higher\_lower\_same.R

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#Runs a t-test and checks if sample 2 is "greater", "less"   
# or ~ "notdifferent" (not significantly different)  
# than sample 1  
higher\_lower\_same <- function(m1, m2, s1, s2, n1, n2) {  
   
 se <- sqrt((s1^2/n1) + (s2^2/n2))  
   
 t <- (m1 - m2)/se   
   
 # welch-satterthwaite df  
 df <- ((s1^2/n1 + s2^2/n2)^2) / ((s1^2/n1)^2/(n1-1) + (s2^2/n2)^2/(n2-1))  
   
 p.value <- 2\*pt(-abs(t), df)  
   
 p.value <- ifelse(is.na(p.value), 0, p.value)  
   
 mean.difference <- m1 - m2  
   
 if (is.na(mean.difference)) return(NA)  
   
 if (p.value > 0.05) return("notdifferent")  
   
 if (mean.difference == 0) return("notdifferent")  
   
 if (mean.difference > 0) return("greater")  
   
 if (mean.difference < 0) return("less")  
   
}