The article I chose for this project was “AIDS Vaccine Trial Shows Only Slight Protection” by Donald G. McNeil Jr. This appeared in The New York Times on October 20, 2009. The article discusses the results of an AIDS vaccine that at first seems only slightly effective. Through research, they have discovered the results could be analyzed in different ways making the results seem either effective or meaningless, causing a controversy of the effectiveness of this vaccination.

This article reports that the results of the vaccination were “just barely statistically significant”. This means the alternative hypothesis was accepted but only by a small fraction. The alternative hypothesis Ha would be that those who took the vaccination were indeed less likely to become infected with AIDS. The null Ho would be that those who took the vaccination did not decrease their chances of being infected with AIDS.

Because this article discusses statistical significance, this means we have rejected the null hypothesis Ho with an FPR of .05 or less. Rejecting Ho when it is true to be .05 or less means we are accepting the alternative hypothesis. By doing this, we are saying there is not a high false positive rate. In this case, by rejecting the null hypothesis we are saying the results of the AIDS vaccination may only give a false positive of 5% of the time or less. Since this article is discussing AIDS it is important to have a low false positive rate because AIDS can be a serious life threatening illness that could have tragic results if given a false positive.

Statistical significance is thought about in terms of rejecting the null hypothesis Ho and then wrongly concluding that Ha is true because it is a dichotomous decision. Though when doing this, you must consider practical
significance, which is more about the actual numbers and whether or not the numbers are big enough for people to actually care about the results. This is a particular problem in the AIDS article because the results were “barely statistically significant” which means it was also very close to having a too high false positive rate. Because of this, the results could be analyzed in different ways making them seem statistically significant or even meaningless. From this, it is important to consider the practical significance of using this AIDS vaccine.

Works Cited

