Summary of Non-Eq-Group Designs

- many subjects run at once; subjects are already in groups (which can't be shuffled), so whole groups are assigned to conditions, instead of people
- problem #1: groups not equal to start with initial fix: add covariate(s)
- problem #2: different events after the covariate(s) for the groups

second fix: add a control measure to assess these events

 many real-world "interventions" involve applying some treatment (to a group of people) and looking for a change in their behavior

e.g., try a new way of teaching subtraction introduce a new anti-binge-drinking program

- the primary problem is the automatic confound between before-vs-after treatment and time-oftesting
- one solution to this problem is to use a nonequivalent control group in some other location
- another solution is to use an interrupted time series



- the basic time-series design allows you to remove the general effect of time, but what about events that occur at the same moment as the treatment?
- if you have access to a second group (with little or no possible "cross-talk" between groups):
 add a non-equivalent control group

the data from the control group will provide a measure of the effect of wide-spread events (e.g., 9/11, Challenger Disaster)

 note: if you have access to a second group, you can use them as both a control group and as a second treatment group ... doubling the key data apply the treatment to both groups, but at different times (*staggered time series*)



- if you don't have access to second group of subjects, you can add additional measures to assess the effects of confounded events (as is done using nonequivalent-group designs)
- these need to measure similar constructs to the target, but not the same construct as the target
- note: one advantage of including a control measure (as compared with a control group) is that it will assess the effects of local events, as well as wide-spread events

the Ultimate Time-series Design

start with basic Interrupted Time Series Design

add a staggered second group

add a control measure to both groups

this is a "staggered time series w/ control measure"