Are Women Really More Risk-Averse than Men?

By Julie A. Nelson, Professor and Department Chair

Are women more risk averse than men? A number of studies in economics and finance have recently claimed that this is the case. Using lottery or gambling experiments, or examining investment behavior, such studies often find statistically significant differences between average male and average female behavior. Some believe that these differences reflect innate sex-based traits.

If men and women were indeed fundamentally different in their attitudes towards risk, then it might make sense to, for example, prefer men for jobs requiring a high level of risk-taking. But if this belief is not true, then allowing sex-stereotypes to shape decisions is more likely to result in inequitable treatment and inefficient outcomes.

To investigate the validly of the claim that “women are more risk averse than men,” I recently completed a statistical review of a large number of existing studies in the economics literature on gender and risk-aversion. Mayara Fontes, one of our second-year Applied Economics MA students, assisted with this meta-analysis.

What we found was that the evidence for “difference” is much weaker than has been portrayed.

For one thing, the substantive size of the differences found were actually rather small. To understand this, consider Figure 1. “Cohen’s d” is a measure of “effect size” that expresses the difference between the means of two different distributions, while also taking account of the fact that there may be considerable variation among the individuals within each group. On the left is a stylized representation of the distributions of male (dark line) and female (dashed line) physical heights. Most men, for example, have heights near the male average (the center of the distribution), while the frequency falls as one looks to the right—that is, at much taller heights—or the left. As you can see, while it’s fairly rare for a
woman to be taller than the average man, the distributions also overlap, meaning that there are tall women and short men who measure the same. \textit{Cohen’s d} is calculated as the difference between the means divided by the standard deviation and, for heights, comes out to be a +2.6.

![Figure 1](image)

\textbf{FIGURE 1}

\begin{itemize}
  \item[a)] Cohen’s d = +2.6
  \item[b)] Cohen’s d = +.35
\end{itemize}

But what if the means were much closer together? When \textit{Cohen’s d} is equal to, for example, +.35, the male and female distributions are considerably more overlapping, as illustrated on the right. In such a case, while the averages are not quite the same, the overall distributions for men and women are clearly more similar than different!

The \textit{Cohen’s d} results from a few studies of risk aversion, representative of the full range of values we found in the 35 studies we examined, are shown in Table 1. Many studies either showed women taking more risks than men (a negative sign) or a lack of statistical generalizability of the results to a larger population (“NSS”). While others showed men on average taking more risks, no study shows anything like degree of difference found for physical height. An average of the most precise estimates of \textit{Cohen’s d} from this literature yields a value of +.13. This is hardly a large substantive result! Hence, men and women seem to be more similar than different in the area of risk-aversion.

\begin{table}[h]
\caption{TABLE 1}
\end{table}
A second reason to be skeptical about the claim that “women are more risk averse than men” is that psychological research suggests that the effect of stereotyped gender beliefs seems to be at least as strong a factor as physical sex, in influencing risk-aversion. Researchers have made subtle changes in the experimental set up—for example, describing a risk-taking exercise as a math problem, on which women are stereotyped to do worse, versus describing it as a puzzle. The on-average differences created among women (or among men) by such manipulations are often greater than the on-average differences between women and men shown in Table 1.

A third reason to be skeptical about the claim is that the reporting of the results tends to be biased. We found several cases of authors exaggerating their results in the stereotypically-expected direction, as well as evidence of underreporting of inconclusive or stereotype-defying results.
So, are women really more risk averse than men? A re-examination of the evidence suggests that, at most, there might be a *small* difference between men and women's *averages*, when considered as groups. **And clearly, at the level of predicting the behavior of individual men and women, a prejudice about who will take risks is unwarranted!**

For more information, see:

“*Are Women Really More Risk-Averse than Men? A Re-Analysis of the Literature Using Expanded Methods*” published online in the *Journal of Economic Surveys* in May 2014. (Revision and update of parts of *INET Research Note #12*).