**Exploring Statistical Methods**

**Dependent T-test**

**HK 396 Quantitative Research Methods**

The following is based on the Massage and DOMS paper (Mancinelli et al., 2006).

Each group will hand in a single copy of written answers at the end of class.

1. For each paragraph in the Introduction, briefly describe its role (the main point or idea discussed) in leading the reader to understand the study’s purpose. Please make note of the “big picture”. Does *your* literature review follow this pattern? **I would suggest assigning 2 or 3 paragraphs per group member.**
2. Clearly state the purpose of the study.
3. What type of sampling was used to acquire the participants (see Ch. 6)?
4. What was the study design? Visually display the design as in Thomas, Ch.18.
5. What were the independent variable (levels) and dependent variables?
6. Specifically addressing vertical jump, explain a new design methodology that could be used to address the purpose. When would subjects be tested? When would they be massaged? How would they be divided into groups? Would there even be groups? State 1 pro and 1 con of your methods relative to Mancinelli et al.
7. What was the change in vertical jump for the Control group (table 1). What result would **you** expect and why? What statistic was used to determine if this change was significant? Based on the reported p-value what would you conclude?
8. What was the change in vertical jump for the Massage group (table 2). What result would **you** expect and why? What statistic was used to determine if this change was significant? Based on the reported p-value what would you conclude?
9. Comment on anything that doesn’t “sit very well” when comparing your answers from 6) and 7). As a coach, would you *invest* in a massage therapist?
10. Thinking critically, discuss your own conclusions regarding the mediating affect of massage between DOMS and vertical jump.
11. Do you see any problem with performing multiple t-tests (one for each dependent variable)?