A list of eight threats to internal validity is presented by the authors, along with 4 threats to external validity. Seven of the threats to internal validity are given a detailed discussion in this section of the paper.

-History- the effect of events external to the experiment on subjects between measurements. History becomes a more plausible confounding factor, the longer the time between measurements.

-Maturation- The nature of the subjects changes over time. Obviously, this can occur in most any natural system.

-Test effects- the effects of one measurement on succeeding measurements. The familiar example of improving GMAT scores on the second try would fit here. A subset of concern here is that of reactivity. Since measurement may change what is being measured, one wants non-reactive measures; measures that will not cause a change in the subject.

-Instrumentation- changes in the measuring instrument between measurements. This could include the scoring of measures, as in using different judges to categorize open-ended responses on questionnaires.

-Statistical Regression (aka regression towards the mean)- the movement of post-test measurements of extreme groups towards the pre-test mean of all groups. (Regression towards the mean is a very important concept in evolutionary biology)

-Selection- the differences between groups may be due to recruitment ra rather than treatment.

-Mortality- differences between groups due to differential drop-out. We discussed an example of this under subjects reactions to experimental treatments.