

Does Information Affect Homophily?

Based on BFI Working Paper 2022-72, “Does Information Affect Homophily?,” by Yana Gallen, UChicago’s Harris School of Public Policy; and Melanie Wasserman, University of California, Los Angeles

In their search for mentors, female students use gender as a guide when they have no information about mentor quality; however, when mentor information is available, female students do not have a gender preference.

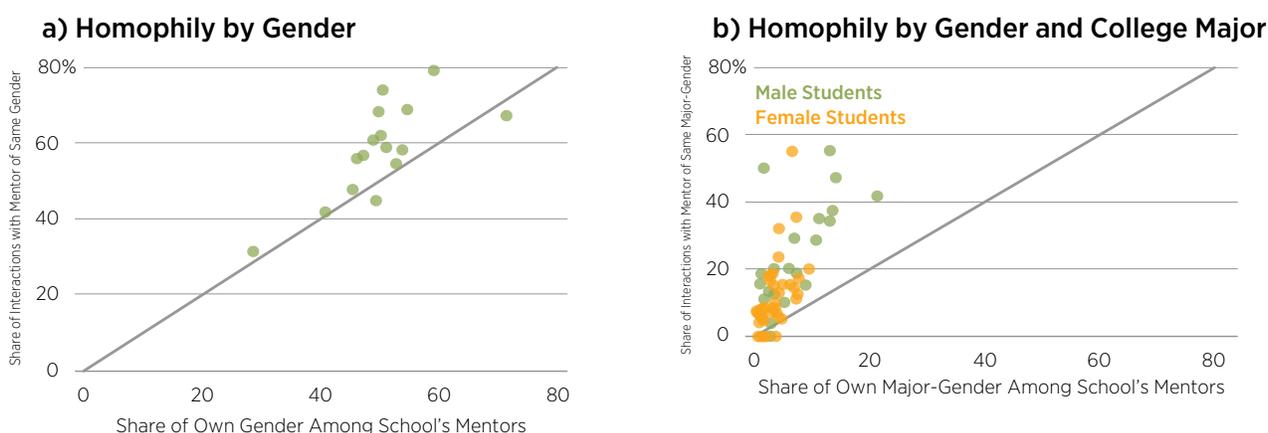
Economists have long explored the social phenomenon known as homophily, or the tendency to associate with those who share similar traits, even if such an inclination is costly. Like attracts like, it seems, but is that always the case? Gary Becker’s seminal 1957 book, *The Economics of Discrimination*, laid the groundwork for thinking about this phenomenon by developing theories of taste-based discrimination. However, even after decades of research, important questions remain.

This paper studies whether homophily by gender is driven by preferences for shared traits within the context of mentorship, a setting where—unlike hiring or lending or renting—explicitly using race, gender,

and nationality to determine matches is common, encouraged, and even considered best practice. Among the top 50 US News college/universities, all but two host a mentorship program designed specifically for women in STEM fields, and 80% of the programs match students with a same-gender mentor. Do mentees value same-gender mentors? Or does demand for same-gender mentors arise from a lack of information on mentor quality?

Using novel administrative data from an online college students/alumni mentoring platform serving eight colleges and universities, the authors find the following:

Figure 1 • Homophily on an Online Mentoring Platform



Notes: Panel A characterizes homophily by gender by plotting the fraction of interactions that occur among same-gender members, against the availability of same-gender members on the platform. Specifically, each dot represents the fraction of messages sent by female (male) students that are sent to female (male) alumni, on the y-axis, plotted against the fraction of alumni from that university who are female (male), on the x-axis, for each of the eight universities/colleges in the sample. The solid 45-degree line depicts the composition of student-alumni interactions that we would expect if students messaged alumni at random on the platform.

Panel B further divides the students and alumni by their college major and plots whether students tend to contact alumni of their same gender and major more than they would due to chance. The solid circles plot the fraction of male students in a given major who sent messages sent to alumni with the same gender and major against the fraction of alumni who are the same gender-major. The hollow diamonds plot the analogous data for female students. We again observe a strongly positive relationship and substantial deviation from the 45-degree line.

- Female students are 36 percent more likely to reach out to female mentors relative to male students, conditional on various observable characteristics including student major, alumni major, and alumni occupation.
- This propensity to reach out to female mentors may come at a cost: female mentors are 12 percent less likely than male mentors to respond to messages sent by female students.

These findings are consistent with taste-based discrimination, that is, female students incurring a cost to access a female mentor. But what if researchers cannot control for all mentor attributes used in students' decisions? Students, for example, could use information outside of the mentoring platform to decide whom to contact, leading to omitted variable bias. To address this, the authors designed a survey that incentivizes truthful responses, and they find the following:

- Female students strongly prefer female mentors, while male students exhibit a weak preference for male mentors.
- Further, using the trade-offs students make between mentor gender and other mentor attributes, the authors estimate that female students are willing to give up access to a mentor with their preferred occupation to match with a mentor of the same gender.

The authors then investigate whether female students' preference for female mentors reflects taste-based discrimination, which could arise from female students' affinity for interacting with women, or from valuing an attribute that only female mentors possess, to find:

- Female students are only willing to pay for female mentors when there is no information on mentor quality.
- In the basic profile condition, female students are willing to trade off a mentor with their preferred occupation to access a female mentor. In the ratings condition, the authors find that this willingness to pay declines to zero. In other words, when information on mentor quality is available, female students are unwilling to trade off any dimension of mentor quality to access a female mentor.
- The authors also find no evidence that female students' preferences for mentor quality differ from that of male students. All students—male and female—value the attributes described in the ratings, particularly a mentor's knowledge of job opportunities.
- Finally, the authors' survey reveals that female students believe that female mentors are more friendly/approachable than male mentors, which, among other explanations, may describe female students' preference for female mentors. Regardless, this work reveals that gender is valued for its information content and direct provision of that information would reduce students' valuations of mentor gender.

This work has several important implications, including regarding employee recruitment initiatives, service-provider matching, and doctor-patient matching that commonly use shared traits as a coarse proxy for match quality. These efforts may be well-intentioned, but they could also lead to efficiency losses relative to those that incorporate information on valued traits into the matching process.

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