# Analysis of Funding Trends Addressing Girls/Women of Color and STEM: An Intersectional Approach

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## About the ARC Network

Funded by the National Science Foundation ADVANCE Program, Awards HRD-2121468 and HRD-1740860, the ADVANCE Resource and Coordination (ARC) Network seeks to achieve gender equity for faculty in higher education science, technology, engineering, and mathematics (STEM) disciplines. As the STEM equity brain trust, the ARC Network recognizes the achievements made so far while producing new perspectives, methods and interventions with an intersectional, intentional and inclusive lens. The leading champion in North America to propel the inclusion of women in the field of engineering, the Women in Engineering ProActive Network (WEPAN), serves as the backbone organization of the ARC Network.

## About the Virtual Visiting Scholars

The Virtual Visiting Scholars (VVS) program provides a unique opportunity for select scholars across disciplines to pursue research meta-analysis, synthesis, and big data curation on topics crucial to STEM faculty equity. VVS analyze existing research and data, synthesizing different, sometimes competing, perspectives, frameworks, metrics, and outcomes to offer new insights and applications to the broader community.

## About the Author

Kimberly A. Scott is a professor of women and gender studies in the School of Social Transformation at Arizona State University (ASU) and the founding executive director of ASU's Center for Gender Equity in Science and Technology. The center is a one-of-a-kind research unit focused on exploring, identifying, and creating innovative scholarships about underrepresented women and girls in STEM. Having written and successfully won over $12 million in grant funding to support research about and programs for women and girls of color in STEM, Scott was named in 2014 as a White House Champion of Change for STEM Access. Since 2018, Scott has been a member of the NSF STEM Education Advisory Panel created to encourage U.S. scientific and technological innovations in education and assembled in consultation with the U.S. Department of Education, NASA, and NOAA. Center projects include the National Science Foundation-funded COMPUGIRLS; U.S. Department of Education-funded COMPUPOWER; Gates-funded project on African American Families and Technology Use; and NSF-funded Culturally Responsive Co-Robotics Program. Scott is also an Affiliate Faculty in George Mason University's Center for Digital Media Innovation and Diversity located in Fairfax, Virginia. She was recently appointed to the National Academies of Sciences, Engineering, and Medicine's Committee on Addressing the Underrepresentation of Women of Color in Tech. Scott earned her BA from Smith College in art history and French literature, an MS from Long Island University in curriculum and instruction/elementary education and her EdD from Rutgers University in social and philosophical foundations of education, and completed the high potentials leadership program at Harvard Business School.

## Introduction

Since writing my VVS application, dialogues about racial equity in STEM have been energized with appreciable attention to race *and* gender. NASEM, for instance, gathered a working committee to create a report focused on women of color in technology[1]. Technology companies have begun disaggregating data presenting how women of color fare in their industries. Not too surprisingly, the recent results echo the same statements appearing in the well-known 2018 "Reboot Representation Report":

> *Underrepresented women and girls of color fall through the cracks. Though companies express a strong desire to reach underrepresented women of color, less than 0.1 percent (or $335,000) of the 32 tech companies' 2017 philanthropic giving focused on reaching them specifically* (p. 11).

Beyond acknowledging the race-gender disparities in STEM, what are philanthropists from different types of funding organizations actually *doing* to resolve these inequities*?* My meta-synthesis of gray literature (e.g. rfp's) allowed me to deepen my understanding of intersectionality and articulate the barriers that nonprofit foundations, corporate foundations, and two of the largest STEM agencies (e.g. NSF and NIH) create through their funding mechanisms. Specifically, I used a unique mixed methods approach to explore how funders desiring to challenge social isms can make a sustainable impact. The ARC program provided me support to conduct a meta-analysis of funding trends that target girls/women of color and STEM. The primary **goal** of this fellowship project is to apply intersectionality as an analytic strategy to discover how funding agencies reinforce and/or challenge majoritarian narratives of girls/women of color in STEM. Using computational topic modeling, informal interviews, and data visualizations, my research had the the following **objectives**: 1) Illustrate how well-known and well-intentioned funding practices address race-ethnic-gender disparity in STEM through funding mechanisms; 2) Illuminate how and when funding agencies emphasize the disparity of girls/women of color in STEM; and 3) Identify methods funders can successfully invest in the RGTM initiatives using different lexicons.

The following sections of this final report reveal how intersectionality has been misunderstood, and at best, conflated with multiple-identity studies that ignore many of intersectionality's core constructs. After naming this project as a "resistant knowledge" endeavor, I proceed to discussing the methodologies and analysis of the data. The methodological trials and tribulations underscore thel strategies and highlight what appears to be the primary issue with the philanthropy world-that is, a lack of transparency. As a result, the findings section illustrates how different types of foundations appear via their funding trends. The meaning of the results lay bare how intersectionality is used as an optical illusion for equity. Thus, the discussion section makes meaning of the findings within the intersectional context. Recommendations round out the report listing what different communities can take from this project.

## Intersectionality

Popularized by Kimberle Crenshaw (1989) as a framework to understand the structural convergence of discrimination and oppression, intersectionality has been used as a way to describe the "double discrimination" against Black women, or "the combined effects of practices which discriminate on the basis of race, and on the basis of sex" (Crenshaw 1989, p. 149). Although this is what many researchers cite as the "starting point" of intersectionality's usage in feminist and critical social research, it is important to remember the ways in which intersectional inquiry and praxis predate the initial "coining" of the term.

[1] I am honored to be a part of the committee. It is anticipated that the final report will be released shortly.

Intersectionality, as an analytical tool, allows us to unpack lived experiences beyond race. This is important work; without an intersectional lens, women of color and our experiences remain commodified. Equally important, intersectionality allows researchers to do far more than simply reveal gaps. As May (2015) explains, intersectionality "focuses on unstated assumptions, and explores the meanings of gaps and absences" (p. 21). Thus, it is a "form of action" (p. 33). It is often organized around a set of core constructs, those of: social context, relationality, power, social inequality, complexity, and social justice (Collins, 2019).

For the purposes of this project, intersectionality is also a metaphor. I proffer a set of answers to the race-gender disparity issue recognizing it as a phenomena perpetuated in large part by funding agencies. And, in keeping with intersectionality's core construct of interconnections, I distinguish and connect various systemic elements contributing to the phenomena. Like Collins (2019), I argue for more than a modification of ideas and practices. Transformation is more than engaging in diversity efforts. What is needed for meaningful movement towards race-gender parity is a paradigm shift. Collins puts it best, stating that this change is "not just in ideas, but also in how a field of study reorganizes its practice to facilitate its problem-solving objectives" (p. 42). For this project, the field of study targeted for "reorganization" includes grant-making agencies.

I want people to recognize this project as resistant critical work without reducing my efforts to "simple criticism, reactions from the margins of assumed theoretical truths" (p. 118). The use of intersectionality as part of a resistant knowledge project emphasizes Collins and Bilge's (2016) description of the framework "as an analytic tool [that] gives people better access to the complexity of the world and of themselves" (p. 2).Rather, I purposely draw "upon multiple sources of expertise and asking different questions than those within traditional social theory" (p. 114).

## Methodologies

Originally, the methodological plan was to use probabilistic topic modeling to reveal how different types of funding agencies present their funding practices about, with and for women of color in STEM. As outlined in the previous report, I worked with a data scientist, Dr. Michael Simeone, towards this end. In addition to 1-2 graduate students, we met bi-weekly to discuss results and determine the direction for future analysis. Rather than repeat the results from the mid-year report, the remainder of this section describes the methodological challenges and ways we pivoted in these final stages.

Probabilistic topic modeling (Blei et al., 2003) was used to put pressure on human generated categories to see how topics tell the story about girls/women of color in STEM. Careful observations of the federal agencies of NSF and NIH by examining their solicitations allowed us to conduct collocate and concordance analyses of both entities. However, these methods could not be applied to corporate foundations or non-profit community foundations. It became abundantly clear that most foundations construct an incredibly opaque process for requesting funding.

After completing analysis on the two federal agencies, we attempted to construct a similar database. Specifically, we sought to establish a database of requests for proposals from corporate and community foundations that included in their language an interest in women of color within the fields of STEM, computer science and/or technology. To the best of my knowledge, there is no singular hub containing past or present RFP's from any type of foundation. Thus, I conducted a semi-structured interview with my university's Associate Vice President of Development and Corporate Relations, Shaun Brenton, to understand this dearth of

RFPs from corporate and community foundations. After a brief preamble describing my study, Shaun explained that foundations are not obliged to indicate to the general public what causes they give to or what their funding interests are. However, Nonprofit Quarterly (2020) releases annual data about giving trends. This proved to be interesting and provided aggregated data. For instance, foundation grants and/or giving only represents 17% of total contribution in 2019; 5% from corporations in the same time period. Shaun explained, "This challenges the notion that corporations give out a lot of money. Publicly traded companies tend not to give out a lot because [they] must report back to shareholders and shareholders want to know how investment will be helpful to their stock."

At the end of our conversation, Shaun suggested to, "Go to Forbes Fortune 100 for top 100 companies. We can see what they are funding and what they are interested in, but no info on what was submitted but not necessarily on who was funded." This recommendation did not seem as if it would portend substantial fruit. I reinforced with Shaun my interests--that is, what are the characteristics of those foundations that are funding women of color and girls of color in STEM. This energized the conversation and caused Shaun to provide concrete parameters for identifying said foundations, encouraging me to "use Google and only use foundations with assets of $1 billion to get a good threshold plus most of those are national funders." A slight pivot occurred, forcing me to move from *what* was being requested pre-funding to explore *which topics* and which grantees *are receiving funding related to women and women of color in STEM, computer science, and/or technology.* Dissimilar to our previous analysis of NSF and NIH, we changed our focus to grantees' work rather than grantors' requests for proposals. Yet, as will be described below, we correlated data between grantees' intent and which organizations received funding for women-related STEM projects.

With this new direction, a graduate student who Dr. Simeone and I guided, identified three databases from which to cull data for analysis: Arco's top 100 philanthropic foundation list, the Borgen's Project list of Top 25 Philanthropic Corporate, and a refined search on the Foundation Directory.

*Arco*

We began by searching all one hundred foundations' websites for RFPS using the keywords "technology" and "women." Immediately, we removed the eleven foundations that were not housed in the US. The remaining eighty-nine foundations presented fairly recent RFP's (2015-2020), although five RFP's were found dated pre-2015. The list of foundations appearing in this list ranged in terms of assets from $42m+ to $58m+.

*Foundation Directory*

Next, we began to use the Foundation Directory Grant database. This database differs from foundation website databases insofar as how much ground the former is able to cover. This database houses both nonprofit and corporate grants as well as other relevant foundation information. We used a foundation list refined by "Gender and sexual identity", with a minimum of $1b assets. This threshold was established based on my initial conversation with Shaun Brenton.

In order to sort grants, we refined the search parameters to include "Technology", "STEM", "Engineering", and "Mathematics". We additionally refined the population to "Women and Girls". These parameters gave us sufficient room to find grants dedicated to women in technology as well as avoid excluding grants for Women of Color in technology. A total of 515 nonprofit grants and 315 corporate grants met the established criteria.

*Borgen*

We used Borgen's Project list of Top 25 Corporate Foundations and identified 338 grants with the following keywords: Women, Technology, Computer Science, Mathematics, Engineering and STEM. The Borgen list contained foundations with assets ranging from $29m+ to $497m+. Only 36 foundations from this list presented RFP's for analysis.

Our methods were iterative. As the GRA explains, "We used each foundation's personal database. We also used the foundation directory to look back at Arco to fill in holes. The original order was ARCO, next the Foundation Directory (using the list), then Borgen, also using the Foundation Directory to find grants, and [then] finally going back through Arco."

To manage the data, we developed an excel file organized by:

- The Name of the Foundation
- Established Column signifies the year in which the foundation was started
- Parent Corporation refers to the Corporation that owns the Foundation

| Women/Girls | Women of Color | Black women | Latinx/Latina Women | Native American Women | Asian Women | Bipoc |
|---|---|---|---|---|---|---|

- **Only one category was selected for race**. Using the population description and project description, grants could fit into one of the above 7 racial categories. Flexibility with key terms was used. For example, if a project description used African American women, we would put that project under the classification for Black women. Another keyphrase might be "women" who are historically "underrepresented". In this case, we categorized the grant as serving women of color. Grants could contain two scores, such as a 2 and 4, if we found both "women of color" and Latinx or Latina Women mentioned.

  These are the terms that we categorically coded from 1-7

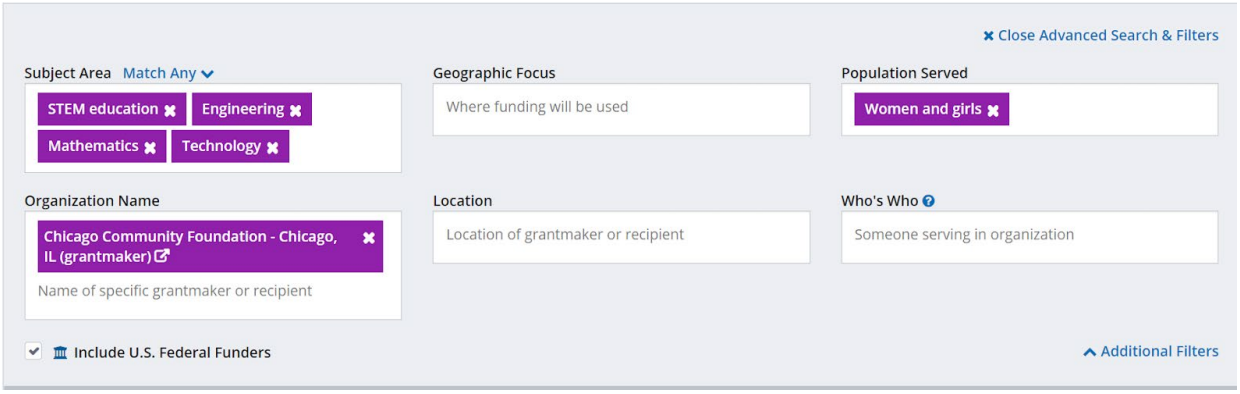
  - Women:1
  - Women of Color:2
  - Black Women:3
  - Latinx/Latina Women:4
  - Native American Women:5
  - Asian Women:6
  - Bipoc:7

| Grantee | Amount | Year(s) Given | Subjects | Project Description | Abstract /Purpose |
|---|---|---|---|---|---|

- **Grantee**: To whom the grant (money) was given to
- **Amount**: The total money given for that grant
- **Year Given**: The year in which the grant was awarded
- **Subjects***: The grant's subject interest (science, technology, STEM)
- **Project Description:** A brief description of the funded project

| Computer Science | Egineering | STEM | Math | Technology |
|---|---|---|---|---|

- These are coded 0 or 1. 1 if a grant has one of these subjects in its keywords or description. 0 when none of the words appeared




**Description Included Column**:
0: Grant did not include a description or the description was vague
1: Grant provided a description of project

The Nonprofit Quarterly characterizes "major gifts" from non-profits as those of $1000+. We used this same threshold in our analysis. Thus, we deleted any grantees who received less than $1000 in funding.

**Interviews**
As the team content expert, my job was to pose questions inspired by my burgeoning understanding of intersectionality, computational topic modeling as a critical quantitative tool, and synthesis of literature about philanthropy. Several times throughout the fellowship year, I grappled to understand philanthropy as a system. At times, I became frustrated not finding data and/or understanding the results. I voiced these sentiments during conversations with various foundation folk.

For reasons unrelated to this project, I regularly communicate with corporate and nonprofit granting foundations. My interactions tend to include executive directors/CEOs and program directors. During this fellowship year, I shared with these individuals information about this project and its emergent results. All listeners were eager to provide their comments and suggestions to resolve roadblocks in gathering and interpreting data. However, because I did not seek IRB approval for their unsolicited comments, I took notes of our discussions. There were no standard interview questions beyond me asking, "What do you think about the findings?"

**Data Analysis**

Data from the survey of corporate and nonprofit grant-giving foundation materials was entered into a number of comma-separated files. These data were loaded into Tableau, a visualization and analytics tool used for summarizing and comparing data. The number of awards over time, award amounts, award keywords, and foundation types were all considered when creating comparative charts in Tableau. Additionally, average award amounts per foundation were calculated, as well as other summary statistics for awards by foundation type. When examining the full text of any grant or RFP documents, AntConc, a linguistics application, was used to understand concordances, frequent word pairs, and general word associations with other kinds of words.

Dialogue from my impromptu conversations with foundation leaders was compared with quantitative findings and assertions appearing in intersectionality literature. In addition to attending the AERA-ICPSR PEERS Data Hub Workshop, ICQCM: Shaping Critical Data Science for a Diverse World to broaden my understanding of computational topic modeling, I also used intersectionality's six core concepts as a lens (Collins, 2019). As a result, RFP's and grantee's descriptions of funded work were also analyzed to detect frequencies and occurrences of terms such as social context, relationality, power, social inequality, complexity, and social justice. Understanding that the chances of these exact words appearing in either grantor's or grantee's narratives may be low, we also searched for representations of these constructs in the documents each community (e.g. grantors and grantees) created. Take for example social justice as one intersectionality's constructs. Intersectionality as a social justice tool can be used to effectively confront and transform inequity in STEM. When it is used to help women of color learn how to deconstruct inequitable systems and develop new ones, the needs and experiences of women of color can be appropriately centered (Nkrumah, Scott & McInness, in preparation). We searched project descriptions for any words that flagged transformation, participants grappling with inequity, and/or confronting systems of oppresion (e.g. schools). This approach implies that funding agencies and the authors of RFP's understand the nuances of intersectionality. To ensure we would not miss valuable data points, we also searched for basic terms such as "underrepresented", "women", and/or "gender".

**Principal Findings**

Our team generated close to 50 tables, charts, and figures. Some produced minimal results while others revealed interesting patterns. Those included in this report represent a small portion of our work but present the most significant results starting with where my last VVS report concluded--that is NIH and a comparison of NSF and NIH. Since we dedicated the majority of our time examining corporate and nonprofit foundations, the findings will focus on the more enlightening results of those two federal agencies.

*NIH, NSF and Proforma Language*

When looking at the character count in NIH of the word "underrepresented" (see Figure 1), the character count for the word "underrepresented" doubled between 1992-1993. While there were not a lot of files using "underrepresented" in 1992, there was an explosion of the use of this term by 1996, with it being counted more than 2 million times in the files. In 2003, some type of change occurred which resulted in the term "underrepresented" appearing even more frequently in documents. This increase in usage could mean there is more funding opportunities for projects about/with/for underrepresented groups or it could simply be reflecting

the usage of "underrepresented" as part of a proforma language.

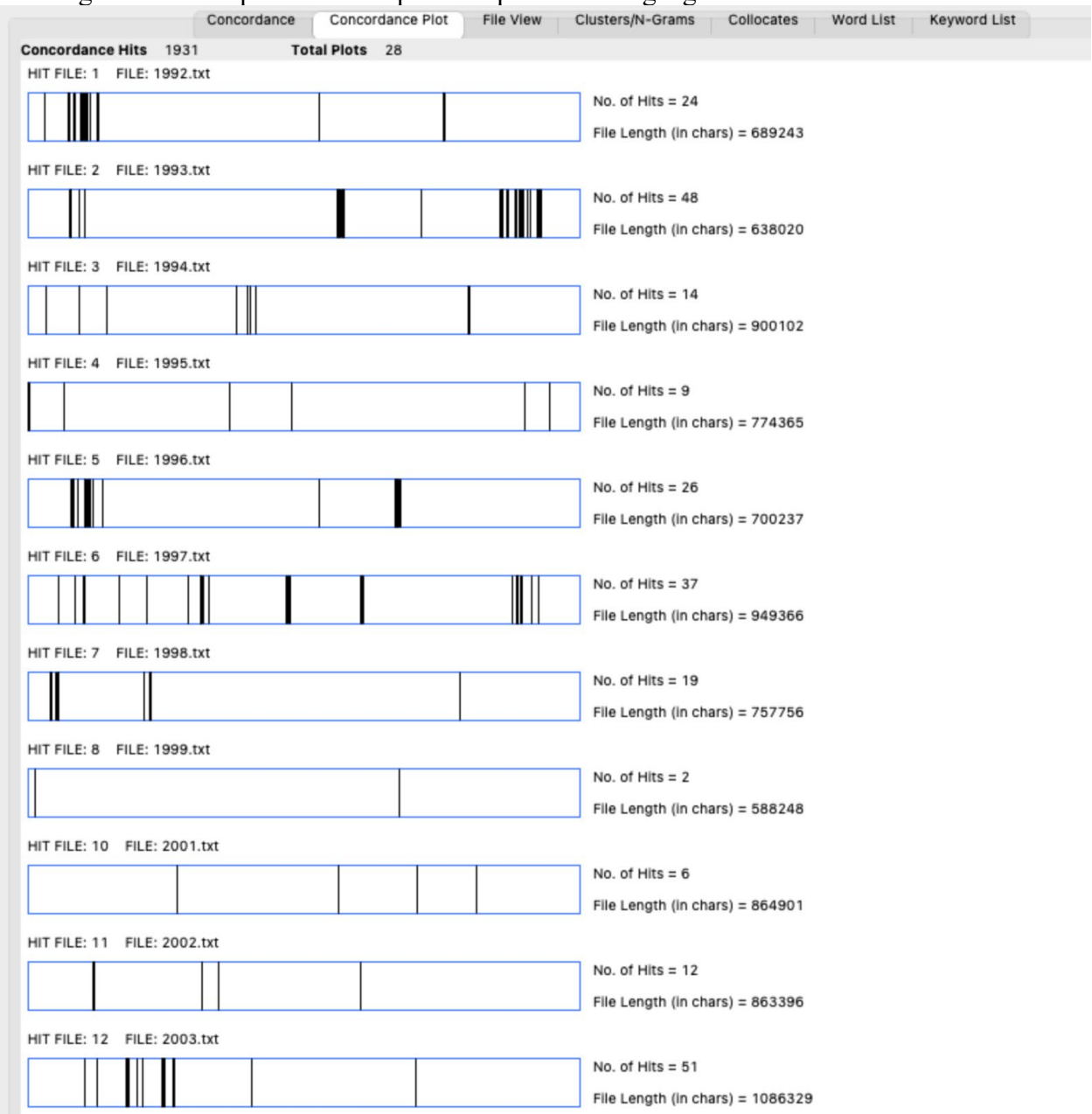



Figure 1
Concordance plots of each year of NIH FOA documents for the term "underrepresented"

https://drive.google.com/drive/folders/158pblLBSUde345WSO3kbWyaedVLeaThr

Given the above results, perhaps NIH envisioned "underrepresented groups" in ways that echo intersectionality's pillar of social action and/or inequity? Perhaps NIH sought proposals interested in poising underrepresented groups to advance in meaningful ways? Sadly, the results of our frequency analysis illustrated in Figure 2 suggest an assimilationist approach.

Beginning in 2001, the word "underrepresented" became more consistent in NIH's FOAs. Nevertheless, alongside "participation," the data suggest NIH is mostly interested in how underrepresented groups can participate in a flawed system of STEM. We did not find any mention of visioning, leadership or action. Participation means joining, being included in the status quo. There was no evidence encouraging "underrepresented" groups to disrupt or lead in STEM.

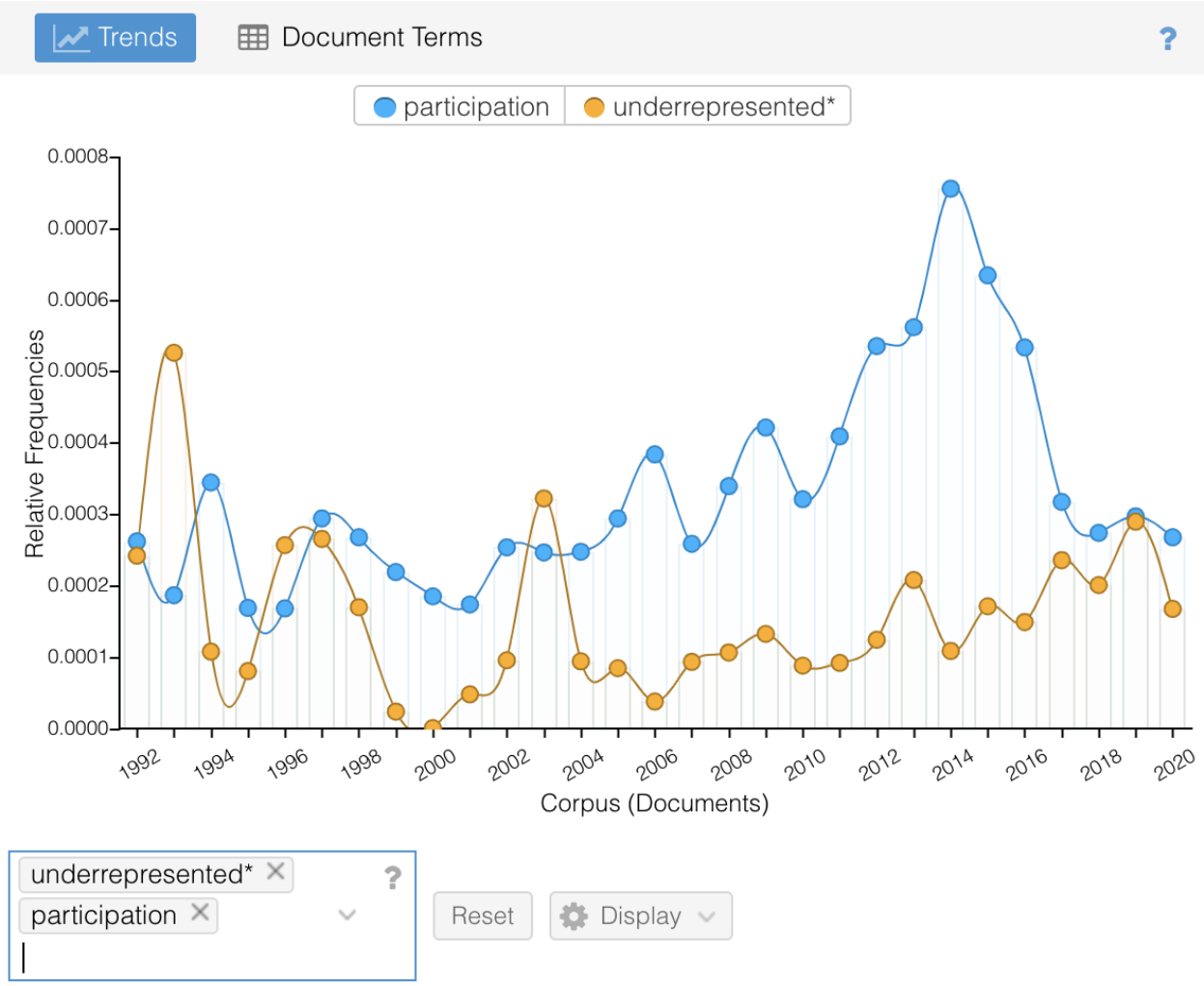



Figure 2
*NIH FOA relative frequencies of two terms of interest, 1992-2020*

The constructs of intersectionality are not recognized or manifested. In fact, none of the following constructs collocate with women: power, disruption, oppression/privilege, structure, critical inquiry, social justice, action, infrastructure. Who are the "underrepresented" referenced in these requests?

Our NIH concordance analysis indicates that between 1992-2020, there were only 98 sentences in which the phrase "women of color" appeared. This frequency is considerably more than what we detected in NSF, which only had seven sentences that included the phrase (please note, we only had access to ⅕ of NSF's documents

for unknown reasons). The words “Latino” and “Native American” appeared in NSF but not in NIH. The terms’ absence does not mean that they do not appear at all in NIH.. Rather, our point is that these terms are not collocating with “women.”

NIH more specifically articulates its interests in the *kind* of research on women that is conducted. For example, NIH has research targets such as1996 breast cancer and women. NSF is further very specific in the populations of women researched, such as using the term Alaska as a collocate for women. NSF still does not have a lot of areas of research that is specific to women. NSF presented trends but how intersectionality appeared, for instance, was not hailed in our topic modeling. A more detailed comparison between the two agencies can be found here.

**Nonprofit Private/Community Foundations**

Since we could not gather a significant number of RFPs, I elected to analyze who were the grantees and what activities were they funded for. Evidenced in Figure 3, grantees were more likely to mention “women” or “STEM” than “women of color” or any subgroup of women of color.

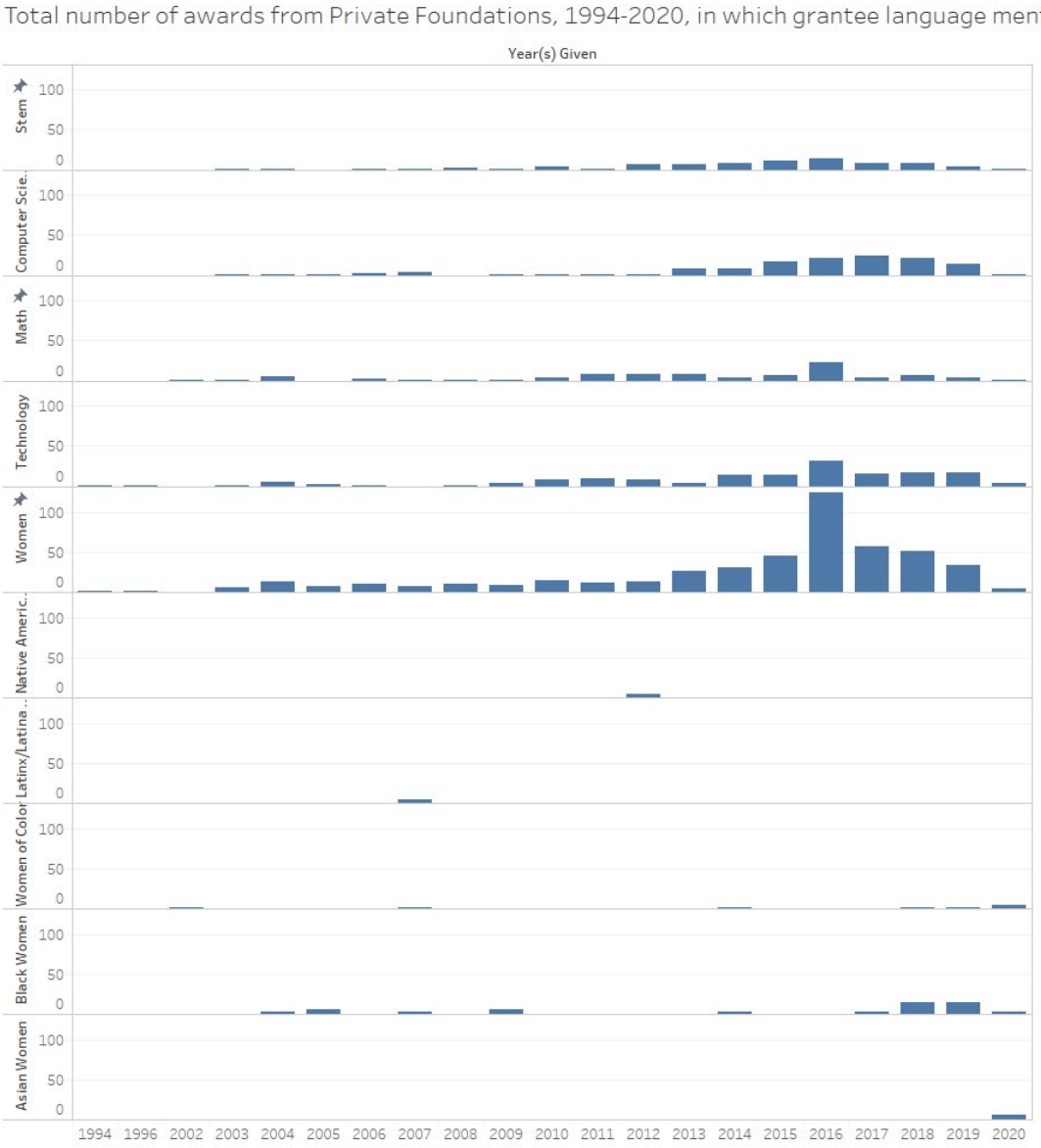



Figure 3

In 2002, the phrase “women of color” appeared rarely. In 2016, the word “technology” became more prominent in its usage. “Women of color” and “computer science" are rarely used throughout the time frame of the study. “Latinx/Latina women” and “computer science” appeared in 2007 at a similar rate as “computer science” and “Black women” did in 2005. However, which organizations are receiving these monies?

Figure 4 shows that Code.org brings in $13m from private/community foundations for work using the generic “women” term. Except for Girl, Inc. foundations are not funding programs mentioning “women of color” in any significant way. Mentioning STEM does not seem to capture the attention of most grantees receiving private foundation monies. Although not reflected in this figure, we did find that Girls Who Code is a top grantee

related to “computer science” awards, but this organization does not specifically include or target “girls of color”.

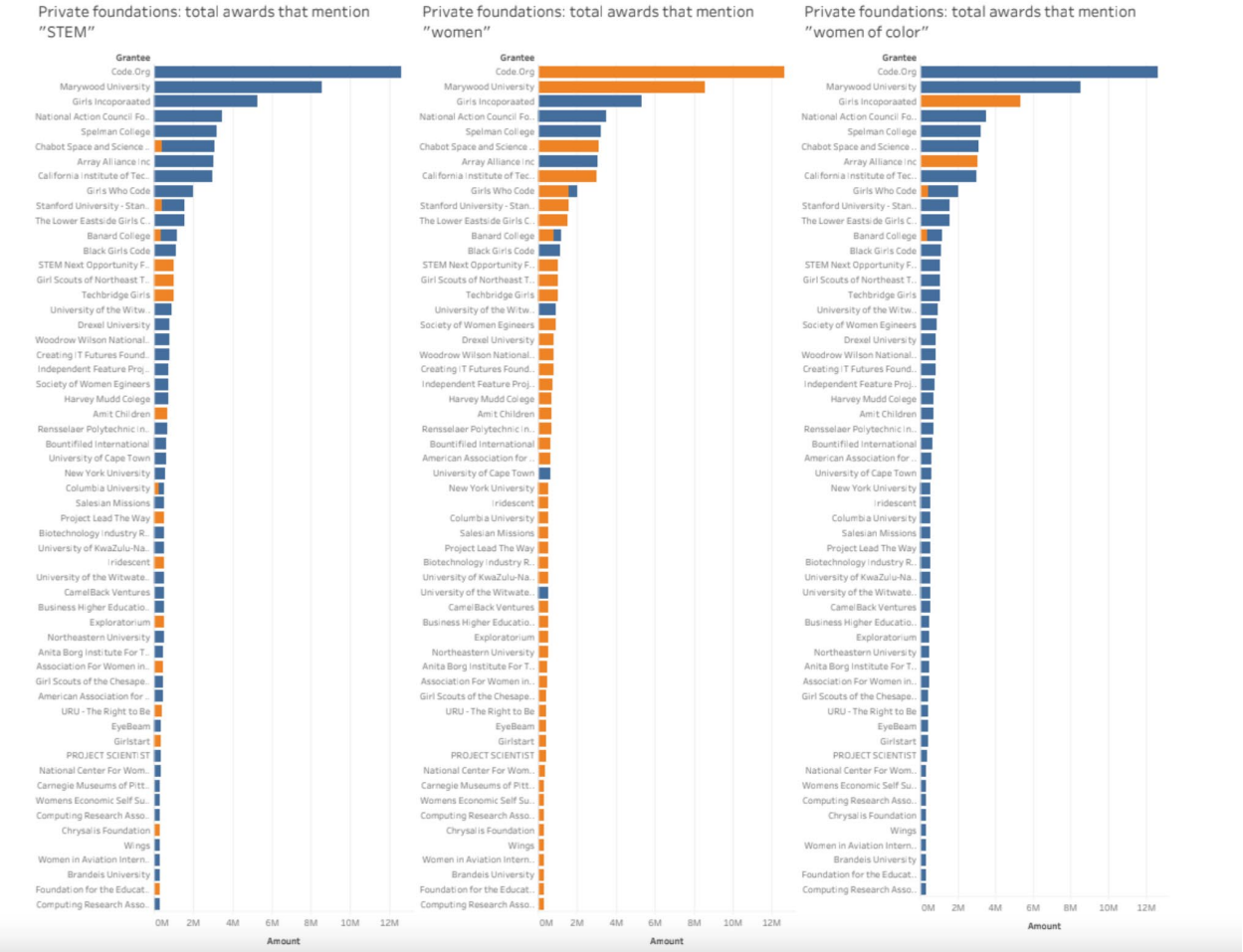



Figure 4: *Grantees of private foundations ranked by total awards within study time window, with awards highlighted by mention of key terms, STEM, women, and women of color. Orange is yes, blue is no.*

## Corporate Foundations

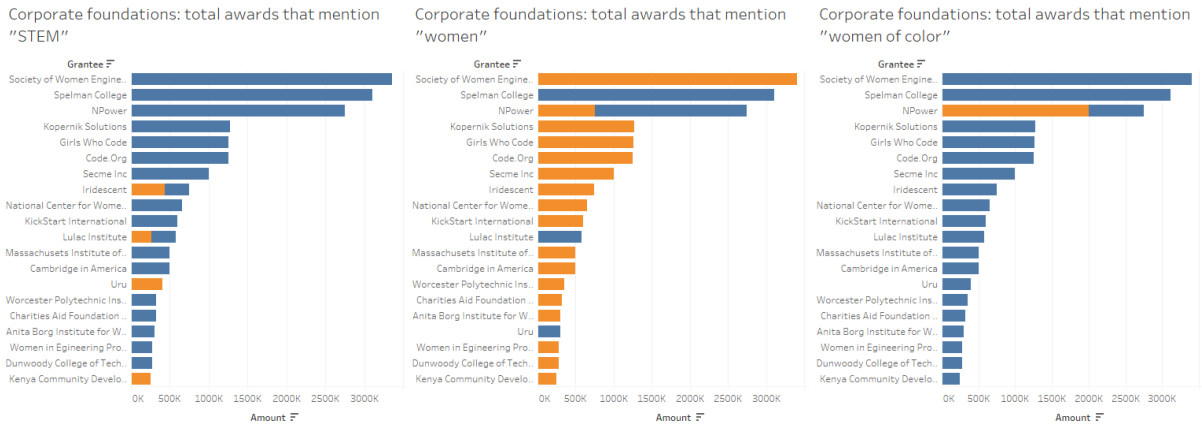
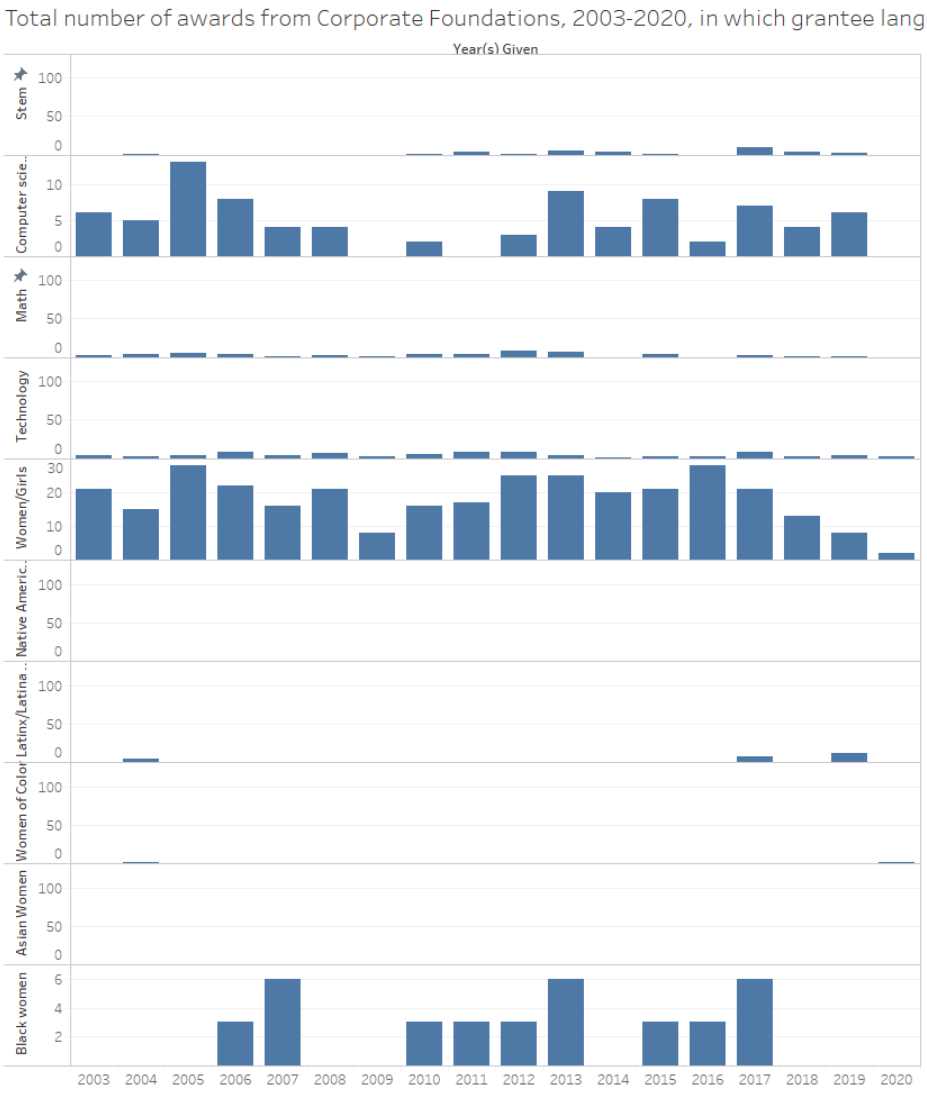


Figure 5: *Grantees of corporate foundations ranked by total awards within the study time window, with awards highlighted by mention of the following key terms: "STEM", "women", and "women of color". Orange indicates the mention of such term, and blue reveals that there is no such mention of the term.*

Figure 5 demonstrates the organizations that receive the most grant funds from corporations. Nearly 55 awards are given to SWE. Again, the vast majority of awards are not provided to grantees who mention "women of color". The term "women" curries much more attention than STEM.

Over time (see Figure 6), corporate foundations have indicated greater interest in funding projects with "women/girls" in their project descriptions. Interest in funding "Black women" experiences peaks and valleys. We did not find any evidence of other specific race-gender groups mentioned in project descriptions, such as Latina/Latinx women, Native American women or Asian American women or their subgroups (e.g. Hmong women). Mention of "computer science" does not follow the same pattern as the use of "women/girls." However, in 2005, both terms accrued similar interest, suggesting that corporate foundations were equally interested in funding computer science with/for women/girls that year. Data suggest that 2013 was the year in which the terms "Black girls", "women" and "computer science" were most popular. This trend repeated in 2017. However, funding for project descriptions including these terms waned after that year.

Figure 6




Figures 7 and 8 below demonstrate the temporality of corporate giving for particular interests. ExxonMobil consistently gave top dollar from 2003-2016 for projects including the terms "computer science" and/or "technology". Yet, since 2016, ExxonMobil has given minimal financial support to grantees who mention the terms "women of color", "STEM" ,"mathematics", and/or "engineering".

Figure 7

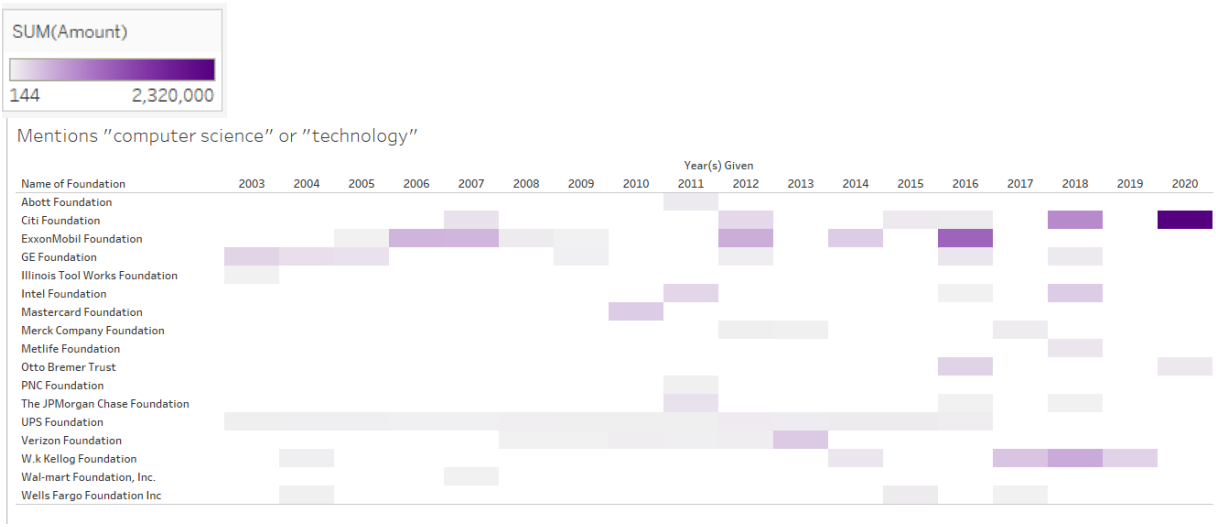
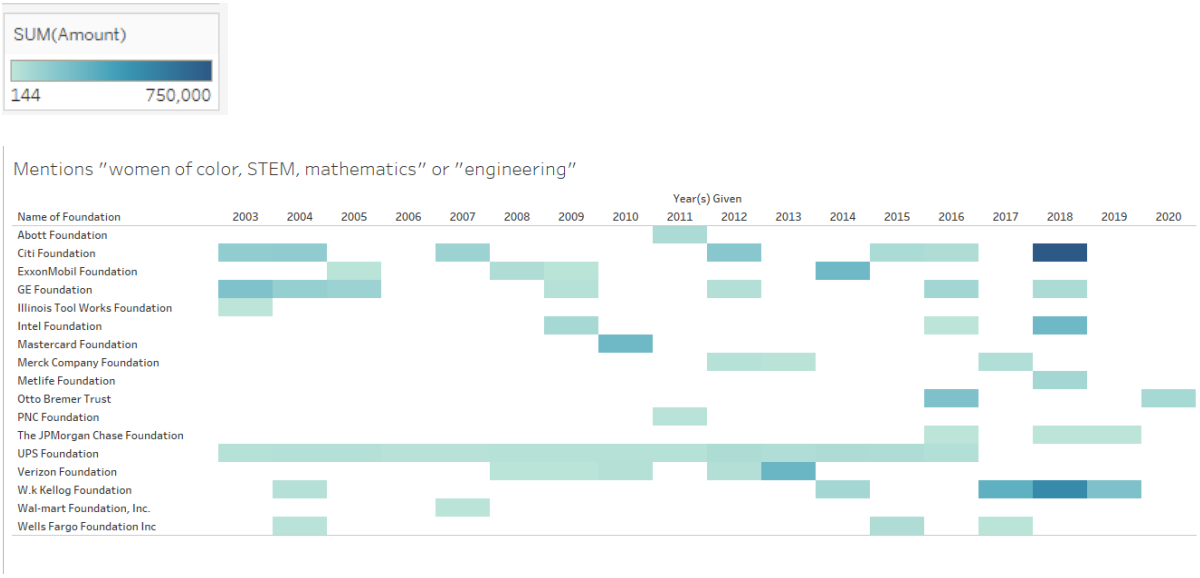



Figure 8




When comparing private/community foundations to corporate foundations, we found the following trends: Corporations do not give as much or as frequently as private/community foundations. Community foundations gave a lot more gross amounts and had broader giving patterns than corporations. Stated differently, more organizations receive monies from private/community foundations but at a smaller amount than monies awarded from corporate foundations.

**Discussion Points**

The emphasis on racial justice in philanthropy is not new. In 2003, organizations such as Philanthropic Initiative for Racial Equity emerged with a goal "to increase the amount and effectiveness of resources aimed at combating institutional and structural racism in communities through capacity building, education, and convening of grantmakers and grantseekers." This organization is supported, in part, by Borealis Philanthropy,

whose audacious vision is to "invest in leaders, organizations, and movements using diverse and innovative strategies to pursue transformational change, and we work with donors to support movements in ways they may not be able to do on their own."

In 2007, a coordinated meeting for diversity among philanthropists occurred that resulted in the founding of D5 Coalition in 2010. Collectively, philanthropists who joined the D5 coalition energized "a focused effort to build on what we learned from years of work and leadership. We were charged with broadening the number, range, and types of foundations taking action to advance DEI. Our premise was that focused collaboration was the key to achieving the change we sought." (p. 4) https://www.d5coalition.org/wp-content/uploads/2016/04/D5-SOTW-2016-Final-web-pages.pdf

In 2009, ARC and PRE developed an assessment for foundations to assess how well they were granting racial equity proposals.
https://www.raceforward.org/sites/default/files/downloads/Racial_justice_assessment_download.pdf

Where are the foundations, private or corporate, that are specific to girls of color and STEM? WhileThe Black Girl Freedom organization and Novo Foundation have made pointed remarks to funding girls/women of color, neither organization is exclusively STEM focused. Notably, Funders for Reproductive Equity , which is a collective of grant-makers, supported reproductive right strategies that were predominantly led by women of color. One could argue that the conspicuous absence of targeting funds for girls/women of color and STEM is a result of the race-gender composition of most foundations and philanthropic organizations.

The 2020 Racial Equity and Philanthropy: Disparities in Funding Leaders of Color Leave Impact on the Table report powerfully illustrated how funding often goes to white-led grantees more than people of color grantees. Astounding data have appeared, further crystallizing this point. Although the two primary groups discussed in the report are White and Black, with a periodic mention of Latinx and Native American groups, the data are staggering: "Of the total number of big bets for social change documented between 2010 and 2014, only 11 percent went to organizations led by people of color. One organization, The Harlem Children's Zone, accounted for one-third of those bets" (p. 13). This report identifies the following two factors as preventing philanthropy from making social change: " One is understanding the role of race in the problems philanthropists are trying to solve. The second is the significance of race when it comes to how philanthropists identify leaders and find solutions" (p. 3). Understanding that adopting a racial justice lens is not enough, the report highlights the importance of race intersecting with social class and race and gender. For the latter nexus, attention is drawn to the fact that women of color led organizations "consistently receive less support than either the Black men or white women" (p. 12). The *NY Times Op-Ed* article, "Philanthropists Bench Women of Color, the M.V.P.s of Social Change," makes it apparent that racial disparity is very much linked to gender. Yet, this recognition goes no further. While the report lists some impressive efforts on the behalf of foundations and intermediary organizations, all of which have audaciously developed new ways to award grants to people of color-led initiative or provide support for other grant-making organizations to sustainably center racial justice in their practices, the provided examples do not mention gender-based initiatives.

In her op-ed piece, Vanessa Daniel artfully describes how funding will more easily flow to white-female-led organizations than to women-of-color female-led organizations that are engaged in a similar work. Rather than fund the latter, she notes how a modicum of funding will go to a woman-of-color organization to "go teach a white-run group that has been awarded a huge grant on how to adopt" an innovation that was created by the

woman-of-color organization. This "gentrification of social change movements" allows the philanthropic community to "do good" while allaying their distrust of providing women of color monies to do the work in which they have already been engaged. Other insights Vanessa Daniel shares in her article illustrate the primary barriers that people of color-grantees experience despite their positive reputations in the communities they serve in addition to long histories of impact.

> "I've seen repeatedly that it's far easier for a young affluent white man who has studied poverty at Harvard to land a $1 million grant with a concept pitch than it is for a 40-something black woman with a decades-long record of wins in the impoverished community where she works to get a grant for $20,000. This, despite the epic volumes of paperwork and proof of impact that she will invariably have to produce. She reads as risky, small, marginal. He reads as a sound investment, scalable, mainstream. Similarly, nonprofits with glossy proposals are often seen as bankable even though some of them have terrible reputations in the communities they serve, while groups with excellent reputations on the ground and less slick proposals are often seen as risky "(par. 18).

As for grantors' mindsets leading to the above phenomenon, Vu's weekly blogs provide entertaining and thought-provoking critiques on how the philanthropic system continues to struggle with diversity, equity and inclusion. In one of his entries (April 15, 2019), Vu describes how white philanthropists suffer from "solutions privilege," a term he defines as "the privilege of expecting easy and instant solutions that would align with one's worldview and not challenge one's privilege" (par. 6). If this is true, intersectionality needs to be encouraged as a framework for the funders of all organizations to adopt in sustaining critical inquiry and critical praxis.

Through an intersectional lens, *complexity* refers to social inequality, power, relationality, and social contexts as intertwined, fluid, and malleable. While these constructs operate on many levels simultaneously, one cannot be understood without the other. To study a category like "underrepresented students" or "women of color" necessitates a consideration of the varying complexities within such a population (i.e. class, nationality, ethnicity, geographic location, ability, sexuality, gender identity, religion, etc.). This move towards critically analyzing intragroup differences is one step closer to socially just action. Complicated, yes. Based on the above analysis, funding agencies continue to struggle with anything more than a single-unit approach to underrepresentation in STEM.

"Women" is the catch-all word. "Underrepresented" is similarly used. Each of these descriptors lack the appropriate potency to fully address race-gender disparity in STEM. More recently, intersectionality has been positioned on behalf of women of color in STEM to problematize the normative STEM and higher education cultures. Seminal work has explored the marginalization of women of color and the barriers to their persistence and participation in STEM (Charleston, et al., 2014; Guy & Boards, 2019; Espinosa, 2011). Studies have embraced intersectionality and revealed the psychological processes and educational outcomes of their disenfranchised locations (Charleston, et al., 2014; Ireland, et al., 2018) and documented their resistance to such processes of exclusion and isolation (Ong, et al., 2018).

In large part, social factors, such as devaluing Indigenous knowledge practices and excluding women of color as participants and expertise in their fields (Carlone et al., 2011; Guy & Boards, 2019) have become the norm (Slovacek et al., 2011). As long ago as the 1976 landmark report, *The Double Bind: The Price of Being a*

*Minority Woman in Science* (see Malcolm, Hall & Brown, 1978), institutions of HE have been encouraged to recognize and ameliorate these oppressive practices. The same force needs to be placed on funders.

Upon sharing my findings with various foundation folk, they agree that a community--namely those who have historically been the object of reform-- must be ready to understand their significance as part of an ecosystem. Family foundations (e.g. Chan Zuckerberg, Bill and Melinda Gates, Bloomberg) generally do not have a clear set of standards or even vision regarding who and what they will fund. These foundations are quite opaque in their practices and procedures for funding, often contracting with consulting agencies who are disproportionately composed of White individuals with a limited understanding of intersectionality to manage requests for proposals and the review processes to determine who receives funding.

Community foundations are more clear in their self-intent but are frequently subject to the desires and whims of those who are providing the funds, namely individuals and/or giving groups. Corporate foundations are investors, not funders, that tend to invest in future workforce. Their self-intent is driven by industry needs.

US federal agencies rely on government-issued racial and ethnic categories in crafting their requests for proposals. Thus, not seeing certain social categories in RFPs (e.g. Latinx, Black/African American) may not be the fault of NSF or NIH, per se. Yet, individual program officers tend to author solicitations. Despite consulting with other program officers across agencies, it seems odd that no one has yet challenged the notion that Latina, for instance, does not appear in over 20 years of files in conjunction with the term STEM.

Funding organizations may do well to follow the advice of Brenton and Bickford (2019) concerning the need to partner with schools of higher education in effectively transforming their processes towards race-gender equity in STEM. This general recommendation presents specific steps for communities to follow within the total ecosystem to consider when attempting to broaden participation in STEM. As a result, a systems thinking approach is sorely needed.

**For Researchers:**
Race cannot be the single unit of an analysis since it is a socially constructed concept that is subject to colonialist ideas. When used, race should be contextualized in time and place to how it connects and appears in relation to other features, such as gender, sexuality, and/or ethnicity. Ezekial Dixon Roman (2021) put it best during the AERA workshop when he stated, “When race  is included as part of a model, we need to interpret it as a byproduct of social, political relations…”

Critical quantitative approaches, such as the way in which computational topic modeling has been used in this report, is a necessary methodology for a structural critique to enable equitable possibilities. More time needs to be spent understanding, developing, and teaching this methodology.

**For Higher Education Institutions:**
Policies need to be developed and implemented that value collaborations with funders beyond seeking funds. Typically, institutions, particularly research-focused ones, signify private-public partnerships through public recognition of grant proposals and grants awarded. This unidirectional dynamic carries great weight in academe. More valorization needs to be given to academics who partner with granting agencies in transforming their requests. Whether these relationships lead to a peer-reviewed article should be less important than if they impact who receives funding in the long-term and how such funding benefits both underrepresented

communities and dominant groups such as funders' organizations, boards, and practices. In other words, the barometers for success need to be transformed.
How well academics apply intersectionality as a tool to inspire action should become integral in the review of professors' files. This approach will require a much more nuanced standard for success. Yet, simply providing accolades to individuals who receive grant funds to reinforce assimilationist models of success shortchanges all cries for social justice.

**For Funders:**
An obvious suggestion for funders is to centralize all federal, foundation, and corporate funding requests and outcomes. The lack of transparency in who and what is funded needs to be addressed. While this may be an important first step, donor advised funds and private gifts cannot be captured. Indeed, interview data revealed that foundation folk rarely communicate amongst each other. Additionally, some CEOs cannot transform their giving strategies without board approval while others are hired to do just that. The diversity of foundations and their various compositions and limitations are noteworthy. Yet, few foundations are engaged in authentic disruptive work--that is, efforts honoring how power, domination, marginalization operate and persist in STEM through funding practices. Dialogues with funders did present some exceptions.

Take, for instance, the intermediary organization, New Schools Venture Fund. Recently, its RFP described how the reviewers for a $10m call would be composed of families and community members. Another example, Henry Luce Foundation has established a solid accountability system whereas grantees can and have been forced to return monies because they did not follow the scope of their proposed work. These cases need to be disseminated and measured for impact. The results of such bold efforts need to be communicated to boards and C-suite leaders. And organizations need to develop their own accountability system through inward facing efforts that assess if they are meeting their diversity, equity and inclusion benchmarks through an intersectional lens. Rather than provide billions of dollars to organizations to "fix" women, assume that women of color will be included in this group, funders need to begin with their own institutions.

In conclusion, results from this VVS project have confirmed many of the critiques found in the literature. Most importantly, it has also highlighted the need for intersectionality to be employed well beyond higher education. Funding organizations would do well to cocreate their own resistance projects, confront their own isms and transform themselves into more equitable organizations through sustainable efforts through intersectionality's critical inquiry and critical praxes. Without doing so, the disparities will persist.

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