## SPSS Guide: Dependent (Paired Samples) T-test

An Adkins diet advocate compares the body weight of people before (180,190,170,220, 170,190,200) and after (210,195,165,230,185,220,220) an all bacon diet? Does the all bacon diet change body weight?

Why a dependent t-test? We have (1) two samples, (2) no population information, and (3) matched subjects - in this case, subjects are matched with themselves by comparing before and after scores.



Note: By hand, you'd calculate the average difference score (D) for each before-after pair, and then calculate the average difference score  $(D_{bar})$ .

Wayne Campbell: Say, I smell bacon. Does anyone else smell bacon?NGarth Algar: Yeah, I definitely smell a pork product of some type.N

Name the movie!

**STATISTICAL HYPOTHESES: ANALYSIS:** Go to the **Analyze** menu, select **Compare** Means, then choose Paired Samples T-test.  $H_0: \mu_D = 0$ This guess says any difference Paired-Samples T Test is just due to sample errorthe actual mean difference Paired Variables: 🏶 wbefore OK. score is zero. wbefore -- wafter 🏶 wafter Paste <u>R</u>eset  $H_A: \mu_D \neq 0$ This guess says there is a *reliable difference – (e.g., if* you kept measuring, you'd Highlight the two variables together; move them to eventually see that the Paired Variables. average difference score is either more or less than zero).

