

WHAT CAN GO WRONG?

- **Don't label a variable as categorical or quantitative without thinking about the data and what they represent.** The same variable can sometimes take on different roles.
- **Don't assume that a variable is quantitative just because its values are numbers.** Categories are often given numerical labels. Don't let that fool you into thinking they have quantitative meaning. Look at the context.
- **Always be skeptical.** One reason to analyze data is to discover the truth. Even when you are told a context for the data, it may turn out that the truth is a bit (or even a lot) different. The context colors our interpretation of the data, so those who want to influence what you think may slant the context. A survey that seems to be about all students may in fact report just the opinions of those who visited a fan website. The question that respondents answered may be posed in a way that influences responses.

ETHICS IN ACTION

Sarah Potterman, a doctoral student in educational psychology, is researching the effectiveness of various interventions recommended to help children with learning disabilities improve their reading skills. One particularly intriguing approach is an interactive software system that uses analogy-based phonics.

Sarah contacted the company that developed this software, RSPT Inc., to obtain the system free of charge for use in her research. RSPT Inc. expressed interest in having her compare its product with other intervention strategies and was quite confident that its approach would be the most effective. Not only did the company provide Sarah with free software, but RSPT Inc. also generously offered to fund her research with a grant to cover her data collection and analysis costs.

- **Identify the ethical dilemma in this scenario.**
- **What are the undesirable consequences?**
- **Propose an ethical solution that considers the welfare of all stakeholders.**

Jim Hopley is operations manager for a local office of a top-ranked full-service brokerage firm. With increasing competition from both discount and online brokers, Jim's firm has redirected attention to attaining exceptional customer service through its client-facing staff, namely brokers. In particular, management wished to emphasize the excellent advisory services provided by its brokers.

Results from surveying clients about the advice received from brokers at the local office revealed that 20% rated it

poor, 5% rated it *below average*, 15% rated it *average*, 10% rated it *above average*, and 50% rated it *outstanding*. With corporate approval, Jim and his management team instituted several changes in an effort to provide the best possible advisory services at the local office. Their goal was to increase the percentage of clients who viewed their advisory services as *outstanding*.

Surveys conducted after the changes were implemented showed the following results: 5% *poor*, 5% *below average*, 20% *average*, 40% *above average*, and 30% *outstanding*. In discussing these results, the management team expressed concern that the percentage of clients who considered their advisory services *outstanding* fell from 50% to 30%.

One member of the team suggested an alternative way of summarizing the data. By coding the categories on a scale from 1 = *poor* to 5 = *outstanding* and computing the average, they found that the average rating increased from 3.65 to 3.85 as a result of the changes implemented. Jim was delighted to see that their changes were successful in improving the level of advisory services offered at the local office. In his report to corporate, he only included average ratings for the client surveys.

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