

Simple shiny app: power0

true

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Introduction

Consider an app that is a balance of simple and functional – one that calculates the power for a 2-sample t-test as a function of the standardized effect size. Here is our shiny app `power0.R`:

```
ui <- fluidPage(
  titlePanel("Power Calculator for Two Group Parallel Designs"),
  sliderInput("N", "Total Sample Size:", min = 0, max = 300, value = 100),
  plotOutput("plot"),
  verbatimTextOutput("eff"))

server <- function(input, output, session) {
  delta = seq(0, 1.5, .05)
  pow = reactive(sapply(delta, function(x) power.t.test(input$N, d=x)$power ))
  eff = renderText(power.t.test(input$N, power=.8)$d)
  output$plot <- renderPlot({
    plot(delta, pow(), cex=1.5, ylab="power")
    abline(h = .8, col = "red", lwd =2.5, lty = 4)
    abline(v = eff(), col = "blue", lwd =2.5, lty = 4)})
  output$eff <- renderText(
    paste0("Std. effect detectable with power 80% = ", eff()) )
}
shinyApp(ui, server)
```

The source code for the app that resides in the directory `~/APPS/app3`. (where in my case I created the symbolic link `APPS` via the z-shell to `sh> ln -s ~/prj/c060/prj/launch ~/APPS`. We want to check that the app is working as expected locally. To do that we can run it with the shell command `APPS/app3> Rscript -e "runApp("myapp.R", launch.browser=T)"`.