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How can we broaden participation in the geosciences?

Broadening participation in the geosciences is both an issue of equity and practicality. Current job projections indicate that more than 90% of all STEM jobs will require at least some college within the next decade (Carnevale et al., 2010). By 2050, the current underrepresented population (Hispanic, African-American, Asian and mix of 2 or more races) will comprise nearly half of the population (Day, 1996), as a result, the current majority White population will no longer be the dominant contributors to the job market. If Science, Technology, Engineering and Mathematics (STEM) jobs currently held by the majority are not replaced and filled by individuals in the growing minority groups, the nation faces a possible crisis. In addition, those who obtain a college degree are more likely to be flexible as the job market shifts and changes with technological advances (Carnevale et al., 2010). Supporting students in the general education science classes to be successful becomes a critical step toward obtaining a college degree, particularly those who move into STEM fields.

Geology is a discipline that many students first discover in introductory geology classes at college (Houlton, 2010). Most students do not enroll with the intent of majoring in geology (Gilbert et al., 2012). In addition, geology is among the least diverse of the STEM disciplines. However, community college introductory geology classes are much more diverse due to the nature of their student populations (Gilbert et al., 2012). If we want to better understand how students, particularly underrepresented minorities (URMs), intend to persist in the geosciences, it makes sense to focus on the community college population. Targeting persistence can assure student success regardless of their future career goals.

In order to better assess how we can target this persistence, I am using data from the Geoscience Affective Research NETwork (GARNET) project. The GARNET project

is an NSF-funded multi-institutional collaborative grant examining what motivates
students to self-regulate their learning in introductory geology classes based on individual
factors of motivation as well as classroom environments (McConnell et al., 2009). For
my dissertation, I am currently looking at factors of motivation and interest among others
as possible predictors for a student's intent to persist in the geosciences, particularly for
community college students. Ultimately, I hope to be able to make initial
recommendations about how we can support student persistence in the geosciences at the
community college.

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