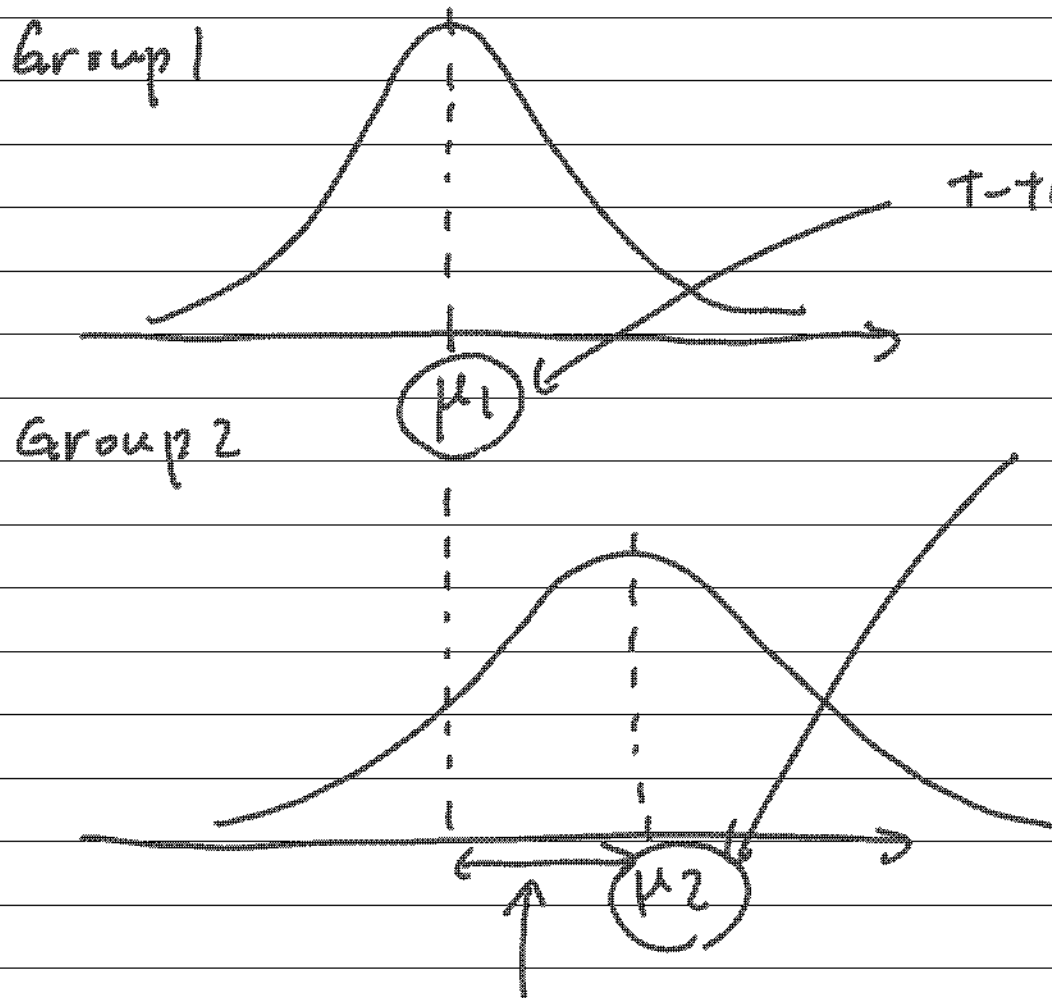


Limitations of "parametric" t-test

Note Title

11/19/2008

t-test uses "mean parameters" μ_1 and μ_2
and set up hypotheses to compare μ_1 and μ_2 .



T-test compares
 μ_1 and μ_2

based on the
assumption that
data come from
a normal distribution
when the sample sizes
are small.

difference: $\mu_1 - \mu_2$

Nonparametric test

What if the data do not come from the normal distribution?

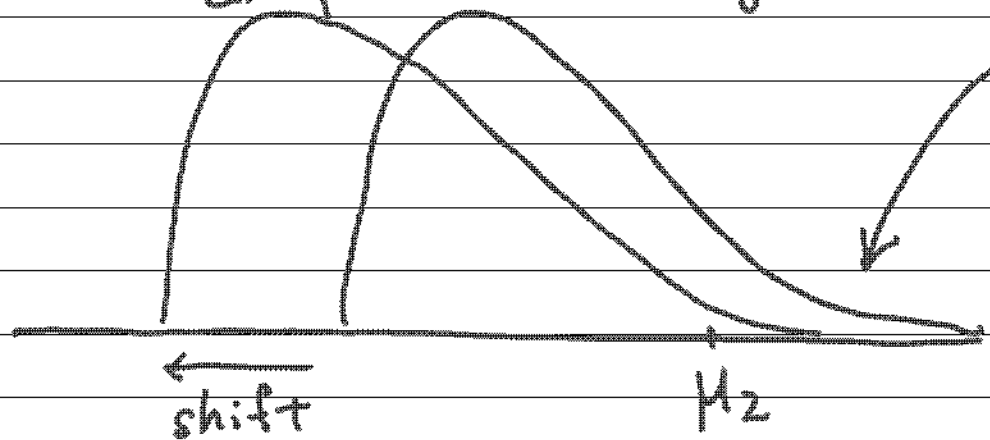
Group 1

Nonparametric test will compare "distribution" as a whole.

Group 2

Group 1

μ_1 ← The mean is easily influenced by outliers



Means are not reliable measures of center

Once we find a significant difference in two distributions, we can determine which is larger:

If the shift < 0 then group 1 is smaller than group 2

If the shift > 0 then group 1 is larger than group 2

Procedure for Wilcoxon test

1. Set up the hypotheses in order to compare "distributions."

Claim: Distribution of group 1 is "different" from
distribution of group 2.

H_0 : Distribution of group 1 is "equal" to
distribution of group 2

H_A : They are different

2. Once we rejected H_0 , we should be able to tell
whether the location of distribution for group 1
is "larger" or "smaller" than that of group 2.

This can be done by looking at the C.I. for
the "shift".