

Preregistration

# What I think about feet

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<b>Data collection</b>	<b>No</b> , no data have been collected for this study yet.
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## 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.

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## Dependent variable

Shoe size, as measured on a Brannock device.



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## Conditions

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

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## 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.

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## Outliers and exclusions

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

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## 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
```

```
## [1] 1
```

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

- Observational/archival study

## References

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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>