

Letter to the Editor

Dear Editor,



I would like to call your attention to a small misconception regarding spie charts, as described by Howard Wainer in his Visual Revelations column in the September 2010 issue [Vol. 23, No. 4] of *CHANCE*.

A spie chart is composed of a rose superimposed on a regular pie chart. In the example of Figure 4 in the column, the base pie chart describes the general population of Israel in

2002, divided into sex and age groups. The angle of each slice is proportional to the size of the corresponding segment in the population (e.g., males aged 15 to 19).

These same angles are retained for the superimposed rose, which portrays Israel's road casualties for that year, divided into the same sex and age groups. But the radii of the superimposed slices are not directly proportional to the square root of the number of casualties in each group, as suggested by Wainer. Instead, they are proportional to the square root of the ratio of the number of casualties to the general population in the segment.

As a result, the areas of the superimposed slices do, in fact, correspond to the data, as they should. And comparing the radius of each slice to the circle bounding the base pie chart shows whether each segment of the population is over- or under-represented among road casualties. Thus, the spie chart shows both the absolute number in each category (slice size) and the hazard (relative radius), as opposed to the line chart of Figure 5, which shows only the hazard.

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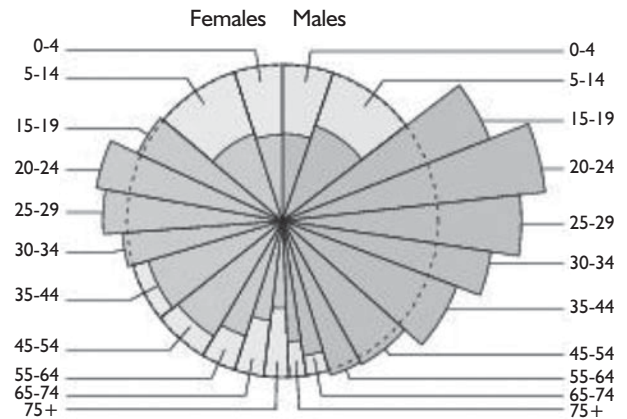


Figure 4. Distribution of road accident casualties by age and sex, relative to the size of the population

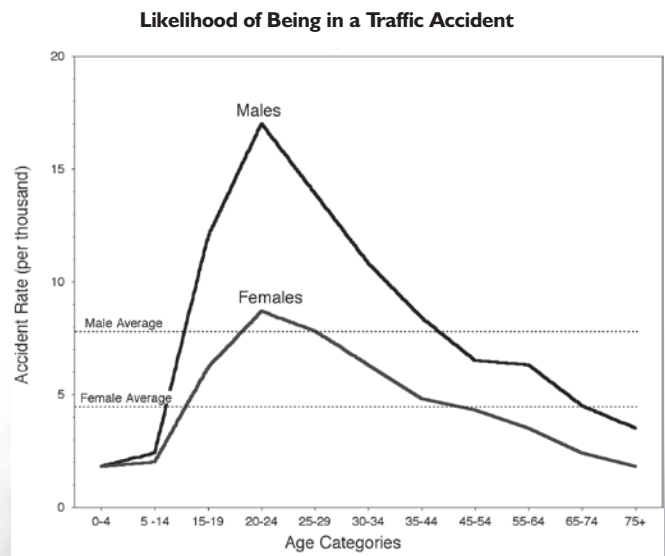


Figure 5. Line chart of Israel accident data

Data Source: Israel Bureau of Statistics, 2002