Exercise 6-1.1: Identifying Threats to Validity (Answers)

Purpose: The purpose of the exercise is to practice identifying possible threats to validity in performance evaluation designs.

Steps:
1. Carefully read each of the following scenarios.
2. Using Reference 6: Threats to Internal and External Validity diagnose potential threats to internal validity in each of the evaluation scenarios.
3. Discuss these threats with your group.
4. What could be done differently to mitigate or avoid these threats?

Scenario 1:
As part of a final evaluation of a phased five-year sports-for-development project, at-risk youth will be interviewed about the effect of the training on their self-perception and tendency to engage in risky behaviors. The evaluation methodology calls for the evaluation team to interview direct beneficiaries from each of the five cohorts to assess the effectiveness and appropriateness of the training. In order to triangulate findings, the evaluators will analyze panel data from a standardized self-perception and behavioral test filled out by each participant at the beginning and end of the 8 week training.

- History effect: any number of things could have happened during or after the project that could influence the outcomes of interest (macroeconomic changes, police/government approach to at-risk youth, behavioral change communication, other projects, etc.).
- Maturation effect: youth self-perceptions and behaviors are very fickle. Both of these outcomes can be expected to change over time regardless of the intervention. This is particularly the case for those beneficiaries in the early cohorts.
- Repeated Testing effect: the self-perception and behavioral test is standardized, so respondents may learn how to best respond to the questions.
- Mortality effect: with such a transient population, it may be difficult to identify and contact respondents. This is particularly the case for those beneficiaries in the early cohorts.
- Recall bias: this is particularly the case for those beneficiaries in the early cohorts.
- Effects of testing: the pre-test might condition the performance of the training participants
**Scenario 2:**
In a final evaluation of a legislative strengthening project, the evaluation team is tasked with assessing the extent to which the intervention helped elected legislators become more effective advocates for their constituents, and how lessons learned can help improve implementation of a potential extension. The methodology calls for the use of PRA techniques with sub-groups of constituent communities as well as analyzing the results of citizen score card. Constituents have been filling out these score cards annually to rate their legislator’s performance.

- History effect: any number of things could have happened during or after the project that could influence the outcomes of interest (new laws, economic growth, other projects, etc.).
- Maturation effect: perceptions and expectations of constituents could change
- Mortality effect: depending on the electoral cycle, legislators could be voted out of office
- Effects of testing: rating legislators might increase the knowledge and standards of constituents, making cross-year comparisons problematic.

**Scenario 3**
In a mid-term evaluation of a phased water and sanitation project, the evaluation team will assess progress against the work plan and compare outcomes between communities as they gain access to piped water. The evaluators will collect data on water usage as well as health and income outcomes using mini-surveys and semi-structured interviews. The evaluation methodology calls for comparing closely-lying communities that have received the intervention with eligible communities that have not yet received access to clean water.

- History effect: any number of things could have happened during or after the project that could influence the outcomes of interest (macro-economic changes, weather patterns, other projects, etc.).
- Selection Bias: just because the communities are proximate does not mean that they are good comparisons for one another. They could vary across a large number of variables.

**Scenario 4**
In a mid-term evaluation of an economic growth project that supports small-businesses with grants and financial management training, the evaluators will interview the CEOs of a random sample of recipient businesses. The evaluation will strive to answer if benefits reached all sectors of the target population (women and minority-owned businesses) as well as comparing the relative effects of grants with those of the financial management
training. In order to be considered for inclusion, interested businesses had to fill out a short one-page form. The project was widely advertised in radio, print and television.

- **History effect**: any number of things could have happened during or after the project that could influence the outcomes of interest (macroeconomic changes, regulatory changes, additional training, other projects, etc.).
- **Maturation effect**: as businesses grew from start-ups to established firms, a culture change could have happened within the organization.
- **Mortality effect**: Many small businesses could have gone out of business. Evaluating the surviving businesses introduces Selection Bias as it excludes failed ventures.
- **Response bias**: if respondents feel that additional benefits might be forthcoming, they will be likely to provide positively biased answers.
- **Multiple treatment interference**: if some businesses receive both the grant and training, these treatment effects might interact making isolating the effect of either one difficult.

**Scenario 5**

In a final evaluation of a natural resource management project aimed at stemming soil erosion, the evaluation team will use data from a GIS system that tracks pastoral farmers and their flocks to determine changes in grazing patterns over the course of the five-year project. Selected farmers were given portable GPS locators to carry with them during the dry season. Over the course of the five-year project, some equipment was replaced and some upgraded. The evaluators will conduct follow-on interviews with the farmers to triangulate findings.

- **History effect**: any number of things could have happened during or after the project that could influence the outcomes of interest (weather patterns, macroeconomic changes, other projects, etc.).
- **Maturation effect**: cultural or economic changes could change the number of pastoralists and the location of grazing grounds.
- **Selection bias**: how were farmers selected? Are they representative of the whole?
- **Response bias**: if respondents feel that additional benefits might be forthcoming, they will be likely to provide positively biased answers.
- **Instrumentation effect**: the change in GPS locators can influence the findings of grazing patterns.