis, 2014). If faculty are engaged in capacity building at a microsystem level within an organization, why not provide the resources and best practices for engaging within their fields with agencies and funding? Research development professionals, administrators, and others can actively work with faculty members to build their research visions and helped them to connect to groups and organizations.

Many early-career faculty members and research development professionals have

sought pragmatic ways to integrate diversity, equity, and inclusion into their STEM areas of expertise. DEI is complex, and it can easily be overwhelming. However, authentic engagement has been made one act at a time. One grant at a time. From the brief examples, DEI concepts were conceptually powerful when there was unity in the efforts, direction and purpose for the work, and clarity if the research vision was reflected upon beforehand. The purpose of this piece was to provide a critical resource as a stepping-stone on the journey to inform and support early-career researchers a priori. This is not intended to be a comprehensive list of examples but rather a starting place for early-career STEM faculty members seeking potential ways to authentically engage and integrate diverse students and participants, support equity, and develop inclusive practices and environments. It is also a description of ways that research development professionals and administrators can imbue DEI principles as they support early-career faculty and others.

Incorporating diversity, equity, and inclusion into research is possible and likely to lead to high levels of innovation by introducing new perspectives and insights. To support this process, we have identified **eight** proven recommendations to successfully integrate these into research:

1. Authentic engagement and cross-disciplinary collaboration are a winning combination for everyone.
2. Create a map for your vision and work to articulate the vision clearly.
3. Your context and problem are unique. Find the right fit to succeed, and don't be afraid to reposition. If you need to improve your document, then do the work.
4. The recruitment and dissemination to underrepresented and underserved populations are essential elements for faculty to describe in the grant using narrative or visual data.

5. Start early and allow some time to provide support and explanation from your Business Manager about the forms, particularly if the small business does not have a federally negotiated indirect cost rate.
6. The national laboratories have robust, inclusive programming and routine cycles for application. You need to collaborate to effectively participate.
7. Partner with MSIs, HBCUs, HSIs, and TCUs because they have excellent students and faculty and are located all over the U.S.
8. Extension programs may be a secret weapon to successfully serving minority and underserved populations because the infrastructure has existed statewide for years. Extensions have programming for all ages and are in all U.S. states.

Monica Castañeda-Kessel, Ed.D.

Utah State University
College of Engineering
Grant Development Manager

Idalis Villanueva Alarcón, Ph.D.

University of Florida at Gainesville
Engineering Education
Associate Professor

Ryan Berke, Ph.D.

Utah State University
Mechanical and Aerospace Engineering
Associate Professor

Correspondence concerning this article should be addressed to Monica Castañeda-Kessel, Ed.D., Grant Development Manager, Utah State University Logan, UT 84322, mlkessel@asu.edu

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THE ROLE OF RESEARCH LEADERS IN ENHANCING DIVERSITY, EQUITY, AND INCLUSION: DIRECTIONS FROM CURRENT RESEARCH AND OPPORTUNITIES FOR SYSTEMIC ORGANIZATIONAL TRANSFORMATION

Jennifer E. Taylor, Ph.D., MBA.

Rush Medical Center and University

This Special Issue (SI) on Diversity, Equity, and Inclusion (DEI) of the *Journal of Research Administration*, of which this article is a part, was developed to highlight the central role that research administrators can play in contributing to the recruitment, retention, advancement, and overall career success of faculty who are often underrepresented and subject to bias in universities, medical centers, and other research institutions as a function of gender, race, ethnicity, class, sexual orientation, disability, citizenship, or Indigenous status. Given that institutions often have other offices and administrators devoted to this issue (e.g., many have an Office of Diversity with a senior administrator assigned specifically to enhancing diversity), the question may be raised about why research administrators, at all levels, should view as a central component of their job description working to increase the numbers and success of diverse faculty and students from the undergraduate to post-doctoral levels, and in internships and residents/fellowships. In this paper, and the others in this Special Issue, we hope to provide an overview of the answer to this question. Additionally, we will provide an overview of the results of recent work on what issues contribute to difficulties in recruiting, retaining faculty, and advancing faculty from under-represented groups across disciplines, including into senior faculty and administrative leadership positions, and shed light on ways research administrators at all levels may

contribute to achieving these goals. We hope that this later discussion will provide a foundation for those research administrators who are committed to increasing diversity and inclusion in their institutions but from disciplines or scholarly areas that have not provided a foundation on the area to be able to move forward in their DEI efforts quickly and effectively.

In attempting to achieve the above goals, we will provide a brief discussion of current examples of national and international support for why we should all be engaged in increasing DEI, an overview of some of the major national initiatives to enhance DEI in research institutions and disciplines, the results of recent studies of those efforts, and some examples of ways research administrators can draw on those findings to focus their efforts. We hope that this discussion will provide a resource to help guide efforts by research administrators toward further exploring the rapidly growing evidence-based literature on challenges faced by those seeking to expand the levels of DEI in their institutions and nationally, as well as provide a few illustrations of the many valuable ways research administrators can engage in such systemic and systematic change efforts.

Of course, many research leaders may already have a clear commitment to enhancing DEI in their institutions and professions. For them and all research administrators, we hope that this SI will lead to JRA being increasingly viewed as a place to share ideas and submit

research regarding these and to view JRA as a resource to which they can turn to learn more about the most innovative and effective strategies for enhancing their DEI efforts.

WHY RESEARCH ADMINISTRATORS SHOULD FOCUS ON DEI: NATIONAL POLICY REGARDING DEI AS CENTRAL TO THE WORK OF FEDERAL AGENCIES

Increasing diversity, equity, and inclusion is a central goal of the nation's scientific community. Illustratively, the National Science Foundation's budget request to Congress for 2023 (<https://www.nsf.gov/about/budget/fy2023/index.jsp>) has, as one of the core initiatives for funding which was sought, the "NSF Inclusion across the Nation of Communities of Learners of Underrepresented Discoverers in Engineering and Science (NSF INCLUDES)" (<https://www.includesnetwork.org/home>). This initiative builds upon and continues NSF's focus on expanding the representation of those from underrepresented communities and backgrounds, particularly in STEM fields, and more broadly in knowledge creation through science, engineering, the humanities, and creative endeavors" (NSF, 2023). They go on to underscore that "NSF INCLUDES [initiative] supports projects that advance the contributions of African Americans, Alaska Natives, Hispanics, Native Americans, Native Hawaiians, Native Pacific Islanders, persons with disabilities, persons from economically disadvantaged backgrounds, and women and girls from many academic and professional disciplines across the STEM education continuum." NSF INCLUDES is a result of NSF identifying "fostering diversity and inclusion" as core values in the newest strategic plan.

The emphasis on diversity and inclusion is not new to NSF or reflected only in the NSF

INCLUDES initiative. Within NSF, the ADVANCE program (<https://new.nsf.gov/funding/opportunities/advance-organizational-change-gender-equity-stem>) was established in 2001 and has provided funding to dozens of institutions since then to "enhance the systemic factors that support equity and inclusion and to mitigate the systemic factors that create inequities in the academic profession and workplaces." In the goals statement, ADVANCE says that they target, "...For example, practices in academic departments that result in the inequitable allocation of service or teaching assignments may impede research productivity, delay advancement, and create a culture of differential treatment and rewards. Similarly, policies and procedures that do not mitigate implicit bias in hiring, tenure, and promotion decisions could lead to women and racial and ethnic minorities [as well as those impacted by bias stemming from intersectionality] being evaluated less favorably, perpetuating historical under-participation in STEM academic careers, and contributing to an academic climate that is not inclusive" (NSF, 2020).

Promoting support for developing a more diverse and equitable scientific workforce is no less of a priority for other federal agencies that support research and creative activities. This broad emphasis reflects Executive Order 13985 (<https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/>), which outlines a whole-of-government mandate to advance equity for all Americans through a comprehensive approach to all government practices. Reflecting this emphasis, for example, the National Institute of Health (NIH, 2020) and all its affiliated Institutes, Centers, and Divisions for instance, has sought applications for diversity supplements to funded proposals that are "intended to improve the diversity of the research workforce by recruiting and supporting post-

baccalaureate, predoctoral students, post-doctorates, and eligible investigators from groups that are underrepresented in health-related research.” Similarly, the emphasis on enhancing diversity is also present for funding across other forms of creative activity. Illustratively, The Strategic Plan for 2022-26 of the National Endowment for the Arts (<https://www.arts.gov/sites/default/files/2022-2026-Strategic-Plan-Feb2022.pdf>), with the quite different focus of much of the work it often funds, has a cross-cutting objective that states, “The NEA will model diversity, equity inclusion, and accessibility in the arts through all its activities and operations.”

Other funding sources for research and creative activity, including many non-profit/foundation sources and even business/industry, reflect and have adopted the emphasis on diversity of federal agencies, particularly as they partner with and build on work funded by those agencies. What should be clear to research administrators is that as they seek sponsored funding for the scientific and creative work of faculty, staff, and students, they must reflect a clear commitment to, and engagement in, the development and advancement of a more diverse, equitable, and inclusive community of those engaged in research and creative activity within their institutions and nationally.

Although the above discussion focuses on research policy within the United States, it should be clear that there is a significant emphasis on increasing inclusion and equity in the research communities of many other nations. Illustratively, as noted by Campbell and Bourbonnais (2023), Canada’s Employment Equity Act of 1995, “whose purpose is to ensure that all Canadians have equal access to the labor market and that employers correct the disadvantages that individuals in these groups experience (Canadian Human Rights Commission, 2022).” Campbell and Bourbonnais (2023) go on to note that

underrepresentation occurs across almost nations for which studies exist, “with women underrepresented relative to men across all groups, and evidence of significant differences in the representation of historically racialized groups. This under-representation points to long-standing, inflexible barriers to access and participation (Henry et al., 2017).” Overall then, given the importance of having diverse and varied viewpoints involved if we are to create more comprehensive and fully-informed knowledge bases in and across disciplines, as well as for the key roles that a fully diverse faculty and staff research community have in attracting and retaining the next generation of scholars, from all backgrounds, research administrators must play a strong and central role in helping to create inclusive communities in our institutions.

Strategies for Intervention and Outreach

Articles in this and previous issues of JRA, and across the broader literature, have highlighted a wide array of factors that influence the success of the recruitment, retention, development, advancement, and career satisfaction of women and others from under-represented backgrounds, as well as specific forms of obstacles and barriers they encounter in personal and professional settings. Fortunately, for those new to issues of DEI and those who may have had less exposure to the literature than they desire, there are at least several significant sources that have been central to generating the knowledge base in this area and providing syntheses of that work. As noted, the NSF ADVANCE (<https://new.nsf.gov/funding/opportunities/advance-organizational-change-gender-equity-stem>) initiative has supported projects that explicitly focus on enhancing equity and inclusion of females and faculty of color in STEM faculty. The lessons from these efforts have often been generalized to the broader institution and adapted by other institutions enhancing the representation of the target groups in all

disciplinary and interdisciplinary units across the organization. Further, ADVANCE initiatives that focus on “Institutional Transformations” have been shown to benefit those who are not specific priorities of the work (e.g., white males) but whose improved work satisfaction and circumstances may, recursively, not only benefit them but help to create a more generally positive setting for all (Laursen & Austin, 2020). That is, the interventions developed to enhance the recruitment, retention, and advancement of females and faculty from under-represented groups have resulted in a more positive work climate, level of satisfaction, and outcomes for all of those in the institution.

In recent years ADVANCE (NSF, 2020) has underscored the importance of emphasizing the impacts of and the development of interventions for those who experience multiple sources of bias, stress, and discrimination relating to “intersectionality.” Beyond this, the focus moves beyond concerns with just one specific characteristic condition that may result in under-representation or disadvantage to consider the interactive and cumulative impacts of being members of groups that may have several characteristics that are often targets of bias and discrimination (e.g., being both female and African-American). Specifically, “intersectionality” is defined as resulting from social categorizations, such as race, class, and gender, as they apply to a given individual or group that create overlapping and interdependent systems of discrimination or disadvantage.

Although this paper is primarily focused on issues of primary concern to research administrators, it also draws from the broader work of ADVANCE and the contributions of those in the institutions that have sought and received such funding and systematic studies of the overall initiative (e.g., Laursen & Austin, 2020; Stewart & Valian, 2018). It also considers

the many contributions of related professional groups (The Association of Women in Science [AWIS]), as well as the work of JRA authors and those who have contributed to broader literature in other outlets.

That literature has identified a number of research-based strategies and areas to target for effectively enhancing the levels of representation of STEM women faculty and other groups of faculty who are also often marginalized in universities, medical centers, and other research institutions as a function of race, ethnicity, class, sexual orientation, disability, citizenship, or Indigenous status. Unfortunately for the work of research administrators, that literature has contained relatively little discussion or focus on the ways research administrators, at all levels and units, whether central administration or at department or college, institute, and center levels, can help institutions to be effective in implementing these strategies and addressing the underlying concerns. The next part of this paper will provide an overview of some of the strategies and target areas identified in the literature and provide a discussion of ways research administrators can contribute to addressing them, as well as highlight some of the unique aspects of how the conduct of sponsored work in institutions may contribute to a lack of DEI and how we can address those issues. The discussion here is not meant to be comprehensive. It is offered in the hopes that the issues discussed, combined with the other manuscripts in this Special Issue, will provide a basis and set of resources that encourages and enables our colleagues within SRAI and research administrators more broadly, to submit studies to JRA and other outlets regarding their work and evolving processes in their institutions that target the enhancement of DEI. It is also hoped that these future submissions to JRA will address how such efforts may enhance institutional conditions for all engaged in research and other creative activities.

In their volume on their study of institutions that have received funding to develop and implement ADVANCE programs, along with a series of blog posts and articles, Austin and Laursen (2021) present us with twelve strategies (shown in Table 1) they have found that universities and other research institutions can use to create more diverse,

inclusive communities. They emphasize that these are not “one size [strategies set] fits all settings” but are most effective when tailored to the institution’s particular conditions and sources of inequities.

Table 1: Research-Based and Data-Informed Strategies to Enhance Diversity, Equity,

and Inclusion

| Strategies that Emphasize Approaches to Changing Systems | |
|---|--|
| I. Strategies to Interrupt Biased Processes | |
| Strategy 1 - Inclusive Recruitment and Hiring | |
| Examples: Broaden Candidate Pools and Job Descriptions, Intensive Applicant Outreach, Training of Search Committee Members to Reduce Bias, Objective Rubrics, Accountability | |
| Strategy 2 - Equitable Processes of Tenure and Promotion | |
| Examples: Training in Reducing Bias on Committees and in Evaluation of Products and Areas of Scholarship, Increased Transparency and Support, Accountability | |
| Strategy 3 - Strengthened Accountability Structures | |
| Examples: Training Department Chairs in both Supporting and Evaluating Career Coaches, Appointment of Ombudsmen and Other Oversight Processes | |
| II. Strategies to Enhance Workplace Cultures and Create More Supportive Workplace Climates for All | |
| Strategy 4 - Develop Institutional Leaders | |
| Examples: Training in Ways Priorities and Values are Communicated, Develop Awareness of the Inequitable Distribution of Various Workload Elements (e.g., particularly service activities that are less highly valued). Focus on Increasing Representation and Preparation of Faculty from Under-represented Groups for Leadership Roles | |
| Strategy 5 - Approaches to Improve Departmental Climate | |
| Examples: Focus on Enhancement of Interactions, Climate and Culture of Units, Draw on Data and Input from Faculty and Provide Support to Make Transformations | |
| Strategy 6 - Enhanced Visibility of Women | |
| Examples: Increase Visibility as Leaders and in Leadership Roles, As Accomplished Scholars through Speakers, Distinguished Visiting Scholars Symposia, etc. Draw Attention to the Goal of Full Participation in the Academy by All People. | |
| III. Supporting the Whole Person | |
| Strategy 7 - Support for Dual-Career Couples | |
| Examples: Formalized Paths toward Dual Hires, Resources to Help Partner find Appropriate Employment, Ensuring that Finalists for Positions can Communicate Needs and Interest for Dual Career Consideration Clearly and without Fear of Creating Negative | |
| Strategy 8 - Flexible Work Arrangements | |
| Examples: Opportunities to “Stop Tenure Clock,” Modify Duties and Workloads to Address Work-Life Challenges | |
| Strategy 9 - Practical Family-Friendly Accommodations | |

Strategies that Emphasize Approaches to Changing Systems

Examples: On-Campus Childcare Centers or Arrangements with Local Providers, Spaces that Provide Privacy for Nursing a Baby, Reserved Parking Spaces for Pregnant People

IV. Fostering Individual Success

Strategy 10 - Faculty Professional Development and Opportunities to Build Networks and Connections

Examples: Workshops, Learning Communities, Fellowships, New Faculty Orientations, Brownbags.
May focus on Specific Career Stages or Goals (e.g., Moving into Leadership)

Strategy 11 - Grants to Individuals

Examples: Internal Grants for Developing or Changing Research Programs, Grants that Support Mentoring and Collaborations with Senior Scholars.

Strategy 12 - Mentoring & Networking Activities

Examples: Self-Explanatory, Ranging from Formal One-to-One Mentoring, Mentoring Groups and Peer-to-Peer approaches

Note. This table is adapted from and summarizes the discussions provided in the blog posts by Austin and Laursen (2021b, 2021c).

Each of the 12 strategies and accompanying focus points would require more than several chapters to give them their due. For our purposes, however, we will focus on but a few. The goal is not to reiterate what prior authors have said regarding these strategies in detail. Instead, the goal is to highlight a few ways the understanding and experiences of research administrators may build on the broad general strategies identified previously to identify additional issues and strategies to address them that increase the overall effectiveness of the work.

Austin and Laursen (2021b) argue that what they call “structures” and “cultures” may contain elements that derive from and reflect implicit biases that serve as barriers to DEI efforts within institutions. Structures are defined as procedures, policies, norms, and related elements that shape workflow and decisions. They define cultures as norms, values, and other conventions regarding what is valued and how interactions are judged (Austin & Laursen, 2021b). Potential strategies they identify as helpful in reducing biased processes that may exist or be reflected in these structures and cultural elements are included in Table 1. They target some significant decision-making milestones in

a faculty member’s career. Inclusive hiring processes, equitable processes in tenure and promotion, and ensuring that implicit bias is not present, in so far as possible, in evaluating the work and research focus of the faculty member across their time in the institution are all critical strategies.

It is also the case that even if all the implicit and other forms of bias and discrimination are scrubbed out of the policies and procedures present in an institution, it may not be sufficient to ensure a level playing field for all. The prior experiences and backgrounds of some individuals, particularly those from groups that have been subject to discrimination of all types, victims of stereotypes, or deprived of critical educational and professional socialization experiences, among other sources of professional or personal disadvantage, may still make the process of wending their way through the professional hurdles that confront them more challenging than for those from more advantaged groups and backgrounds.

The following section presents but one set of ways that the unique understandings of those

in research administration can extend the effectiveness of DEI efforts beyond the major transformations they may provide for to refine and enhance the delivery and implementation of the institutional changes.

THE NEED FOR PROACTIVE OUTREACH AND INTERVENTION FROM THE OFFICE OF RESEARCH IN NAVIGATING THE MAZE OF POLICIES AND PROCEDURES SURROUNDING CONDUCTING SCHOLARSHIP OF ALL TYPES

Experienced research administrators know dozens of policies and procedures surrounding efforts by investigators to seek and conduct sponsored scholarly investigations and creative endeavors. Indeed, there are major federal/research institution partnerships, such as the Federal Demonstration Partnership (FDP), whose core focus is on addressing the significant administrative burden faced by funded investigators as they attempt to deal with the requirements they have to address as they conduct federally sponsored work. The FDP also conducts pilots of possible new federal requirements to be implemented (e.g., data retention and sharing processes) and monitors their impact on investigators and institutions before they reach the level of widespread adoption. All of this is done in recognition of how arduous it is for investigators to work through the requirements they face without failing to address them all. Research administrators can find helpful resources for investigators and their work on the FDP (2023) website, as well as opportunities for input and support.

Further increasing the administrative burden relating to just determining what is required, never mind addressing all the requirements, is that each funding source may have unique

variations on what is required across the conduct of the work. These variations may range from the criteria for eligibility to apply for funding, to definitions of financial conflicts of interest, to reporting and data retention. Even experienced researchers who have had multiple large, well-funded projects may be surprised by the new requirements they encounter if they shift their area of focus or the agency from which they are seeking funding. Similarly, given the constantly changing requirements of funding agencies, it is also the case that all researchers, whatever their experience level, may need to be made aware of changes in recent policy shifts. Of course, for all of this, the Office of Research (OoR) is a critical partner for investigators in distilling what is required of them.

For all new investigators, particularly those who may have come from institutions that had fewer resources, were less research-intensive, or those that had mentoring that did not provide extensive training in what is required to conduct research as a lead investigator, they may not “know what they do not [need to] know” or even the right questions. Indeed, as most research administrators know all too well, it is not generally the norm that new faculty have received extensive orientation to administrative policies and procedures that apply to funded work beyond those they may have encountered in their own research and lab settings. This lack of awareness and knowledge may be particularly acute when the new investigators are trained in institutions that are less research-intensive and for those who have trained in countries other than the one in which they will be conducting their funded work.

Why a Special Focus on DEI

The obvious question is, why focus on DEI faculty rather than all faculty, given the pervasiveness of these issues? Clearly, the issues discussed in this paper may apply to faculty, staff, and students from

all backgrounds. Outreach and training in administrative research requirements and systematically keeping all faculty informed about funding opportunities and how to seek such funding successfully are good ideas. The constant evolution of those requirements and opportunities again makes these efforts ones that should involve all faculty through an array of ongoing efforts. All new faculty, regardless of their backgrounds and sociodemographic characteristics, are also confronted with learning the new policies, processes, ways things are done, and the culture in the institution they are entering. Other factors may also constrain access to key information for all faculty, no matter whether senior, male, or from a majority group. Family responsibilities, personal characteristics, illness, and such life changes as starting a new role, being promoted, or many other factors can all cause one not to be fully versed in current opportunities, issues, policies, and processes. Importantly, it is also the case, however, that research has consistently shown that females and those from under-represented groups may be more hesitant to, and far less likely, to seek out information and mentoring from senior faculty, research administrators, and other critical sources of information, than are males from majority backgrounds (Nobles, 2023).

The sources of such hesitancy are also well documented. Faculty who are female, non-majority, persons with disabilities, from economically disadvantaged backgrounds, and those who were not native-born are more likely to have experienced negative interactions with authority figures within the institutions, to have been victims of conscious or unconscious bias, and to have experienced microaggressions in the workplace as well as in the community (c.f. Association for Psychological Science, 2021). Additionally, females and persons of color are often penalized and viewed negatively for levels of assertiveness (in seeking information

or addressing concerns) when those same behaviors are viewed more positively when exhibited by white males) (Colwell et al., 2020).

ADVANCE initiatives have demonstrated a wide range of research-based and other potentially effective avenues for outreach to investigators to provide important information about institutional and sponsor agency policies and procedures (Laursen & Austin, 2020). One set of examples involves members of the research office providing direct training, and professional development opportunities open to all investigators, thereby allowing those who may need such assistance but who may be reluctant to ask for it not to make a direct request for it. Illustratively, in a previous position, this author was part of a team involving the Office of the Vice Chancellor for Research (OVCR) and other key campus partners that held an annual weekend-long retreat or “research camp” directed toward all new faculty and others who wanted to participate to familiarize them with critical policies and procedures as well as opportunities for informational and financial support that was available through the OVCR and partner units. Such retreats can be sources of information and build a sense of belonging and partnership with the research office.

Another example involves research administrators ensuring that potential sources of information about research policies and processes that faculty are more likely to encounter daily are well informed about research policies, procedures, and recent modifications that may have occurred. Department chairs, center directors, and administrative staff in these and other units can be essential links in the outreach efforts of an OoR, expanding both their research and ability to respond effectively. So, for example, the OoR needs to make systematic efforts to partner with these important sources of instrumental support for faculty and other investigators to share the latest information on funding opportunities, policies, and

processes so that they are fully up-to-date on these and related issues and on whom to contact in the OoR to get further assistance. Importantly, these more proximal sources of support may help ensure that faculty do not have to navigate their own way to the appropriate part of the OoR, which may be particularly difficult in large institutions or ones with unfamiliar structures. Illustratively, they also provide the opportunity for those more proximal leaders and mentors, who have frequent contact with the faculty members, to proactively identify and provide needed input even before the faculty member may themselves realize they need it, helping to avoid everything from compliance issues to late reporting or missing opportunities for funding applications.

Providing Access, Information, and Support for Seeking Available Funding, both Internal and External, At Critical Junctures

Whether new to an institution, junior, or at other critical points in their careers, faculty success will often depend on access to financial and other vital resources. These may take the form of start-up packages that include seed funds, space, support for pre-and post-doctoral students or staff, equipment, and much more. Internal grants for travel, pilot/seed funding, publication costs, support for course reductions and buy-outs, bridge funding between sponsored projects, or the receipt of new awards for funding may all be essential for the success of the investigator and the team. Unfortunately, new faculty are often asked to provide their start-up support requests when they are least familiar with what the institution may provide. Under-represented faculty may also be arriving from countries other than the one their new home institution is in, leading them to be unfamiliar with the regularities of the research institutions in their new national context. They may also be coming from smaller minority-serving institutions that, for example, in the case of HBCUs, have, until relatively recent efforts by some states and foundations that

have made some progress in closing gaps, had fewer resources available for research support.

What should be clear about the above is that a lack of awareness of what resources may be available in their new institution may interact with gender or other social category factors, prior personal and professional experiences of bias in their prior institutions, and the availability of resources for research activity there (Laurson & Austin, 2020; Stewart & Valian, 2018). These factors may make faculty, staff members, or students from under-represented groups hesitant to ask for some or all the resources they need to conduct their work successfully. The additional issues that surround transitions into new settings, roles, and institutions, such as managing first impressions and being unaware of institutional norms, compound the concerns that, for example, a female faculty member or a faculty member from a minority background has about having been assertive in asking for resources they may need to conduct their work. Again, for example, the OoR must act proactively to ensure equal awareness of and access to the full range of resources that faculty members new to the institution may have available. These interventions may include, but not be limited to, identifying senior faculty members in the hiring units, particularly those who have been at the institution for an extended time, who are willing to meet with incoming and other relatively junior or less previously research-active faculty to provide mentoring and advocacy regarding opportunities and options. The OoR can make these efforts even more effective may providing specialized training for these mentor faculty. Other alternatives may include training for search committees on how to raise resource/start-up needs issues and the range of resources available for start-up packages. Training should also focus on engaging in these discussions with sensitivity to reducing concerns about requests potentially influencing receiving an offer or

being viewed positively if the candidate joins the faculty at the institution.

Even after faculty from under-represented groups and female faculty have been in an institution for several years or more, the interactions and climate they experience in the institution may raise concerns about assertively seeking additional resources and support for their work. Administrators, whether in the OoR, other units, and other faculty, may not be aware of how explicit or implicit biases that they may not be aware of holding negatively influence the types of climate and interactions that non-majority and female faculty are experiencing consistently. Exacerbating these issues are other forms of bias that administrators may not recognize as expressions of such attitudes but that place additional constraints on the time and resources female and faculty, staff, and students from under-represented groups have available that may add to the hesitance from those in these groups to seek resources to develop intensive, time-consuming scholarly inquiry, ultimately leading to a lack of advancement and non-retention.

In addressing these issues, adopting a proactive stance is again key. Such outreach can take multiple forms. Research leaders may offer training to administrators on ensuring the equitable distribution of various workload elements, particularly those that are time-consuming but typically less valued in research institutions (e.g., service work such as advising and serving on committees that are typically not seen as leadership or valued as highly as other work in evaluating faculty for performance and promotion, etc.). They may also work with units and faculty review committees to provide a heavier emphasis and greater value on the kinds of service work that disproportionately tends to be carried out by female and other under-represented faculty (Babcock et al., 2021).

SUMMARY AND NEXT STEPS

One of the points that Austin and Laursen (2021, 2022), repeatedly make is that for organizational change to be effective, it needs to be systematic and comprehensive. Given the central role of OoRs and the research staff across the institutions and units in which they work, not including the unique perspectives of research administrators at all levels in the design and implementation of efforts to enhance the representation, experiences, and success of women and faculty of color in our institutions, as well as that of all faculty, would result in efforts that are neither systemic nor comprehensive. In the discussion in this paper, the importance of a focus on DEI within OoRs was highlighted. It also sought to present a few examples of how the perspectives that administrators grounded in the work of the OoR can help surface issues that might otherwise be overlooked and require attention by those leading DEI efforts.

Given the many contributions described in prior submissions to JRA by research administrators in helping to clarify and enhance the conduct of research and creative activity in our institutions, we hope, as noted previously, they will increase the frequency with which they share with us lessons regarding what they have contributed to DEI enhancement in their institutions as well as seek additional representation in those efforts.

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