“IT’S KIND OF MY RESPONSIBILITY”: AN ANALYSIS OF THE CURRENT EDI DISCOURSE IN CANADIAN STEM FIELDS AND ITS POTENTIAL AND LIMITATIONS TO CONTEST INTERSECTIONAL DISCRIMINATION

MIRJAM FINES-NEUSCHILD
CONCORDIA UNIVERSITY

TANJA TAJMEL
CONCORDIA UNIVERSITY

Abstract
Since 2019, equity, diversity, and inclusion have become institutional priorities for Canadian funding agencies and universities under the acronym EDI. Here, we examine for the fields of science, technology, engineering, and mathematics (STEM) how the current EDI discourse unfolds in scientists’ understandings as EDI construct. This study presents data collected through 18 online interviews with researchers in STEM fields across Canada. For our analysis we apply critical discourse analysis and the matrix of domination. Four themes emerge from our data regarding STEM researchers’ understanding of and experience with the EDI construct: (a) EDI as trainable knowledge, (b) EDI as human resources/managerial issue, (c) EDI as assessable performance, and (d) EDI as individual initiative/lonely endeavour. Our findings suggest that the EDI discourse increases the awareness of the underrepresentation of groups in STEM fields. However, most interview participants demonstrate an essentialist understanding of identity decontextualized from institutional and structural processes of difference making along axes of gender, race, class, and body, amongst others. This critical discourse-analytical work contributes to an intersectional, power-acknowledging understanding of EDI in Canadian higher education.

Keywords: intersectionality, EDI, equity, diversity, discourse, STEM

Résumé
Depuis 2019, l’équité, la diversité et l’inclusion, sous l’acronyme EDI, sont des priorités institutionnelles pour les organismes subventionnaires canadiens et les universités. Ici, nous examinons pour le domaine des sciences, des technologies, de l’ingénierie et des mathématiques (STIM) la manière dont le discours actuel sur l’EDI se déploie dans la compréhension qu’ont les scientifiques de l’EDI en tant que construit. Cette étude présente des données tirées de 18 entretiens en ligne avec des personnes chercheuses en STIM à travers le Canada. Pour notre analyse, nous appliquons l’analyse critique des discours et la matrice de domination. Quatre thèmes émergent de nos données à propos des compréhensions et expériences des personnes chercheuses en STIM quant au construit de l’EDI : (a) l’EDI comme savoirs inculqués, (b) l’EDI comme enjeu de ressources humaines/de gestion, (c) l’EDI comme performance évaluée, et (d) l’EDI comme initiative individuelle/entreprise solitaire. Nos résultats suggèrent que le discours sur l’EDI augmente la prise de conscience des catégories d’identités sociales et de la sous-représentation de groupes dans les domaines des STIM. Cependant, la plupart des personnes chercheuses en STIM qui ont été interrogées manifestent une compréhension essentialiste de l’identité, décontextualisée des processus institutionnels et structurels de création des différences selon les axes de genre, de race, de classe ou de corps, entre autres. Ce travail d’analyse critique du discours contribue à une compréhension de l’EDI dans l’enseignement supérieur canadien qui est intersectionnelle et qui reconnaît les enjeux de pouvoir.

Mots-clés : intersectionnalité, EDI, équité, diversité, discours, STIM
Introduction

Academic institutions have a history of contributing to social inequalities, such as excluding certain identities from participating in doing research (Henry et al., 2017) as well as developing theories and employing data to reinforce discrimination and legitimate their exclusion (D'Ignazio & Klein, 2020). The history of the university is closely linked to colonialism and imperialism. According to Grosfoguel (2013), genocides and epistemicides in the 16th century played a fundamental role in paving the way to export European values and structures of education, and to establish Westernized universities, whose dominance as institutions of higher education Pietsch (2016) considers “the most significant legacy of empire” (p. 34). As Stein (2022) states,

This dominance of the Western university significantly narrows which (and whose) knowledges, experiences, and forms of education are perceived to be legitimate and worthy of study, and this narrow range of possibilities is repeated in most mainstream US higher education history texts. (pp. 14–15)

In this sense, universities have not only been mirrors that reflect social power relations, but they have also been the means to reinforce them. In this article, we focus on a specific discourse in Canadian higher education, the discourse on “equity, diversity, inclusion,” broadly known by its acronym EDI, which aims to address and counteract social and historical inequalities in Canadian academia, and our subject of research are STEM researchers and their understanding of EDI constructs (the shaping of the understanding of EDI by the discourse and language about EDI), which we collected through interviews.

In 2002, members of the PAR-L (Policy, Action, Research List) network launched a call to action for equity in the Canada Research Chairs (CRC) program, a program of the Government of Canada that grants research professorships to achieve research excellence in all fields of research, which led to eight women researchers—Marjorie Griffin Cohen, Louise Forsyth, Glenis Joyce, Audrey Kobayashi, Shree Mulay, Susan Prentice, Michèle Olivier, and Wendy Robbins—laying a human rights complaint before the Canadian Human Rights Commission (2003–2019) claiming that the CRC program is discriminating against women (PAR-L, 2010). In 2006, a settlement agreement was reached (CHRC, 2006) which requires from the CRC program non-discrimination and equity in employment measures in the nomination process. The addendum to the agreement (CHRC, 2019) lays out equity, diversity, and inclusion (EDI) requirements of institutions (Canadian Association of University Teachers, 2019; Hewitt & Bérubé, 2019), which include developing EDI strategic plans and meeting targets by 2029 for the representation of the “Four Designated Groups”—women (50.0%), racialized individuals (22%), persons with disabilities (7.5%), and Indigenous peoples (4.9%)—to reflect representation within the Canadian population (CRC, 2022).

To meet these expectations, universities are undertaking a variety of efforts at different levels, such as offering EDI workshops and training for faculty members, supporting researchers in writing EDI statements to be included in funding applications and hiring plans, among others (Séguin, 2022). These efforts have in common that they make use of a specific terminology, which, from a disciplinary perspective, refers to and builds on theories and concepts of social sciences and humanities. However, the terminology and related concepts are advancing to become commonly used across different academic domains, including the natural sciences and engineering fields, also known as STEM (science, technology, engineering, and mathematics). In fact, researchers in STEM fields are required to adhere to EDI terminology to demonstrate their knowledge and commitment to equity. While attempts to raise broad awareness for equity are of good intention, they bear a certain risk for complex theories such as intersectionality: the risk of weakening and losing the critical stance of theories in order to get broad acceptance (Alexander-Floyd, 2012; Knapp, 2005). In this sense, EDI has become a discourse of its own, a “social practice” (Fairclough & Wodak, 1997), a construct (Zanoni & Janssens, 2004), which shapes, changes, and defines our thinking of inequality and which we aim to investigate in our work.

With this study we strive to contribute to the conversation on social inequality, and to further the understanding of intersectionality and intersectional discrimination in the context of Canadian academia. To this end, we are investigating how the current EDI discourse is contributing to a deeper understanding of inequality in academia. The aim of this study is not to define EDI or to analyze definitions of EDI (for a definition of EDI and examples for best practices, see Government of Canada, 2021); rather, we investigate how EDI is constructed through the discourse, and particularly in the STEM fields. EDI can be seen as a project or engagement, with the goal to “achieve a more equitable, diverse and inclusive Canadian research enterprise” (Tri-Agency, 2023).
To investigate how the EDI discourse is shaping, upholding, or contesting the status quo of social inequalities, we interviewed 18 scientists from different STEM disciplines working at Canadian universities about their understanding of and approaches toward EDI. By applying critical discourse analysis, we refrain from explaining or defining what EDI is. As Cruickshank (2012) explains: “In discourse analysis, language plays an independent...and primary role in the making of society” (p. 40). Therefore, we derive an EDI construct from STEM researchers’ responses. The questions for our analysis are: (a) How does the EDI discourse unfold in scientists’ work, understandings, beliefs, and actions regarding EDI? (b) Do scientists’ understandings and actions regarding EDI address intersectional discrimination and domains of power? Finally, we are asking: Is the EDI discourse—in its current form—challenging or reproducing the status quo of social inequalities? From this analysis we aim to reconstruct the potential of critique held by the EDI project, and how the current EDI discourse can challenge the status quo. With this work we hope to provide insights into the potentials and limitations of academic equity projects.

**Literature Review**

In management literature, social identity differences and anti-discriminatory approaches have been topics for more than 50 years (Nkomo, 2013; Oswick & Noon, 2014). Through that period there has been a popularity shift, notably in the United Kingdom and the United States, from “equality to diversity” and from “diversity to inclusion” (Oswick & Noon, 2014, pp. 24–27). Of the trio of equity, diversity, and inclusion, diversity is the most prominent critically studied topic in organizational and management literature (Bendl et al., 2015; Konrad et al., 2005; Roberson, 2013). For more than 20 years, scholars have developed a “field of diversity” that is still ambiguous and fuzzy (Hearn & Louvrier, 2018; Tamtik, 2021). According to Zanoni et al. (2010), “critical approaches to diversity all contest the instrumental view of differences inherent to the diversity paradigm” (p. 1). For the Austrian and German context, Dobusch (2017) argues that diversity functions as an umbrella term for differences: “being categorized as ‘female’ or having an ‘ethnic or migrant background’ is inextricably linked to its assumed and simultaneously excluded opposite: the attribution as ‘male’ or ‘white’/‘non-ethnic’” (p. 1647). In an interview study with Flemish human resource managers, Zanoni and Janssens (2004) identify two opposite constructions of diversity: one devalues diversity and sees difference as lack, the second gives value to diversity and sees difference as additional value. Ahmed (2007a) points to the Australian political agenda of the use of diversity: “Diversity work becomes here a question of ‘what works,’ where what is meant by ‘diversity’ is kept undefined for strategic reasons” (p. 242). According to the practitioners she interviewed, diversity evokes a more positive framing than equity: it is seen as a solution to equity fatigue. Certain French organizations gradually replaced the terms equity and non-discrimination with terms interpreted as more positive, which are diversity and inclusion (Montargot & Peretti, 2014).

Diversity definitions are highly dependent on the national, social, and organizational context (Barth & Falcoz, 2007; Bendl et al., 2015; Konrad et al., 2005) and this seems to be the case for EDI too (see, for example, for South Africa, Bonti-Ankomah, 2020). Since the Canadian EDI project is quite young, there is still little research investigating EDI discourses in the university setting. In an extensive scoping review of EDI frameworks and phrases, Wolbring and Nguyen (2023) identified several gaps in the academic coverage of EDI, including a lack of theory, and suggested empowerment theory as a possible theoretical framework to be employed in engagement with EDI. Tamtik and Guenter (2019) analyzed strategic plans from 15 Canadian universities and found that all strategic plans are “characterized by the use of broad and vague language in regard to equity, diversity and inclusion” (p. 46) and these documents tend “to treat all equity, diversity and inclusion issues as one” (p. 46). Ahmed (2007b) found that diversity and race equality documents from 10 universities in the United Kingdom mainly serve as good branding performance for organization and that such performance may correlate with the access to resources: “If what is being measured by race equality policies is the extent to which organizations can mobilize resources for writing them, then being good at race equality might even be a sign of privilege” (p. 598). Hakkola (2019) examined US college recruiters’ diversity interpretation and found that the rationale for a more diverse student body revolves around “internationalization, neoliberalism, demographics, equity, and pluralistic democratic education” (p. 365). Buckner et al. (2021) pointed to limits of the Canadian EDI project regarding international students: they are included in the diversity discourse but excluded as an equity-seeking group. A discourse analysis of an antiracism student activist movement in a large public US university by Hoffman and Mitchell (2016) reveals that the institutional responses to the activist group “reinforced the university’s history of deploying non-performative statements to assert their support for equity
and diversity” (p. 279) and the administration deflected the problems back onto minoritized students by repeating that diversity is everyone’s business.

Theoretical Framework

For this study, we understand EDI as a discourse that has been initiated to contest social inequalities. For conceptualizing social inequality through the lens of intersectional discrimination (intersectionality) we draw on Black feminist theory and the work of Patricia Hill Collins (1990, 2015) and Kimberley Crenshaw (1989), as well as on Gudrun Axeli Knapp’s interpretation of the theoretical programmatic of intersectionality (Knapp, 2005), and on intersectional analytical methodology (Lutz et al. 2016; Winker & Degele, 2011). Intersectionality is often used as the understanding of intersection of identity categories, but rooted in Collins’s thought, intersectionality “is a way of understanding and analyzing the complexity in the world, in people and in human experience” (Collins & Bilge, 2016, p. 2). Thus, intersectional theory avoids the identity categorization of people and rather categorizes axis of social division (also known as axes of difference). As Winker and Degele (2011) state in reference to Hall (1996): “we know who we are when we know from whom we delineate ourselves. This is true even when the ‘Other’ is not even referenced; delineation can also be implicit” (p. 58). Our reference point for a hegemony-critical framework is the matrix of domination (Collins, 1990; D'Ignazio & Klein, 2020). The matrix explains how systems of power are configured and comprises four domains: (a) The structural domain encompasses the legal frame such as laws, international conventions, (b) the disciplinary domain refers to the institutions that administer and manage oppression, (c) the hegemonic domain links to the way oppressive ideas circulate, like the culture and the media, and finally (d) the interpersonal domain describes individual experiences of oppression. For this study, we look at the ways these power structures are embedded in the academic system. Assuming that the EDI discourse is shaping STEM researchers’ understanding and knowledge of social inequality, we investigate how this EDI construct is reflecting, challenging, or disrupting social power structures. There are two key aspects of intersectionality which we consider relevant for the understanding of intersectional oppression: (a) A person can experience discrimination on the basis of more than one axis of social division, and oppressions based on race, class, and gender, among others, are intertwined, and (b) inequality is a product of intersecting systems of power situated on different levels (domains) which are simultaneously contributing to oppression (Collins, 1990, 2015). While the first aspect is commonly mentioned in the literature that refers to intersectionality (although often simplified), less attention is paid to the second aspect, that discrimination is a product of intersecting systems of power, which includes formal (legal, institutional, structural) and informal (representational, cultural, interpersonal) processes of difference making to establish and uphold social unequal power relations. According to Collins (2015), these “complex social inequalities fostered by intersecting systems of power are fundamentally unjust, shaping knowledge projects and/or political engagements that uphold or contest the status quo” (p. 14).

Furthermore, we apply critical discourse analysis (CDA), both as theoretical framework and as methodological approach. CDA looks at the role of discursive activities—such as speech and writing—in constituting and sustaining unequal power relations (Phillips & Hardy, 2002). More precisely, CDA examines how discursive activities enact, reproduce, and resist social power abuse, dominance, and inequality in the purpose to "understand, expose, and ultimately resist social inequality” (van Dijk, 2005, p. 352). Also, CDA scholars assert that “science, and especially scholarly discourse, are inherently part of and influenced by social structure, and produced in social interaction” (van Dijk, 2005, p. 352).

For our research, we conceptualize EDI as academic discourse and EDI documents such as policy documents, strategic plans, EDI statements, and other written and oral commitments to EDI as well as EDI trainings, amongst others, as discursive practices. Furthermore, our premise is that STEM researchers in Canada are exposed to and involved in this discourse, which shapes their understanding and construction of EDI. According to Zanoni and Janssens (2004), who interviewed HR managers, talking about diversity reaffirms “their right to speak and construct diversity in ways that are functional to maintaining this privileged right at the expense of other organizational actors” (p. 58). We suggest using a similar route and hypothesize that when speaking about EDI, STEM researchers construct EDI in ways that are functional to maintaining the institutional discourse, that is, where the power is embedded. We note that the EDI discourse is closely linked to other discourses addressing social inequalities, such as the discourse on decolonizing/Indigenizing academia (for a comprehensive scoping review of EDI frameworks and related phrases see Wolbring & Nguyen, 2023). From a discourse-analytical
point of view, we consider these discourses related but distinct and therefore refrain from merging these discourses in our analysis. However, we do consider references to colonialism and geopolitical axes of difference as part of the intersectional analysis. According to Collins et al. (2021), intersectionality “as an ever-growing, shape-shifting intellectual project that moves in tandem with decoloniality, [intersectionality] offers a conceptual lingua franca [emphasis in original text] for people to engage one another about shared concerns regarding emancipation and equality” (p. 723). Collins et al. highlight three interrelated points of critique with regards to the consideration of locality (that is, the United States) in intersectionality and calls for translation to spatialize and transnationalize intersectionality: (a) nationality and geopolitics are typically not considered as determining axes of difference in intersectional analyses, which consequently results in a “tendency to overlook the questions of colonialism and imperialism” (p. 702), (b) the focus of intersectionality on the Global North, particularly the United States, “whose national configuration is too often taken for granted, rather than treated as a strategically orchestrated geohistorical accomplishment” (p. 702), and, (iii) the lack of consideration of the transnational nature of locally or nationally in intersectionality and forms of border crossing. These aspects particularly informed our analysis (e.g., paying attention if interview participants referred directly or indirectly to locality, or problematized the lack thereof in EDI work) and are reflected in our discussion and conclusion (e.g., to understand EDI targets related to local contexts and to problematize group categorizations like “visible minority” because they are insufficiently reflecting and addressing different individual experiences of discrimination along the lines of migration and nationality).

In addition to the theoretical framework, intersectionality also informed our research approach: The research team consists of individuals (a faculty member, a post-doctoral fellow, a master’s student, a bachelor student) from different fields (humanities, social sciences, engineering, natural sciences) with having different experiences of discrimination along the axes of language, race, gender, age, and nationality/migration, including experiences of academic work in different national contexts.

Methods

As indicated earlier, the presented research is guided by the following research questions:

RQ1: How does the EDI discourse unfold in scientists’ work, understandings, beliefs, and actions regarding EDI?

RQ2: Do scientists’ understandings and actions regarding EDI address intersectional discrimination and domains of power?

Finally, our question for the discussion and conclusion: Is the EDI discourse in its current form challenging or reproducing systems of power in Canadian higher education?

For our analysis, we performed 18 semi-structured interviews between December 2021 and March 2022. We recruited two participants from two Quebec universities for test interviews (after receiving consent from the two participants, these successful interviews were later included in the data set) and 16 participants from 10 universities across Canada and in different STEM disciplines (different fields of engineering and natural sciences) for the main study. Our recruitment goal was to reach a diverse representation of universities in terms of size (student enrolment), geographical distribution across Canadian provinces, linguistic diversity (French and English universities), and STEM disciplines. In a first round of recruitment for the main sample of the study, invitation emails were sent to two randomly chosen researchers in 17 selected STEM departments across Canada whose contact details were openly accessible through university websites. We received only one positive response and decided to change our recruitment strategy. We contacted 92 chairs of STEM departments via email asking them to forward our recruitment email to faculty members in their departments. This strategy proved successful and resulted in additional 15 positive responses. We accepted all participants who expressed an interest in participating in the study.

The sample is gender-balanced (binary male-female 50%-50%). In total, 13 participants self-identified as a White or European descendant, one participant self-identified as a Chinese descendant, and one participant self-identified as Indigenous. Two participants identified as having a physical disability. A detailed description of participants is given in Table 1. To ensure full anonymity of the participants, we use a pseudonym generated randomly, composed of two letters and a two-digit number, for example, LN20. We noted in our recruitment email that no expertise or specific experience in EDI was required for participating in the study. However, all participants had an interest in and often held strong beliefs about EDI. The sample reflects the observation by Jimenez...
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et al. (2019) that faculty with “underrepresented identities” are more involved in EDI activities and take responsibility for advancing EDI. No participant withdrew from the study. Interviews were held online and lasted 35 to 60 minutes. Interviews were held in French (6) or English (12) according to the participants’ choice.

Interviews were recorded with the videoconferencing platform Zoom and a desktop recording program (OBS studio), and we transcribed 16 interviews with the support of automated transcription software. Two interviews had sensitive material and were manually transcribed. Each interview transcript was revised with the audio file by a research assistant and the first author of this article. Interview transcripts were then uploaded to the text analysis software MAXQDA 2022 (VERBI Software, 2021).

We open coded the material around aspects of the participants’ understandings of EDI. The coding was performed through a phronetic iterative approach (Tracy, 2019). According to Tracy, phronetic research is “concerned with practical contextual knowledge and is carried out with an aim toward social commentary, action, and transformation” (Tracy, 2019, p. 24). A phronetic approach relates to contextual knowledge, prioritizes practice, and includes going back and forth to theory and research questions when analyzing data. In the first level of analysis, descriptive codes are identified; in the second-level analysis, analytic codes are identified in relation to intersectional theory and the matrix of oppression. This level also includes grouping codes through axial coding (Charmaz, 2014).

For example, here is coding for an interview quote:

Interviewee: I would say that I mostly avoiding the star student concept and taking people who are enthusiasts about my work. Sort of minimizing the hoops to jump for my course as part of it because then my courses kind of feed into my students who do research as undergraduates who are also my students who become graduate students.

First-level coding (descriptive codes): avoiding, star student concept, taking people, enthusiasts, minimizing hoops, my courses, my students, etc.

Second-level coding (analytic codes): student recruitment (disciplinary domain), individual practices (interpersonal domain).

In total, we identified 12 analytic codes and for each code, 5–10 relevant quotes were discussed by the authors of this article to identify themes across the codes. Through this
CDA process, the guiding question was: How are differences, hierarchies, and power relations de- or re-constructed (e.g., addressed, critiqued, confirmed)? We used standard techniques to identify themes, such as looking for repetitions, metaphors, transitions, similarities and differences, and missing data (Ryan & Bernard, 2003). Quotes not discussed were mainly equivalent to those already selected. We paid special attention to including excerpts from all participants. Also, quotes in French were translated into English at this step. During the second level of analysis, authors referred to the matrix of domination to orient the analysis toward structures of oppression. As intersectionality points to systems of power and not individual’s identities, we used power relations, essentialization, and omissions to nourish our analysis. We paid attention to any references with regards to national and geopolitical axes of difference. For example, if the participants would refer to locality, geopolitics, colonialism, decolonizing work, EDID, Western knowledge authority, etc., it was coded. Agreement was found in discussion between both authors about the data and the theory.

Findings

STEM researchers’ understanding and practices regarding EDI revolve around four key themes: (a) EDI as trainable knowledge, (b) EDI as a human resource/managerial issue, (c) EDI as assessable performance, and (d) EDI as individual initiative/lonely endeavour.

Theme 1: EDI as Trainable Knowledge

“Our administration has suddenly—it feels like although it’s not sudden—just decided that anyone in any form of leadership position should be getting trained [on EDI] in multiple ways.” (LN20)

Institutions promote the idea that EDI can be learned about through workshops and other forms of training. This idea is accepted by most of the participants. Having completed EDI training is considered to be an important step. Our analysis reveals that the interview participants (STEM researchers in Canada) demonstrate a similar knowledge about EDI which includes the notion that this knowledge is something that can be trained. Without hesitation, all participants provided similar definitions of equity. Equity is defined, for example, as “Equity is to give everyone a chance to succeed in any task. And to give a chance to everyone, sometimes, we need to take measures to make sure that everyone can start at the same point” (LI17). All definitions included at least one of the following keywords or phrases: equal opportunities, giving everyone an equal chance, equitable access, chance to succeed, equity is different from equality, same access to services, and opportunity to participate. We note the occurrence of the words “chances,” “opportunity,” and “success,” which points to a positive framing of equity. Only one participant (LN20) provided more context around this definition in terms of when, where, and how it was learned. No participants spoke about what was used previous to the EDI discourse as terminology to speak about inequality and why it came to be used. When asked if there are any other related concepts they find valuable, participants’ answers included: inclusion, cultural bias, mentorship, equality, access, unconscious bias, diversity and inclusion, decolonization, how we apply EDI, attributions of behaviour, removing barriers, benefits of diversity, and outcomes. Overall, EDI is seen as individual responsibility, which includes that inequality is also an individual responsibility.

Theme 2: EDI as Human Resources/Managerial Issue

Research team composition and recruitment emerged as predominant topics. In total, 16 participants stated that their research does not relate to EDI because it does not involve humans. Two participants conducted research projects that related directly to inequality issues, like social justice or biases in science and technology. One participant applied a numerical model to social situations: “So [inequality] plays a role in my research maybe not directly, but it’s at the background of the models that need to be studied” (PC19). The following quote illustrates how PY29 distinguishes EDI considerations from their research: “My research does not involve human subjects or any of these things directly. However, my research group is made of people, and I try to make that as diverse as possible.”

In this quote, we note that PY29 relates EDI to the representation of people in their team or among research participants. In fact, many participants explained how EDI is reflected in their research team as a composition of diverse identities. Participants speak of providing “equal opportunity” (QN01), “avoiding the star student concept” (HP14) or discussing the “imposter syndrome” (HP14), having “EDI sort of inherent within the group” (ZB27), taking EDI “into account when [defining] a job posting” (MV23), which in-
cludes indicating opportunities for “parental leaves” or the possibility of “mandatory fieldwork” (MV23). Seven participants also referred to the diversity of their group, class, or department with either a proportion of women (“40%” or “a team of female postdocs,” etc.) or the number of international students and their country of origin (Iran, India, China, Northern Africa, etc.). Two engineering researchers stated that they focused on women because their research field is very “multicultural” (DD04) with collaborators from all around the world. DD04 felt that being in a countryside university led to more challenges for hiring diversity which they feel are not being considered by an undefined authority (“they”).

They ask us to diversify our teams. I am in a university that does not have access to [big cities in Canada] to recruit in a domain where there are no women. What do you want me to do? In a countryside university to recruit? It does not work…it’s…that is…there is something or some frustration—I am not usually frustrated—but the frustration comes because this is nonsense in what they are asking us to do. (DD04)

Two participants were critical of the recruitment process for more permanent positions such as lecturer, instructor, or faculty. They experienced a gap between their perception of a good “EDI candidate” and the perceptions of their colleagues.

And, there were other EDI candidates that would have been freaking amazing colleagues and they were discarded. Like to the point that someone was rolling their eyes at them in the middle of an interview…. They had to have someone academically like them, and they weren’t phrasing it that way, but that’s what they were doing. (LN20)

TY02 describes their own experience of being on a hiring committee for an instructor. From the many applications, the committee narrowed down to around 10 candidates, and “there was still a lot of diversity.” TY02 was upset that it was “the Caucasian male” that got the job.

So I mean we had all gone through the training before the…and so yeah, it just. It made me aware that, you know, this guy…quite possibly the social structures allowed him to be where he is and therefore, you know, gives him the advantage over the others like all of the women and all of the people of colour that were on that… you know, even on this short list. They just didn’t have everything…. We’ve developed the metrics already and best doesn’t mean the best diversity. Best means the best papers and the best teaching…. And so that’s really kind of turned me into—just sort of—turn me more cynical on the whole EDI thing in the university. I don’t want it to stop. I think it’s important that we have these conversations, but at the same time, like I said, I think sometimes we put stuff into practice because it makes us feel good. (TY02)

For TY02 and other participants, diversity does not include White men. Diversity is rather constructed as the “other” of the White men. Three participants also pointed out the homogeneity present in the academic system using expression like “looking in a mirror” (PY29), referring to visible identity categories (race, gender) or “academically looked like me” (LN20), referring to career paths. Being in a position of power, ZB27 suggested putting into place a new recruitment process. Here we note the wording “fundamentally change,” “very badly lacking,” “radical shift” linked to “diversity position,” and “wonderful women.”

I said to the department that we need to fundamentally change how we hire if we want…. And what we need to recognize is that diversity is an area in which we are very badly lacking…. So we can almost think of diversity as “Let’s create, let’s ask for a position that we are going to call a diversity position.” And this position…we are going to remove constraints. So we are going to say: “You know. Any area of [chemical] engineering.”… When we have these wonderful women, let’s rank them compared to what our strategic needs are…. So it was a radical shift, in the way hiring was done. (ZB27)

Theme 3: EDI as Assessable Performance

Funding agencies are requesting STEM researchers to write an EDI statement as part of a research application. Due to the competitive nature of funding, academic institutions are offering training on how to include EDI in research proposals and how to write what is understood as a “good EDI statement.” PC19’s quote can be interpreted as what is expected by the funding institution as this participant was part of an NSERC (Natural Sciences and Engineering Research Council of Canada) evaluation committee:

People know that I’m in the [NSERC evaluation] committee and then I get asked for advice all the time…. And so, in one sense, personalize and make it concrete. So
put the two things together and then you have a good EDI statement. (PC19)

Personalizing the EDI statement proves to be more difficult if it goes outside the scope of what is expected. HP14 states that they “had been doing basically [their] best EDI already in undergraduate classes, and it was a little harder to talk about graduate stuff” and for the feedback received “it was too much undergraduate and NSERC really wanted the more graduate thing.” On a faculty application EDI statement, LI17 asked for feedback and “one of my colleagues answered me, gave me feedback because I think the first version I wrote was a bit too activist.” Moreover, both participants, whose research topics are linked to social inequality, mentioned that their application proposal was not funded. One felt that the official evaluation committee did not understand the challenges of doing scientific research that integrates EDI principles such as cultural and linguistic diversity.

Some participants feel comfortable with the EDI requirements, whereas other participants partially accept or reject them. Regarding the EDI statement, some are satisfied by the whole process: “Last year I think it was when I got my funding renewed. So...mine's fairly strong.... I mean it's a process and everyone is learning. But there are certainly areas for growth in mind as well” (QN01). JV13, DD04, and ZB27 perceive EDI statements for funding agencies as “a check box,” “just words,” or “our perception of our engagement to do diversity.” JV13 feels that it is a raising awareness tool without feedback. DD04 suggests only requiring EDI statements for the collaboration of multiple scientists, whereas ZB27 “think[s] it would be excellent if there was some accountability.” Finally, even though KL28 is very critical of some aspects of the prominent EDI discourse (funding eligibility, expected services for marginalized individuals), they still feel that the EDI discourse can change things by “passive exposure.”

You know what. I think I mean I always give advice where I can and I think even just by passive exposure, the people that really aren’t on board with EDI will be. Right, so I think it’s...it’s kind of my responsibility to help them see things from a different perspective and I think helping with these statements does that. (KL28)

**Theme 4: EDI as Individual Initiative/Lonely Endeavour**

The majority of the research participants are involved in EDI on different levels. Six participants referred to participating in formal, informal, faculty, or departmental EDI committees (PY29, IL26, QN01, L117, TY02, NT20). RE25 spoke of initiatives for creating spaces of discussion, such as informal lunches. PC19 was on an NSERC evaluation committee when EDI statements were implemented. However, in most cases, when speaking of their involvement in relation to EDI, participants are talking about initiatives on an individual basis. The quote of NT20 is an example for EDI as individual initiative in the context of teaching.

You know, the first thing I do when I come to a class now—and I learned this over the year—is to always look for students who are standing apart from the rest.... Among these will be some which will struggle the most with the course material, so they're isolated, right.... So as soon as I see that and I can identify them, I contact them, right? I email them and say: "You know, maybe we can meet and let me know what we can do?" (NT20)

Other individual initiatives include creating new courses with a social justice component (FX19, IL26, RE25), learning about “alternate forms of teaching” (LN20), highlighting women’s contributions in the course material (NT20, DD04), and selecting “feminine examples” (ZB27). Participants are not referring to colleagues doing the same or being inspired by them. In fact, participants rather expressed that they are the only ones who are active in EDI, and five participants referred to resistance from colleagues. For example, PY29 spoke about being “destroyed” by “the amount of pushback” from colleagues, and when speaking about undergraduate teaching actions, HP14 affirmed: “It’s like fighting against the training that we should just talk about research and nothing else.”

This notion of not being understood, not being supported, and being alone in fighting inequity, points to an experienced lack of institutional and organizational support. The feeling of individuals who are active in EDI work, that it is on them, is a well-documented fact in EDI reports of institutions and organizations. For our analysis it is significant that the EDI discourse is nurturing this feeling rather than allaying it.

**Addressing Intersectional Discrimination and Domains of Power**

Our analysis reveals that the EDI discourse revolves predominantly around managerial issues, with a predominant focus on hiring and diverse team composition and position-
ing the scientist as the responsible agent for change. Overall, STEM researchers demonstrate a simplistic and essentialist understanding of intersectionality decontextualized from institutional and structural hegemonic power. Using terms such as “EDI person,” “diversity hires,” “diversity position,” and “wonderful women” do not seem to contradict the EDI idea. Six participants refer to intersectional discrimination of multiple axes of social division particularly when related to their own lived experience. However, they are not stimulated to mobilize this knowledge, but rather seem to be discouraged to expand and build on this knowledge in their EDI statements.

The reward of a good EDI statement is research funding. This meritocratic principle remains rather unquestioned and uncritiqued. Our analysis suggests that the individual scientist has few to no opportunities of resistance or critique (e.g., regarding what is included or not in the EDI construct) without running the risk of being seen as someone who disapproves of EDI, as demonstrated in the following response: “I’ve been thinking about this and, you know, it’s like… I also have a level of discomfort with talking about it. The more we talk, I think, the better we get at EDI. So, this has been good for me” (HP14). Participant ZB27 also said, “The one thing I do want to say about the EDI stuff. So, I am going off your script of questions.”

Two participants expressed structural critique (of the meritocratic system) and the perception of being instrumentalized, as the following quotes of FX19 and TY02 demonstrate:

When they ask me to justify something that exists since 1948 [the Universal Declaration of Human Rights], I am very trenchant. I hope never to have to write this [an EDI statement]…. Because what funding agencies do not tell you is that I have a list of races to exclude in my choice of students…. I am in a “sensitive” domain where there is the military…. So, funding agencies, I cannot believe that they do not know we are subjected to that. And because no one complains except me, it causes me many problems. And I live with it. (FX19)

So, I’m on the equity, diversity and inclusion [committee of the Faculty], and it’s really, really difficult to operate in and talk about EDI within one sector of society when there’s so much inequity in so many other places. That… and also because of the structure of the university in that it is meritocracy and competitive that most of the EDI work that we do is really a kind of window dressing. It's kind of like feel good stuff because when push comes to shove, ultimately. (TY02)

Our analysis did not reveal that national and geopolitical aspects of inequalities are seen as included in the EDI construct. For example, FX19 sees clear discrepancies between an EDI statement and his recruitment limitations, rather than feeling encouraged and seeing EDI statements as a place to write about these geopolitical issues: “I hope never to have to write this [an EDI statement]…. Because what funding agencies do not tell you is that I have a list of races to exclude in my choice of students…. I am in a “sensitive” domain where there is the military.”

Discussion: Potential and Limitations of EDI

What can be expected from the EDI project regarding nurturing individuals’ capacity of hegemonic critique of social inequality as explained in the matrix of oppression? What is the potential of the project and what are the limitations? Among STEM researchers, we can observe an increased awareness of social identity categories and of the underrepresentation of groups. STEM researchers are able to name categories (race, visible minority, gender, women, LGBTQ2+, Indigenous peoples, people with disabilities, etc.) and they are learning to speak about underrepresentation (marginalized, racialized, oppressed groups). They know different factors that are responsible for inequality related to the workplace and to the performance of individuals (availability constraints, caring duties, family-friendly workplace, accommodation of religious practices). Another positive effect of the EDI project can be observed in the development of new hiring practices. Universities are becoming more diverse in terms of identity categories, which are being discussed in hiring committees, and trainings make sure that committee members have an—albeit simplified—language with which to speak about underrepresentation. It can be expected that showcasing (visible) diversity will change the image of STEM fields. Another promising effect is that STEM researchers have started thinking about whether their research is related to social (in)equity. Thanks to EDI and GBA+ (gender-based analysis plus, Government of Canada, 2022), the conviction of science being objective and independent from social aspects could be wavering on a broad scale.

The limitations of the EDI project become apparent at
the interface of hegemonic critique, neo-liberal values, and the meritocratic ideology that (Canadian) academia has incorporated and is built on, and which provides the moral blueprint for competition, selection, and performance assessment. The interviewed STEM researchers share the feeling that their institution's interest in their individual EDI work ends where funding was successfully secured. The EDI discourse shapes STEM researchers' EDI construct in a way that they feel individually responsible. In other words, the EDI discourse to which STEM researchers are exposed (e.g., through EDI strategic plans, EDI statement requirements, etc.) is not able to counteract this feeling of individual responsibility but rather nurtures it, laying the focus again on the personal domain of oppression.

Our analysis suggests that, so far, the EDI project fails to empower the individual researcher to speak up on their own experienced oppression within their institutional context. The institutions' expectations regarding EDI are administered by the institutions' own offices, such as EDI or research offices. The fact that individuals have concerns that they might say or write something wrong is problematic (e.g., HP14: “I also have a level of discomfort with talking about it”). It counteracts the empowerment of the individual as well as the development of frameworks that enable critical reflection of systemic discrimination. Moreover, promoting the notion that the individual is responsible for equity eclipses the question of the structural and institutional components through which inequalities are reproduced. Writing EDI statements is experienced as a teaching-to-the-test exercise and researchers not only feel but are constrained by expectations of their institution to deliver whatever is expected by funding agencies (e.g., TY02: “And also because of the structure of the university in that it is meritocracy and competitive that most of the EDI work that we do is really a kind of window dressing”). In this performance-oriented trainable and assessable recipe approach (e.g., PC19: “So put the two things together and then you have a good EDI statement”) any remaining or emerging intersectional critique gets lost because the “selling EDI” approach is a mirror of the values of an—according to Collins's matrix of oppression—intrinsically unfair system.

Likewise, the EDI project has not been able, so far, to bring frameworks of intersectional critiques of inequality within academic organizations to the awareness of STEM researchers, that go beyond the EDI performance and responsibility of individuals. The dominant focus on diversity in the sense of defining identity and finding “EDI persons” to meet the targets reinforces othering and a simplified and essentialist understanding of identity categories rather than an understanding of the complexity of how difference and power relations are being continuously constructed and upheld. This becomes evident in the participants' responses: No participant named any structural or institutional aspects that reinforce inequality, such as GPA-based student selection, or economic inequalities that are amplified by tuition fees (for the tuition discourse in Canada see Rexe & Maltas, 2021). The focus on scientists' individual responsibility to “make EDI work” through their (recruitment) actions shadows other domains and levels on which inequality is constantly reproduced. Likewise, in the context of EDI in recruitment and hiring, interview participants did not speak about geopolitical contexts of migration as topics of EDI. Furthermore, the “diversity hiring” practices, as understood by STEM researchers and reflected in their EDI constructs, which include recruiting students and faculty members from other parts of the world, might bear an important and problematic aspect related to intersectional oppression: The goal to reach demographic representation is based on the Canadian census and the initial purpose is to redistribute and renegotiate privileges among identities and groups who have been oppressed by and within the Canadian society. According to our results, the category “visible minority” as constructed, understood, and used by our participants, includes mainly people from the international community and fails to acknowledge the specific context as well as experiences of oppression and marginalization by individuals whose identities as visible/racialized minorities have been constructed within the Canadian society. Furthermore, decontextualizing this fact from Canada by identifying applicants from Asia, Africa, and South America, who probably have not even immigrated, as visible minorities without specifically addressing vulnerabilities and discrimination, which are linked to migration, fails to acknowledge, address, and contest ongoing practices of colonial oppression in Canada and corresponds to Collins's critique of focusing on the Global North (see related section in theoretical framework). In this sense, as for diversity being undefined for practical reasons, a careless use of the category “visible minorities” lacks to address nationality and geopolitics as determining axes of difference in intersectional analyses, which, according to Collins, results in ignoring questions of colonialism and imperialism. These processes would urgently need to be further investigated with regards to underlying principles of othering and the reproduction of norms and difference. We propose the following areas to be discussed further:
(1) In response to our finding that EDI is experienced as individual initiative/lonely endeavour, we suggest discussing EDI as shared responsibility and paying attention that this understanding is acquired by STEM researchers. For example, instead of requesting researchers to demonstrate individual EDI commitment and develop individual hiring plans, institutional entities could develop such plans. (2) We suggest discussing accountability of institutions, for example, by demonstrating how they are supporting researchers and departments in fulfilling their EDI plans with concrete examples for support. (3) To deepen the understanding of intersectionality and inequality in institutions, possibilities for establishing frameworks that foster a culture of critical thinking could be explored. (4) The role of essentialist identity categorization and construction of individuals should be discussed and carefully considered. Likewise, the potential of tokenizing individuals and simplifying the complexity of intersectionality should further be discussed and critically reflected (e.g., by deepening the understanding of the construction of identities; for examples in curricula see Zilliacus et al., 2017). (5) Lastly, based on our findings of researchers being hesitant to speak openly about EDI, we suggest discussing the role and expectations of the researcher and faculty member in the context of EDI (e.g., not only as an agent for equity, but also as an individual experiencing intersectional oppression themselves and acting within power relations). Here, anti-capitalist models of research and education could be a reference point for the EDI discourse (Bencze & Alsop, 2014). Therefore, to support, empower, and protect the individual, it could be explored how safe spaces could be established that are independent and whose personnel can act independently to provide individuals with opportunities to speak about their doubts and concerns regarding meeting expectations (e.g., of the institution).

Conclusion

Our research reveals that there is a considerable potential of the EDI project in raising STEM researchers’ awareness of social inequalities. Participants, with two exceptions, position themselves as local leaders (e.g., EDI advocates). However, we identify shortcomings of how the EDI discourse is shaping STEM researchers’ understanding of intersectional discrimination, which includes knowledge of structural, disciplinary, and hegemonic domains of power that shape academia (e.g., the meritocratic ideology that determines access to and success in academia, the competitive nature of research funding, as well as university rankings as overarching goals). Instead, we observe that the current discourse supports an EDI construct that focuses on individuals’ actions and responsibilities for EDI success and a rather essentialist understanding of identity categories, which nurtures tokenism and othering (“EDI persons,” “diversity hires”) without questioning underlying principles and practices of difference making along axes of gender, race, class, and body, amongst others. With the present article we shed light on a specific component of the EDI discourse, that is, its impact on STEM researchers’ understanding of inequality and on their construction of EDI by their exposure to and participation in the current EDI discourse. However, we acknowledge the limitations of our findings. The presented outcomes and conclusions are not generalizable and must be read and understood in the context of place (Canada, academic STEM disciplines) and time (2020–2023). Research on similar discourses in other countries might come to different outcomes because hegemonic, structural, and disciplinary domains might vary (for example, countries with less or no competitive funding structures). It would be interesting to compare these discourses in future studies. Since practices of research are different, researchers from other fields, like social sciences, may have different understandings of EDI leading to different EDI constructs. Since most of the respondents had EDI interest, it would be interesting for future studies to investigate the EDI construct of STEM researchers who have less interest in EDI. We intentionally restrained the study to the EDI discourse and invite further studies to investigate, particularly the decolonization discourse and how it relates to the EDI construct. For the analysis of the decolonizing discourse, we would suggest drawing on specific decolonizing/decolonial frameworks. Furthermore, our results are not representative for the entire EDI discourse and its impact on Canadian academia and researchers. For a deeper understanding of the EDI discourse and its potential to address intersectionality, a critical discourse analysis of university documents such as EDI policies, EDI strategic plans, EDI reports, EDI communications, and EDI trainings, as well as scientific and journalistic publications on EDI, would be valuable.

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References


Bonti-Ankomah, J. (2020). *Equity, diversity and inclusion at the University of Cape Town, South Africa: The experience of Black women academics* [Doctoral dissertation, University of Ottawa]. https://doi.org/10.20381/ruor-25393


Pietsch, T. (2016). Between the local and the universal: Academic worlds and the long history of the university. In M.-H. Chou, I. Kamola, & T. Pietsch (Eds.), *The
transnational politics of higher education. Contesting the global/local (pp. 21–42). Routledge.


**Contact Information**

Tanja Tajmel
tanja.tajmel@concordia.ca
