Beyond diversity initiatives: Building a community of care in scientific societies

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Societal injustices have positioned a spotlight on diversity, equity, inclusion, and justice (DEIJ) initiatives in higher education and the resulting changes that academia must accept in its practices and membership. Ultimately, these DEIJ initiatives are intended to promote and support large-scale cultural shifts that will fundamentally transform how The Academy operates and expresses values. With these outcomes in mind, funding agencies (e.g., HHMI, NSF) are increasingly recognizing and specifically directing support towards DEIJ-directed research and implementation or even requiring that these be core components of the proposed research. However, the problematic cultural values that need changing are rarely explicit in these discussions or calls. Blatant exclusion aside (e.g., racism, sexism), there remain cultural challenges within academia that make even DEIJ-progressive institutions or environments exclusive to some communities. Uncovering and articulating these cultural norms thus remains a major challenge that is particularly pressing to address in light of the growing focus on DEIJ-related initiatives being supported alongside research by federal and private funding groups. In concert, new frameworks that can help structure discovery and reorient DEIJ initiatives to address these cultural challenges are also needed.

Here, we present survey-based data alongside significant research from the humanities as evidence that psychological and sociological motivations of belonging and social capital in the academy are fundamental challenges contributing to the surface-level cultural problems within academia, and we propose a reframing of the way we approach issues of diversity and inclusion that draws on these same ideas to promote changes in cultural norms. In this reframing, we focus on moving from a community of practice to a community of care in ways that will increase buy-in from the historical majority to support and promote the historically excluded without relying on DEIJ initiatives that can often harm more than help.

Professional societies uphold a "community of practice"

In 2021, we distributed a survey to STEM professionals in the United States (n=429) that was designed as a first step in identifying aspects of scientific meetings that were valuable in professional and personal aspects for our community. We had expected that social interactions and network connections would be primary reasons that individuals valued specific conferences or society meetings. On the contrary, STEM professionals largely indicated they attended conferences to disseminate scientific knowledge. In fact, supporting mentees was the lowest ranked reason for attending a scientific meeting, below traveling to the conference destination, across all career stages (Figure 1A). Nonetheless, we know from informal social media and other publications (*1*, *2*) that social opportunities at conferences are highly valued by scientists. Our survey results are thus strikingly incongruent with informal observations. However, they are consistent with an underlying and pervasive culture that centers on a "community of practice", in which the organization and priorities are structured around and explicitly value scientific knowledge and discourse.

A community of practice describes a group that share a particular passion or interest in some domain or area (*3*), and thus broadly describes many scientific organizations. Not all communities of practice are organized outside of a sociocultural framework that prioritizes the bringing of one's whole self (*4*), however, we argue that scientific communities have prioritized the products of its practice over the people. Scientific societies and their conferences are convened with an emphasis on scientific discovery, innovation, and dissemination (*5*) to serve the purpose of advancing knowledge. Although this has likely been impactful for scientific innovation at large, it also means that the "community" is generated as a byproduct of scientific discourse, which continues to be driven by established networks or individuals. Members of these communities thus must explicitly identify with or participate in the value system promoted by these organizations to effectively "belong" the community itself. Thus, the survey responses we received that focus on scientific discourse and dissemination appear to be a true reflection of these organization's explicit goals and priorities.

The observed social patterns extend well-beyond the values we communicate. Specifically, our survey data also demonstrates that historical communities of scientific practice continue to impact leadership and control in scientific organizations. As part of our survey, we also asked STEM professionals about their additional engagement with these societies, e.g., as volunteers during meetings or as appointed leaders of the meeting or journal. Unsurprisingly, executive roles were held exclusively by white members and white male members were the only demographic group that gained more than one leadership opportunity by the end of their career (Figure 1B, dashed blue line). White men have more social mobility, and a larger role in setting cultural norms at their society, than do white women or people of color. Additionally, any role beyond attendee was more likely to be held by individuals who are white and/or employed at a doctoral-granting university (executive roles: 100% white, 67.8% DGU; appointed roles: 82.5% white, 60.6% DGU; volunteer roles: 69.8% white, 66% DGU). Our data skew towards women being overrepresented in all roles, however this skew was consistent with skew in the respondent population: ~2/3 of respondents identified as women. Taken together, our data paint a picture of few, powerful, white individuals upholding an a relatively insular community of practice rooted in white, high-ranking universities in their professional societies.

Defining the "community of care"

Complementary to a community of practice, a "community of care" focuses on the human dimensions of doing science alongside its practice. We draw inspiration and tools from feminist approaches to care, mutual aid, and indigenous communities of practice (*4*, *6*, *7*). In our work, care is defined as an explicit focus on people, their social and emotional needs, their sense of self and belonging, and their connections to others. Care is executed on the individual level but is codified in a community that trusts one another to provide mentorship and support. Essential to this work is centering social and emotional support, continued learning about the social constructs under which we practice science, and sharing lived experiences.

Scientific conferences will always provide a space for science dissemination, and thus primary importance should be placed on scaffolding spaces or times in which social and emotional conversations and learning opportunities are similarly accessible for all participants. We also must work towards diversifying the representation of all perspectives in leadership roles and provide leaders with training and support so that the cultural of care is institutionalized.

A future where communities of care are the dominant cultural value in professional STEM societies must be one that is post-capitalist and post-colonialist. Capitalism and colonialism have

only existed for decades, not millennia, yet we uphold them as core to our existence as a society. Professional societies are uniquely not beholden to capitalist and colonialist institutional structures because of their existence outside of any brick-and-mortar institution. Conferences and journals can take any form, be instituted by any process, and most importantly, involve any people with an interest and passion for the society's topical focus. When people are not supported by their home institutions, professional societies must be leaders in imagining a future of inclusion, not oppression.

Constructing a "community of care"

Overwriting communities of practice to build communities of care is not only infeasible, but exclusionary to those who have some of their needs already served by their professional societies. Thus, we must begin a pathway of constructive resilience (*8, 9*), building a new society that doesn't share all its values with the society its leaders operate within. We must consider the ability of existing communities of practice to generate ideas that dismantle the systems that put their leaders into power: do executive committees and editorial boards have sufficient external accountability to make these changes? Through these challenges we must consider some social theories that drive decision-making and community building and be proactive in addressing their applications during leadership training.

Rotter's Locus of Control Theory is a social learning theory used to explain and understand behavior and motivation (*10*). Under this social theory, people have a stronger motivation to achieve when they perceive that their outcomes are internally rather than externally directed by the actions of others. Redistributing power in the cultivation of cultural norms is necessary for individuals to feel ownership of the outcomes (*11, 12*). Thus, to center a community of care alongside a community of practice in scientific societies and their external faces, we must reallocate control and power by adopting listening sessions and collaborative workshops.

Cultural change is often difficult to implement because it directly challenges the standards and structures put in place by the majority group, who perceive the status quo as a positive experience. If framed improperly, implementing new standards and structures can paint the old system as negative, thereby activating social identity threat in majority groups and alienating them in the ongoing sociocultural change progress. For example, the use of "DEI initiatives" language framing has thus far alienated individuals with existing high social capital that do not see this as their space or their problem. Reframing this approach as "community building" or as "membership initiatives" opens cognitive space for individuals to consider their place in this type of learning (*13*).

The construction of our community of care must be iterative and have pathways to entry and feedback. We must continuously ask ourselves how prevailing social norms are shaping the way we imagine our futures, and whether leadership and membership have the tools and resources to envision a radically new community. Together, we can move past the struggles of working within a system that is rooted in colonialism, which can never produce a future that is centered on peoples' needs and social opportunity (*9*).

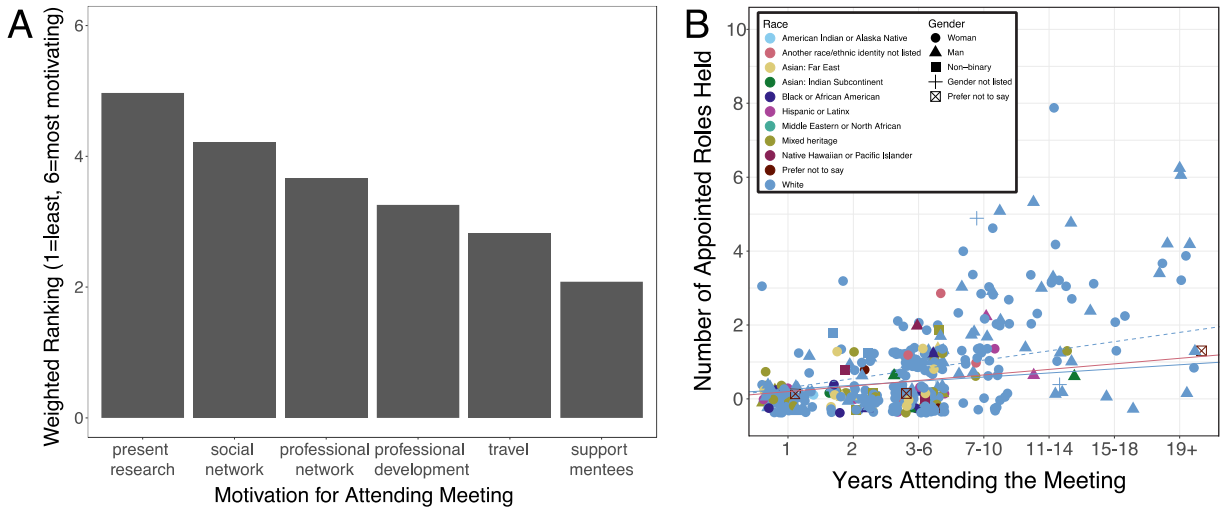

Figure 1. (A) Individuals across all career stages and demographics indicate that presenting research is the primary reason they attended a meeting, whereas supporting mentees ranked the lowest. (B) Non-volunteer roles held by society members increase by one role, on average, for a career-long meeting attendance for white women (blue solid line) and people of color (red solid line) but by two roles for white men (blue dashed line).

References

1. M. Ebner, W. Reinhardt, “Social networking in scientific conferences–Twitter as tool for strengthen a scientific community” (2009)vol. 2, pp. 1–8.

2. G. R. Lopes, M. M. Moro, L. K. Wives, J. P. M. De Oliveira, “Collaboration recommendation on academic social networks” (Springer, 2010), pp. 190–199.

3. E. Wenger, Communities of practice and social learning systems. *Organization* **7**, 225–246 (2000).

4. B. Fisher, J. Tronto, E. K. Abel, M. Nelson, Toward a feminist theory of caring. *Circles of care*, 29–42 (1990).

5. R. L. Tanner, N. Grover, M. L. Anderson, K. C. Crocker, S. Dutta, A. M. Horner, L. E. Hough, T. Y. Moore, G. L. Rosen, K. S Whitney, Examining cultural structures and functions in biology. *Integrative and Comparative Biology* **61**, 2282–2293 (2021).

6. D. Spade, *Mutual Aid: Building Solidarity during This Crisis (and the Next)* (Verso Books, 2020).

7. S. Johnson, Making space for community-based practice experience and spirit in the academy: Journeying towards the making of an Indigenous academic. *First peoples child & family review* **8**, 82–90 (2013).

8. M. R. Kazemzadeh, *Exploring Constructive Resilience: A Qualitative Investigation of the Bahá’i Response to Oppression* (University of Massachusetts Boston, 2019).

9. J. Lear, *Radical Hope: Ethics in the Face of Cultural Devastation* (Harvard University Press, 2006).

10. J. B. Rotter, Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied* **80**, 1–28 (1966).

11. P. Plastrik, M. Taylor, J. Cleveland, *Connecting to Change the World: Harnessing the Power of Networks for Social Impact* (Island Press, 2014).

12. D. W. Anderson, S. J. Melanson, J. Maly, The Evolution of Corporate Governance: power redistribution brings boards to life. *Corporate Governance: An International Review* **15**, 780–797 (2007).

13. A. Roy, The grammar and rhetoric of inclusion. *College English* **57**, 182–195 (1995).