

Can We Trust Self-Reports?

Author: Jun Suzuki, Research Into Action, Inc., Portland, OR
Co-Author: Sarah Castor, Energy Trust of Oregon, Portland, OR

Introduction

Decision makers of energy efficiency program design, implementation, and policy heavily rely on self-reported data collected through surveys. We carefully structure sampling to make sure each sample represents the study population, and collect large enough samples to minimize error bounds and chance of drawing incorrect conclusions. But, what if, even under the perfect execution of a sampling plan, accuracy of self-report responses is the same or worse than a coin toss for apparently basic questions about recent behaviors related to energy use? Using the findings from 2009 and 2010 Energy Trust of Oregon's Annual Statewide Household Energy Awareness Studies; this poster will present two examples indicating significant measurement errors and the strategies for mitigating the effect of these errors. This poster will illustrate the importance of question phrasing and the need for thoughtful interpretation of self-reports.

Example 1: Measuring CFL Market Penetration

The authors have investigated the market penetration of CFLs. In the first year, 57% of the respondents said "yes" to the question "Do you have any compact fluorescent lamps, also known as CFLs, in your home?" For those who said "no", we asked a follow up question "Do you have any of the twisty or swirly types of the bulbs in your home?", and more than half said "yes". As a result, we found that 80% of the respondents actually have CFLs at home. We would have significantly underestimated CFL market penetration in the absence of this approach, and this finding led to an important change to the following year's survey questions.

Example 2: Measuring Program Participation Status

The authors compared self-reported participation status in Energy Trust's residential programs and actual participation history found from its program tracking database. The authors conducted the similar analysis in two consecutive years for this annual survey, and in both years, self-reported participation was significantly under reported (about 50% under reporting) compared with actual participation. More alarming is that, among the actual participants, only 25-50% reported correctly whether or not they have participated in Energy Trust's programs in the past. This finding was consistent regardless of how recent their participation was as well as types of measures including low/no cost and high cost measures. Correct reporting increased in the second year by adding a forced-choice question (yes/no) that asks their participation in exhaustive program areas, yet half of the actual participants still incorrectly reported their participation status.

The Poster

Using diagrams and other graphical elements, this poster will present the responses received and illustrate the attention to detail in survey implementation that resulted in improved accuracy in

self-report findings. These lessons can be applied to improve other evaluation and market research projects. This poster will also illuminate the gaps in perception and terminology between consumers and energy professionals.