1023-62-144 **Gregory A. Fredricks** and **Roger B. Nelsen*** (nelsen@lclark.edu), Department of Mathematical Sciences, Lewis & Clark College, MSC 110, Portland, OR 97219-7899. *On the relationship between Spearman's rho and Kendall's tau for continuous random variables.*

It has long been known that for many joint distributions exhibiting weak dependence, the sample value of Spearman's rho is about 50% larger than the sample value of Kendall's tau. We explain this behavior by showing that for the population analogs of these statistics, the ratio of rho to tau approaches 3/2 as the joint distribution approaches that of two independent random variables. We also find sufficient conditions for determining the direction of the inequality between three times tau and twice rho when the underlying joint distribution is absolutely continuous. (Received August 11, 2006)