Occupational Gender Segregation and Psychological Differences

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In the United States there are more men than women in some occupational areas (e.g., construction) and vice versa in others (e.g., healthcare). This occupational gender segregation (OGS) is a concern because, depending on the reasons for OGS, it may be that people with interests and skills aligned with some occupations are being directed away from these occupations because of their gender.

The current study examined the relationship between OGS and two personality constructs, empathizing and systemizing. The personality measures, the Empathy Quotient (EQ) and Systemizing Quotient (SQ), were developed by Baron-Cohen and colleagues to tap constructs that they believe are intrinsic to gender differences. Empathizing is described as “spontaneously and naturally tuning into the other person's thoughts and feelings” and systemizing as “the drive to understand a system and to build one.” Wright and Skagerberg found that the tendency is for women to score higher than men on the EQ and for men to score higher than women on the SQ, but there is much overlap between the distributions of these two genders (see figure 1).

For the study, Qualtrics (qualtrics.com) administered an online survey to several thousand respondents. Respondents were given the Empathy Quotient and the Systemizing Quotient and asked about their occupation.

The original paper is available upon request.

Figure 1. Left: Distributions of the Empathy Quotient (EQ); right: distributions of the Systemizing Quotient (SQ). Figure from Wright and Skagerberg with permission.
Figure 2 shows the basic mediation model. Starting at the bottom, c shows the association between gender and occupational type. The goal of this research was to show how much of the OGS could be accounted for by the psychological measures of EQ and SQ. To do this, the top model is evaluated where Gender is allowed to influence both the psychological constructs and occupation, and the psychological constructs are also allowed to influence occupation. The ab effect shows how much of the OGS is mediated by these psychological constructs.

The mediate function of Tingley et al.'s mediation package was used to estimate the proportion of OGS mediated by the EQ and the SQ. We found that part of the OGS was partially mediated by the SQ for three male-dominated occupational areas (but not for others): management; professional, scientific, or technical services; and construction.

In summary, some of the gender imbalance in some male-dominated fields is accounted for by the personality construct of systemizing. The desire and ability to understand different phenomena as systems (i.e., systemizing) may be more helpful in some occupations than in others. However, across all occupational areas, EQ and SQ accounted for only a small proportion of OGS.

It is likely that other personality constructs and cognitive measures could also account for some of the OGS, and these should be explored further to increase our understanding of what influences occupational decisions. People should be encouraged to pursue different occupations based on personality and cognitive measures, not on traditional stereotypes.

Notes