Preregistration

What I think about feet

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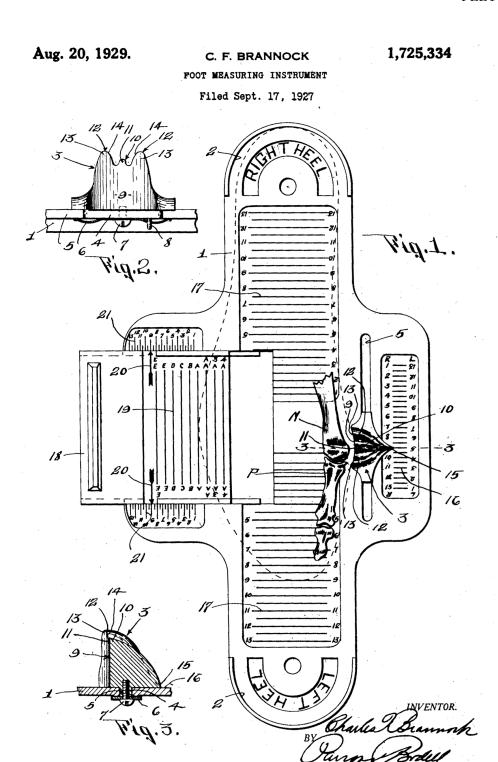
Data collection No, no data have been collected for this study yet.

${\bf Hypothesis}$

We expect that, in a convenience sample of 30 open science enthusiasts, on average, men's feet will be 3 sizes bigger than women's feet. We will test the null-hypothesis that this difference is 0.

Dependent variable

Shoe size, as measured on a Brannock device.



ATTORNEY.

Conditions

This is not an experimental study; we will ask participants to select a biological sex.

Analyses

To minimize researcher degrees of freedom, we include a "Preregistration-As-Code" (Peikert et al., 2021). We have simulated synthetic data using the code in synthetic_data.R. The intended analyses are been documented in analysis.R, and are reproduced here. Once real data has been collected, the data file will be replaced, and the analyses re-run.

Outliers and exclusions

We will remove shoe sizes outside the interval [36, 49].

Sample size

We will use a convenience sample of attendees of the Open Science Festival. We expect about 30 participants. Assuming an average shoe size difference of 3 and SD of 1.5, we can estimate power to reject the null hypothesis:

```
power_analysis <- replicate(1000, {
  dat <- generate_data()
  result <- t.test(shoesize ~ sex, dat)
  result$p.value < .05
})
sum(power_analysis)/1000</pre>
```

[1] 1

Study type Finally. For record keeping purposes, please tell us the type of study you are pre-registering.

• Observational/archival study

References

Peikert, A., Van Lissa, C. J., & Brandmaier, A. M. (2021). Reproducible Research in R: A Tutorial on How to Do the Same Thing More Than Once. *Psych*, 3(4), 836–867. https://doi.org/10.3390/psych3040053