Cross-sectional research, self-reporting, and causation.

From time to time strong methodological arguments emerge in research with the assumption that there is 'one best way' or that one way is right.

Examples of this include the assumption that qualitative research does not make use of numerical data. This is incorrect and when Grounded Theory was developed (from constant case comparison) it was noted that the method could be applied equally to numerical data. The key principle of qualitative research is actually the absence of hypothesis testing and the disregard for causal relationships based on statistical probability testing.

One of the big recent arguments was the causality cannot be inferred from cross-sectional studies and that there was equally a problem with self-reporting, which is a key component of cross-sectional studies. This has been refuted by Spector (2006). (See paper in folder).

Similarly, there is the misconception that longitudinal studies are the means to test for causation. This is incorrect. Testing for causation using longitudinal studies is fraught with difficulty and relies on complex methods such as interrupted time series. Furthermore, the purpose of a longitudinal study is to study the changes in a cohort over time, not to determine causation.

Studies of causation typically rely on methods such as experimental designs, quasi-experimental designs, interrupted time series, process tracing, and particular methods of inference. Indeed, the true basis of a causal study is the inferential method, not the data collection and analysis.

The point being made here is that there is no 'absolute' way to conduct research. There are appropriate and proper methods that fit with the research paradigm, the research question, the problem being addressed, and so on. As such there are strong guidelines, structures, frameworks, boundaries, processes, protocols and so on and a small number of robust principles and 'rules' which we can follow.

It is different when we come to statistics. Statistics in research are mathematical methods for testing the probability of relationships between variables. There are fairly well set methods used depending on the nature of the relationship being tested. Even these rules are not absolute, but they are well established - because they work.

To conclude, when conducting research we aim to match, first and foremost, the method to the question or problem we are addressing and how we need to present our conclusions. Our inferences – how we interpret the data – will be influenced by the research paradigm, which may also affect the methods we use. However, we need to be open to the understanding that there are no absolutes (unless you are a committed positivist).