

AAG Catalyzing Research on Geographies of Broadening Participation

Briefing Paper

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Introduction – My “Standpoint”

I am Latina geographer from Los Angeles. Like many first generation college students, I began my educational career in a community college, and have since experienced multiple levels of higher education from under grad (UCLA) and grad student (UC Berkeley), to post-doc (UC Santa Barbara), to adjunct faculty member and administrator (UC Santa Barbara). Along the way, I have participated in myriad programs for women and/or people of color.

I currently hold a dual position at UC Santa Barbara. Primarily, I train and mentor faculty in their research and grant writing careers, catalyze inter- and multi-disciplinary research proposals among UCSB and UC-wide researchers, and serve as a liaison between UCSB and funding agencies. As such, I teach a graduate level course on grant writing for the social sciences, humanities, and fine arts, and run grant writing workshops specifically for underrepresented students and faculty, as well as diversity topics more generally, thus mentoring many students and faculty of color on my campus. UCSB is an “emerging Hispanic Serving Institution (HSI),” with almost 25% undergraduate Latino/a enrollment. I am part of a campus committee that is beginning to develop campus programs to expand and meet the needs of our diverse student body, develop faculty capacity to serve as role models and mentors and create appropriate research and educational opportunities for first generation and underrepresented students. I also collaborate in the writing of campus proposals that seek funding for student outreach programs that target low income, underrepresented, and first generation students in our surrounding communities.

I am also a Project Scientist at UCSB, with an ongoing research program on the political ecology of marine resources, with a focus on gender, race dynamics, and science studies in post-colonial societies. This theoretical foundation has shaped my emerging research agenda on the impacts of diversity on the production, processes, and outcomes of scientific teamwork, and the careers of individuals who do and do not engage in collaborative team-based scientific research. By participating in this AAG program, I hope to share and integrate interdisciplinary theories, conceptual tools, and strategies to analyze and increase diversity in geography, higher education, and scientific research settings.

Spatial-Intersectionality Approaches to Team Science Participation and Geographic Career Mobility in Higher Education

A vast body of literature describes the multiple and interconnected challenges for women and other underrepresented faculty in academia and other research institutions (Padilla 1994, Turner 2002, King 2006, NAS et al. 2007, Philipsen 2008, Touchton 2008, NAS 2010). A series of

interventions and programs have been developed by multiple stakeholders, and a set of best practices has emerged for attracting and retaining women in the professoriate (White 2005, Chesler et al. 2010), but fewer programs have been developed that focus on people of color and other diverse people. The majority of these programs focus on a) work-life balance interventions such as child and elder care subsidies (Drago et al. 2006, Gerten 2011), b) the enhancement of mentoring systems (Gibson 2006, Stout et al. 2011), and c) transforming institutional climate and resources (Ceci and Williams 2011). Within this milieu, I am interested in pursuing two interrelated research programs that demand the integration of three areas of scholarship: the gender and diversity gap in academia; spatial and network analysis; and theories of organizational behavior and structure.

First, I am interested in the emerging field of **Science of Team Science**, which seeks to understand the workings and outcomes of scientific teams (Stokols et al. 2008, Falk-Krzesinski, et al. 2011). It is clear that interdisciplinarity and collaboration are becoming central to the production of science (Elfner et al. 2011). Several studies also indicate that team scientists are more productive in terms of publications (Woodruff and Amaral forthcoming). Many studies on Science of Team Science measure team “readiness” with psychometric methods, attempting to understand the characteristics of more or less active and productive team scientists and programs (Fiore 2008). A key focus in the Science of Team Science literature is translating empirical findings into evidence-based practical guidelines for Team Science praxis; i.e. how to improve scientific teams and participation in them (Falk-Krzesinski, et al. 2010). Why is this important for broadening participation in academia? If science and academia are already homogenous, and if research productivity is key to academic success, does the turn toward Team Science further alienate, marginalize, and exclude diverse scientists and faculty members, and reproduce existing gendered and racialized patterns in universities? Or does Team Science make new spaces for diversity in academia?

Thus far, few studies have questioned how gender fits into Team Science (Joshi 2010, Kyvik and Teigen 1996), and no one has investigated how broader forms of diversity and intersectionality are implicated. Bear and Woolley (2011) for instance, in reviewing the existing literature on the effects of gender diversity on team processes and performance (largely in the business/organizational behavior field) found that team collaboration is greatly improved by the presence of women in groups. Rice (2011) argues that gender equity in scientific teams increases scientific creativity, the quality of research questions, and the success of scientific organizations more generally. While these studies argue that Team Science would be improved by the presence of more women on scientific teams, this research does not question why and how scientific teams are homogenous in the first place (apart from the overall absence of diverse people involved in academic science careers), and/or why gender and other forms of differentiation shape Team Science dynamics and participation. Related, how is the production of Team Science shaped by social differentiation within overarching histories and systems of patriarchy, capitalism whiteness, etc?

The project I envision will make contributions to the field of Science of Team Science by examining overlapping social and cultural differences and identities among scientists that

mediate their interactions and efficacy in team science scenarios. I am interested in developing a mixed-methods research project that uses spatial and social network analysis to understand where Team Science takes place, who participates and does not participate, and how diversity and demographic differences shape team “readiness” and “participation”. I anticipate finding that a focus on place, gender, race, class, and intersectionality will reveal different patterns of Team “readiness” and “participation” than those described in the existing literature, and contribute new theories and policy recommendations for how Team Science is formed and performed.

A second interrelated research agenda that I am interested in pursuing is **geographic mobility limitations when making academic career decisions**. It is assumed that women in professional work have more limited mobility than men related to gender roles and mate selection patterns, with negative consequences for advancement and success in their careers (Bielby and Bielby 1992, Brett et al. 1993). Based on my own experiences as a Latina who tried, but ultimately chose not, to leave my familial and cultural roots in California for a job (prior to my becoming a spouse or mother), I am interested in exploring how social-cultural roles, identities, sense of place, and considerations (beyond and intersecting with those related to gender) shape decisions to relocate for academic positions. Considering the few positions available each year for tenure-track academic positions, and increasingly fewer for leadership positions in universities, it is difficult to pursue an academic career or climb the academic leadership ladder, based on geographic location priorities. While there is a rich literature on the implications of geographic mobility on professional careers (Eby et al. 2000, Baldrige et al. 2006), less is known about how professionals *specifically in academia* make decisions about relocation, and how these decisions shape diverse participation (or the lack of it) in academia.

Studies in the organizational literature indicate that aside from gender issues, and nuclear family considerations (marital status, children), *community ties and cultural similarity* also play an important role in relocation decisions (Landau 1992, Wagner and Westaby 2009). The importance of all factors related to mobility decisions shift over time and career/family stage (Hill and Milewski 2007). However, the notions of cultural ties in these studies are ill-defined (such as “relatives and friends living in the same area” or “desirability of location”) and the authors do not analyze how the importance of these ties is predicated on intersectional identities, experiences, and relationships beyond gender alone. Why is this important for broadening participation in academia? It is clear that the barriers to broad participation in science include perceptions of being an outsider in majority white and male universities and disciplines, along with a lack of role models, mentors, and colleagues in the profession. How are these barriers also reflected in relocation decisions? I hypothesize that the lack of diversity and/or cultural familiarity in communities surrounding universities may also impact the ability of STEM disciplines to attract diverse participants. For this project, I am interested in developing a methodology that uses spatial analysis to understand the current spatial relocation patterns among Geographers, and social network analysis and interviews to determine what factors shape relocation (and thus career advancement) decisions and how they are informed by socio-cultural, demographic, economic, and intersectional differentiation.

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