These problem sets are meant to allow you to practice and check the accuracy of your work. Please do not review the solutions until you have finalized your work. Although these problem sets are not submitted and graded, treat them as if they were. It is to your great benefit to work on and even struggle with the problem sets. Looking at the solutions before finalizing your work will, quite simply, make for a less meaningful learning experience.

The summary of the relevant means and standard deviations is as follows:

Treatment Group	Mean thereff	S.D. thereff	Mean changed	S.D. changed	Mean adveff	S.D. adveff
1	1.875	0.641	2.375	0.744	1.625	0.518
2	2.750	0.886	2.875	0.835	1.750	0.886
3	2.375	1.061	2.875	0.641	1.625	0.744
Overall	2.333	0.917	2.708	0.751	1.667	0.702

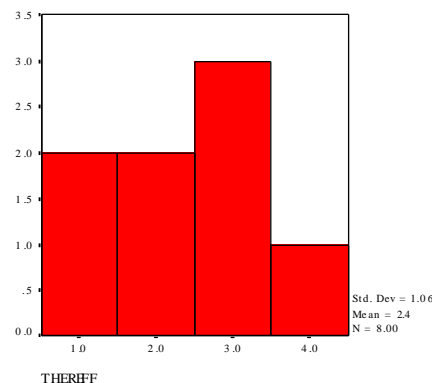The histograms of "ther eff" for each of the three treatment groups are as follows:

Histogram of Therapeutic Effects for Treatment Group 1
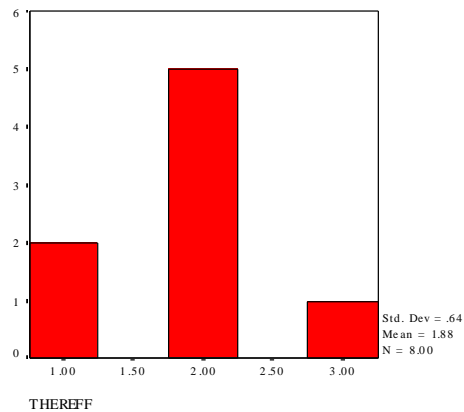
Histogram of Therapeutic Effects for Treatment Group 2
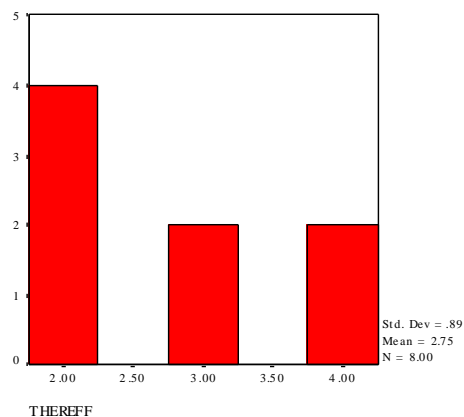
Histogram of Therapeutic Effects for Treatment Group 3

Conclusion:
I would recommend the drug given to Group #1. It appears to be more effective than the drug given to Group 2 and more effective than the placebo. Its side effects are not as bad as group #2's and are identical to the placebo group's. Since patients were randomized to treatment groups, this provides reasonable evidence that Drug 1 is the better drug.

Evidence:
The drug for Group 1 seems to be the most effective since its therapeutic effect and the psychologist's report of change are lower than the other two. Here, lower is better, according to the coding scheme. The mean therapeutic effect for Group 1 is 1.875 (between "marked" and "moderate"), compared to 2.75 and 2.375 (both between "moderate" and "minimal") for Groups 2 and 3, respectively. The mean value of "changed," or the psychologist's report of improvement is 2.38 for Group 1, compared to 2.875 for Groups 2 and 3.

Additionally, the distribution of values of the therapeutic effect for Group 1 shows that seven of the eight individuals had either a "marked" or "moderate" improvement. In the other two groups, four individuals had minimal or unchanged improvement. This is also reflected in the standard deviation of the therapeutic effect of the three groups. Group 1 has the smallest deviation (e.g., most of the outcomes are either "marked" or "moderate."). Groups 2 and 3 have higher standard deviations, meaning there is a greater range of outcomes. Here, that indicates there are more patients at the undesirable end of the scale.

Finally, the severity of adverse effects is relatively similar across groups. If Group 1 were to have very bad side effects, then perhaps it would not be a good choice. However, the mean adverse effect for Group 1 is 1.625, versus 1.75 and 1.625 for Groups 2 and 3, respectively. These are probably similar enough to each other that there does not appear to be any meaningful differences in adverse effects.

Thus, it appears that Drug 1 is more effective than both Drug 2 and the placebo. It has better outcomes than both with about the same level of adverse effects.

* A good answer might also discuss the low value of n*, or the sample size. With only 24 people total (average of 8 per treatment group), this compromises our ability to infer much about the effectiveness of the drugs. However, given the available data, the above is one good interpretation.*