

Title: Team Diversity and the Quality of Scientific Publications

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Abstract:

As the size and scope of scientific inquiry increased during the second half of the twentieth century, the development of scientific knowledge became dependent on the collaborative work of highly specialized research teams. There is a large body of literature assessing the research productivity of individuals, institutions or nations based on the number of peer-reviewed publications produced and/or the number citations received by those publications (Adkins & Budd, 2006). However, there has been surprisingly little research on author teams in general, and the interaction between team characteristics and publication patterns in particular. With multi-authored publications becoming a dominant form of scientific communication (Wuchty, Jones, & Uzzi, 2007), examining the characteristics of author teams can advance our understanding of the structure of scientific publication success and quality. This work-in-progress poster presents preliminary findings of a study which examines the relationship between team demographic diversity and article quality.

The data analyzed by the study consist of author demographics of, and citations received by, all articles published in the journal *Physical Review Letters* from 2004 to 2006 by researchers using the National High Magnetic Field Laboratory. This includes 123 articles authored by 476 scientists. The study uses regression analysis to investigate the impact of team association diversity and seniority diversity measures on the number of citations. Preliminary results of the analysis indicate a negative interaction between author team association diversity and publication quality. The relationship between team seniority diversity and publication quality was positive, but not statistically significant.

Adkins, D. & Budd, J. (2006) Scholarly productivity of U.S. LIS faculty, *Library and Information Science Research* 28(3), 374–389.

Wuchty, S., Jones, B. F., & Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science*, 316(5827), 1036-1039. doi:10.1126/science.1136099