

# Sorites remaining questions

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## Contents

<b>Sorites remaining questions</b>	<b>1</b>
Why is the concrete premise for watches so wonky? . . . . .	1
Hypothesis: extreme responses in prior are getting chopped off . . . . .	1
Why isn't the fit for the conditional statement version as good as the relative clause version? . . .	2
Hypothesis: more noise in the sorites responses . . . . .	2
We could also fit priors by lognormal to reduce noise . . . . .	3

## Sorites remaining questions

Following the 2015 June 9 update, some questions remain.

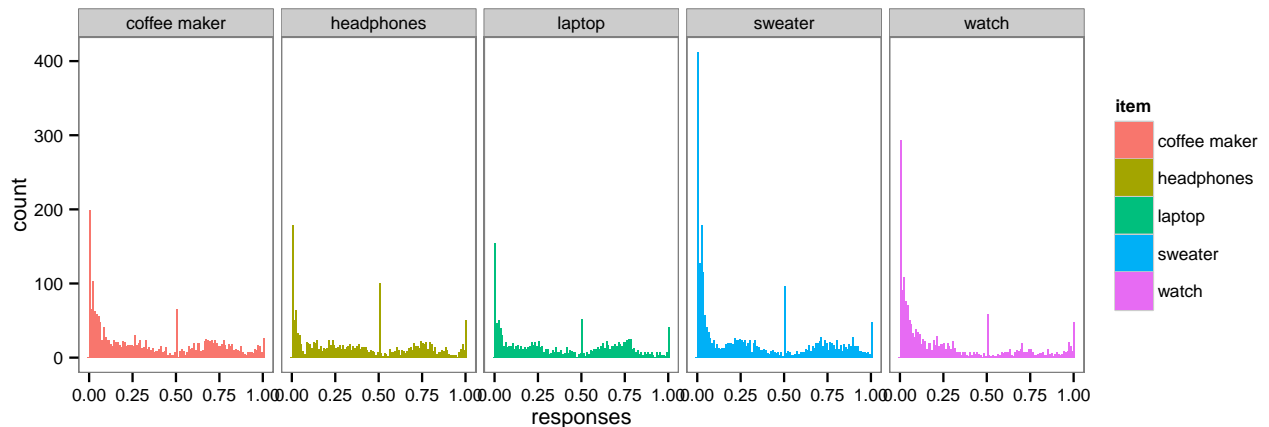
### Why is the concrete premise for watches so wonky?

#### Hypothesis: extreme responses in prior are getting chopped off

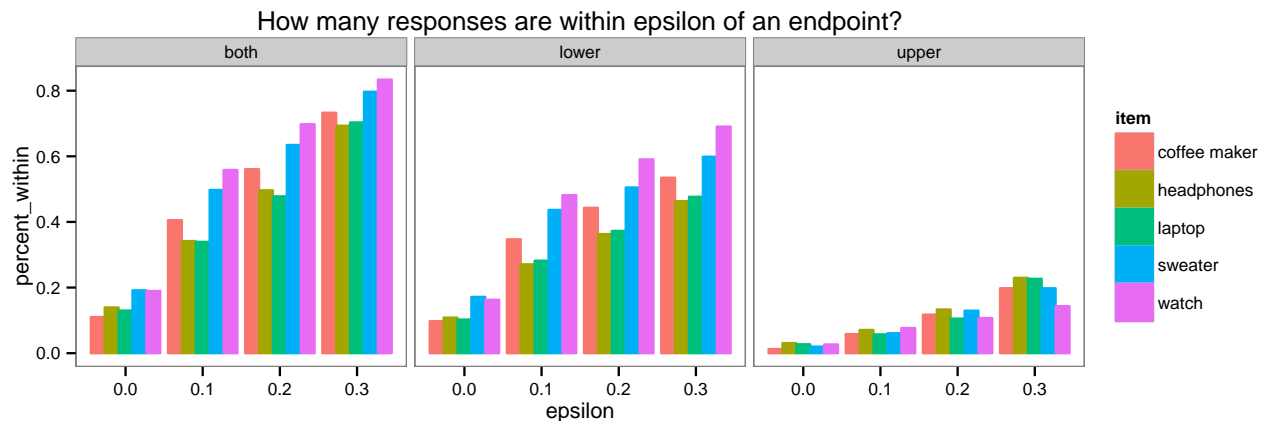
Maybe we have reduced sensitivity to people's actual priors on watch prices because people would respond more extremely than our dependent measure allows them to.

This hypothesis would predict that people would respond closer to the endpoints for watches than for any other category.

**How many prior responses are within  $\varepsilon$  of the endpoints?** Here is a histogram of all the responses. Sweater actually has the most responses at the lowest endpoint. There's a peak at 0.5 because I didn't make the slider handle hidden at the beginning and it was initialized to 0.5.



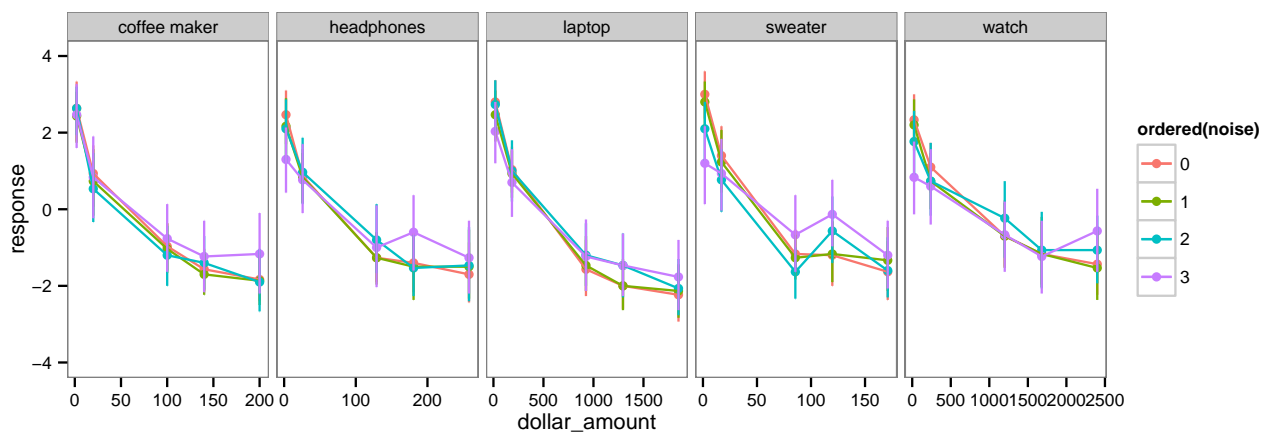
However, watches have the most responses within 0.1 of the endpoints.



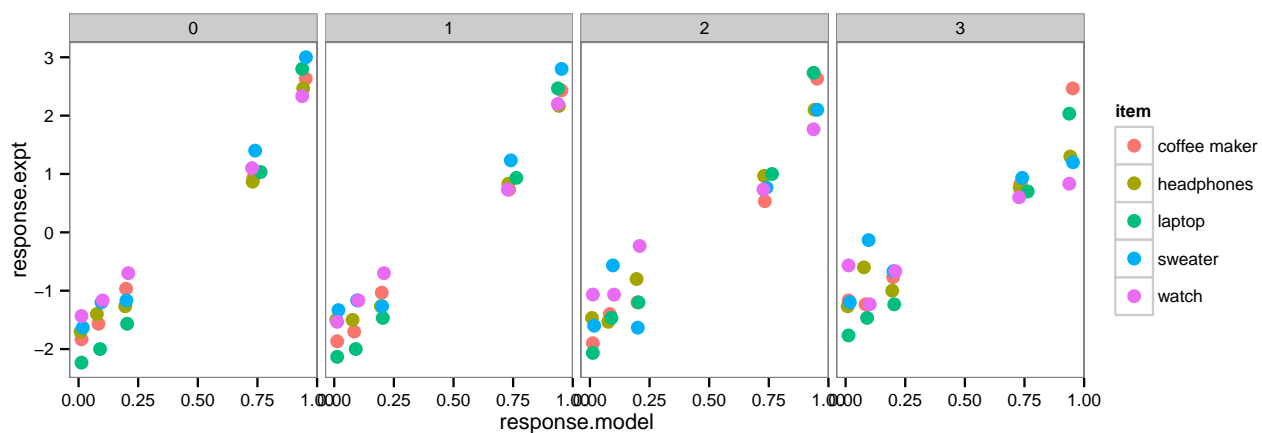
Why isn't the fit for the conditional statement version as good as the relative clause version?

Hypothesis: more noise in the sorites responses

Here's what happens if we take the relative clause data and add noise

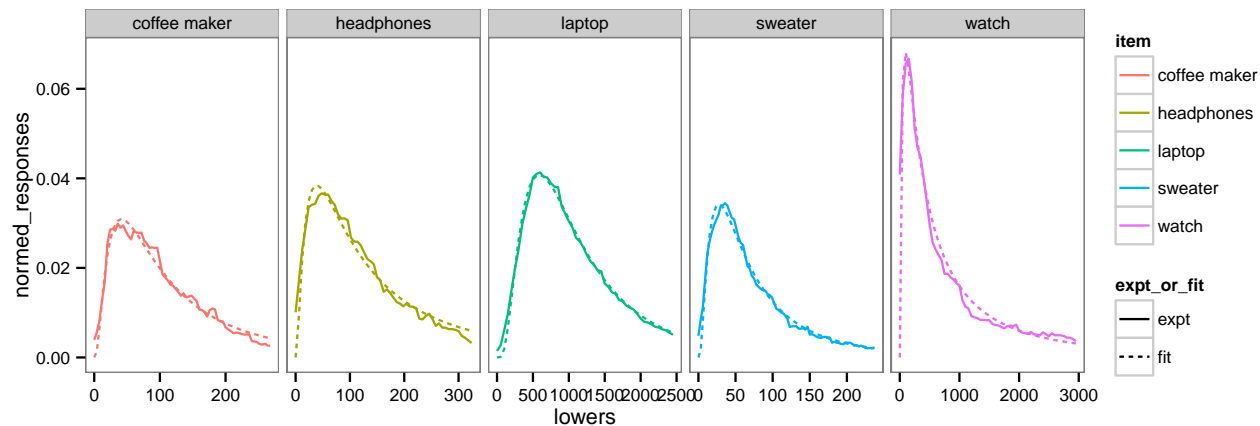


And the scatterplots look like this:



## We could also fit priors by lognormal to reduce noise

The fit to lognormal is pretty much perfect.



And these are the fit parameters for the corresponding normal distribution:

```
##          item      mu      sd
## 1 coffee maker 3.725 0.9393
## 2  headphones 3.656 1.1003
## 3    laptop 6.377 0.7137
## 4    sweater 3.322 0.9035
## 5     watch 4.542 1.3882
```

If we run the model with these distributions, we see a pretty good fit:  $\text{cor}=0.9505$ . (The experiment data were rescaled to  $[0,1]$  for plotting.)

