

MODEL NUMBER 5
OF A
“PUBLIC AWARENESS ANALYZED EXAMPLE”

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WHERE: This is on p. 253 of *Surveys in Social Research* by D.A. De Vaus, published by Routledge, 2002. It can also be found online at

<http://books.google.com/books?id=1IRDJEtBg48C&pg=PA253> .

WHAT: Here is a nice graphic in a book of social science research techniques.

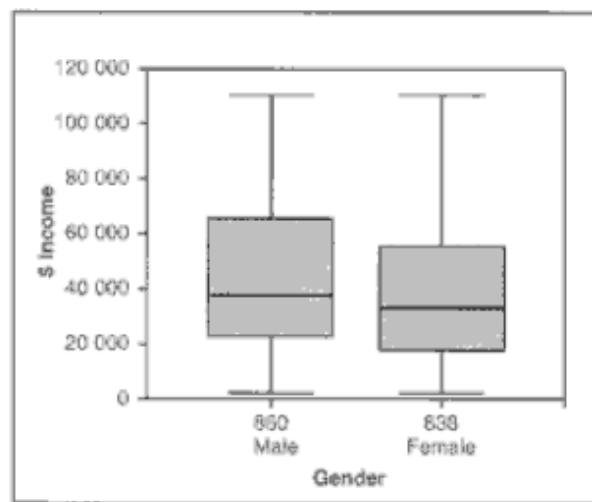


Figure 14.7 Boxplot of annual income by gender

ANALYSIS: In this data, the **observational units** were individuals in a **population** which is specified elsewhere in the text. A **sample** was chosen by an unspecified methodology. The **sample size** was apparently 1698. **Variables** were these individuals' *gender* (**binary/categorical**) and *annual income* (quantitative). The **min**, **max**, **median**, **Q1**, and **Q3** were computed separately for the two groups based on their genders, and side-by-side **boxplots** were drawn.

CRITICISM: There is essentially nothing to fault in this data display. Axes are clearly labeled. Putting the size of the two gender groups in the sample directly under the corresponding boxplot makes it very easy to decide immediately if separate sub-samples are of reasonable size to compare and to draw broad generalizations.

Fundamentally, this graphic is an enormous improvement over the likely alternative, which would probably say something like “men typically make about \$39,000/year, which women make \$35,000/year.” This might be the correct comparison, from this sample data at least, of the medians of the separate gender groups, but comparing the boxplots show so much more. For example, it can be seen that: the maxima and minima of the two genders are very similar; there is somewhat less variability in the women's incomes (the IQR is smaller); Q3 for women's income is around \$12,000/year less than the Q3 for men – so three quarters of women make less, by this amount, than the upper quarter of men; *etc.*