

# Relatório 6

## Matching

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### 1 Matching between samples

There were notable discrepancies in age between our original samples of TD and TEA participants (Table 1). Additionally, there was a significant gender(?) imbalance, with x% of females in the TD group, and only x% in amongst TEA participants (see table 1).

Table 1: (Age distribution, in months, between sex and tea participants)

	sexo	tea	sdAgeJA	meanAgeJA	N
1	F	TD	1.00	2.89	188
2	F	TEA		2.00	1
3	F	nonTD	0.83	3.03	5
4	F	other	1.59	2.54	2
5	F		1.06	3.38	4
6	M	TD	1.04	2.78	203
7	M	TEA	0.84	2.93	22
8	M	nonTD	0.69	3.48	8
9	M	other	0.74	3.15	4
10	M		0.83	3.05	7
11	nan				3

To address this issue, we employed a matching algorithm suggested by Ho, Imai, King & Stuart (2011), which minimized the Euclidean distance based on participants' sex and age. Following the matching process, our final sample consisted of 15 participants from each diagnostic group (refer to Table 2 and 3 for descriptive statistics before and after matching algorithm).

Table 2: Non matched

	tea	meanAge	sdAge	N	minAge	maxAge
1	TD	0.09	0.03	378	6	55
2	TEA	0.09	0.03	23	13	56

Table 3: Matched

	tea	sexo	meanAge	sdAge	N	minAge	maxAge
1	TD	F	2.00		1	2.00	2.00
2	TD	M	2.86	0.84	22	1.08	4.58
3	TEA	F	2.00		1	2.00	2.00
4	TEA	M	2.88	0.85	22	1.08	4.67

Table 4: Matched

	tea	sexo	meanAge	sdAge	minAge	maxAge
1	TD	F	2.08		2.08	2.08
2	TD	M	3.13	0.77	2.21	4.66
3	TEA	F	2.08		2.08	2.08
4	TEA	M	3.13	0.77	2.21	4.70

## 2 ANOVA

Mixed designs anova with diagnostic (TEA vs TD) as between subjects factor, condition (IJA vs RJA), AOI pair (alternancias), AOI (Proportion fixations) as within subjects factor.

### 2.1 Alternancias

Figure 1: ANOVA table for alternancias

Effect	DFn	DFd	F	p	p<.05	ges
tea	1.00	412.00	8.343	4.00e-03	*	6.00e-03
condition	1.00	412.00	15.385	1.03e-04	*	6.00e-03
variable	1.71	706.42	134.164	2.74e-44	*	9.10e-02
tea:condition	1.00	412.00	0.971	3.25e-01		3.77e-04
tea:variable	1.71	706.42	3.151	5.10e-02		2.00e-03
condition:variable	1.96	806.07	27.255	5.64e-12	*	1.50e-02
tea:condition:variable	1.96	806.07	0.144	8.62e-01		8.21e-05

Figure 2: Main effect tea

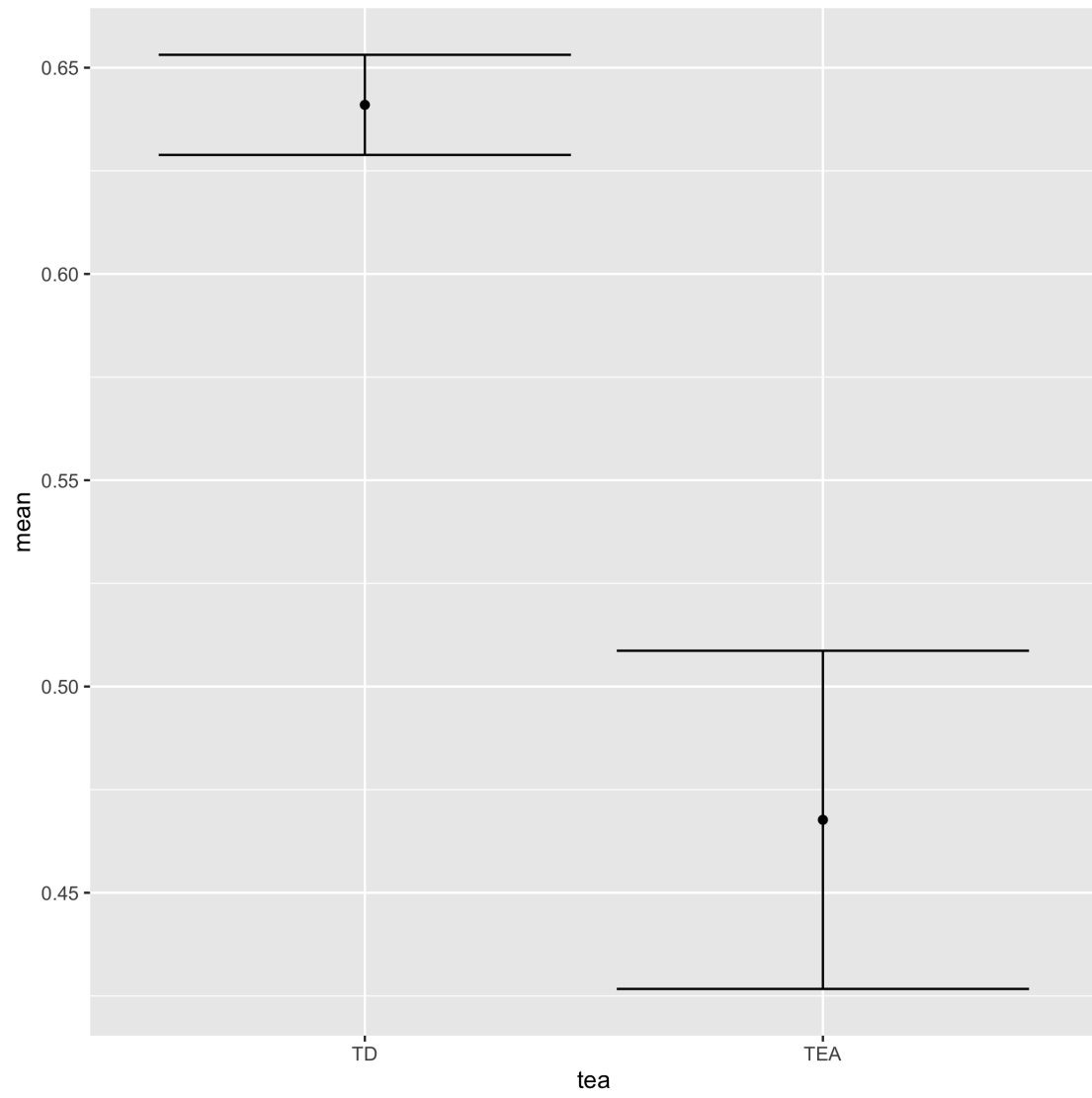


Figure 3: Visualizing effect of variable

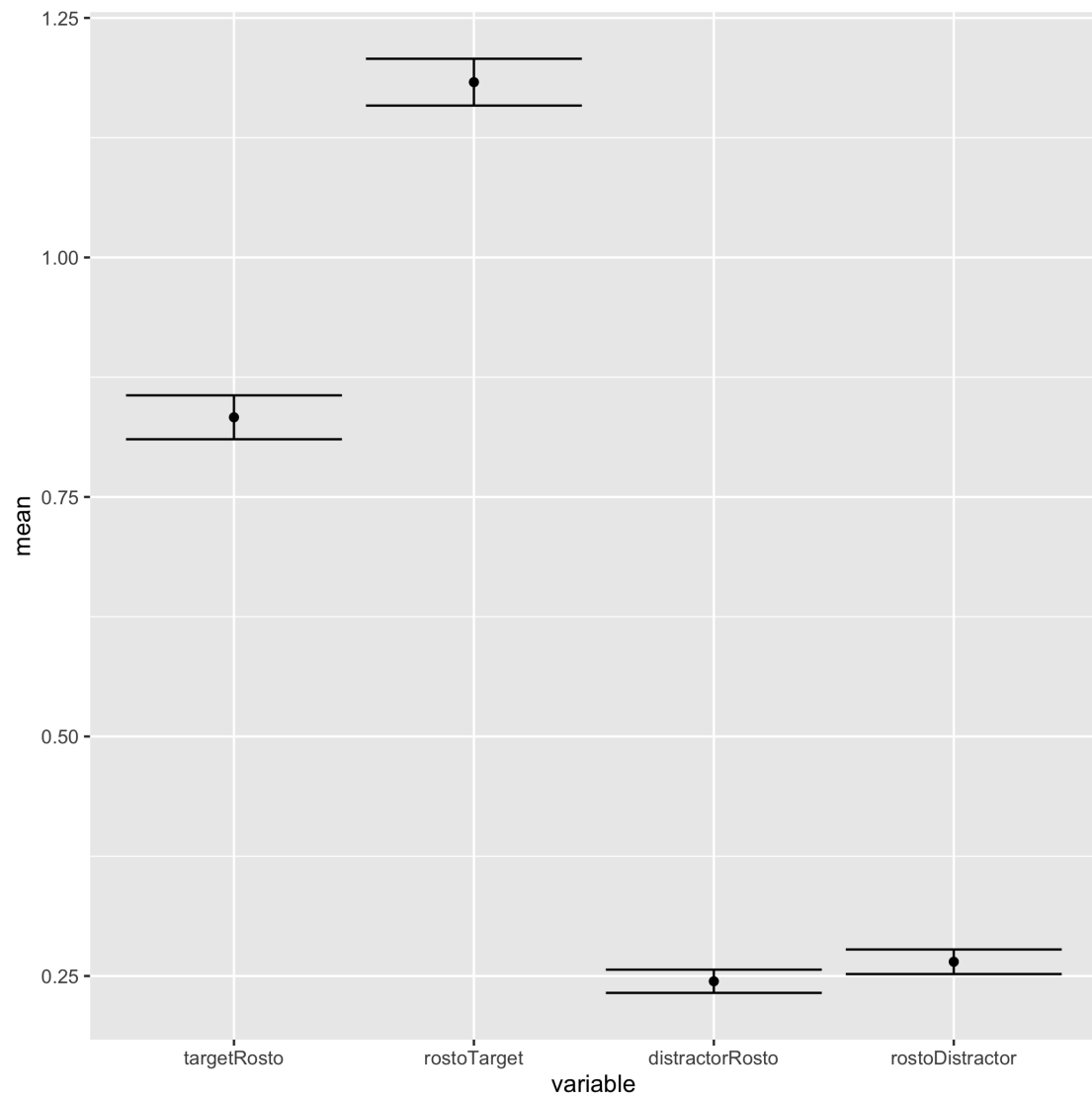


Figure 4: Visualizing effect of condition

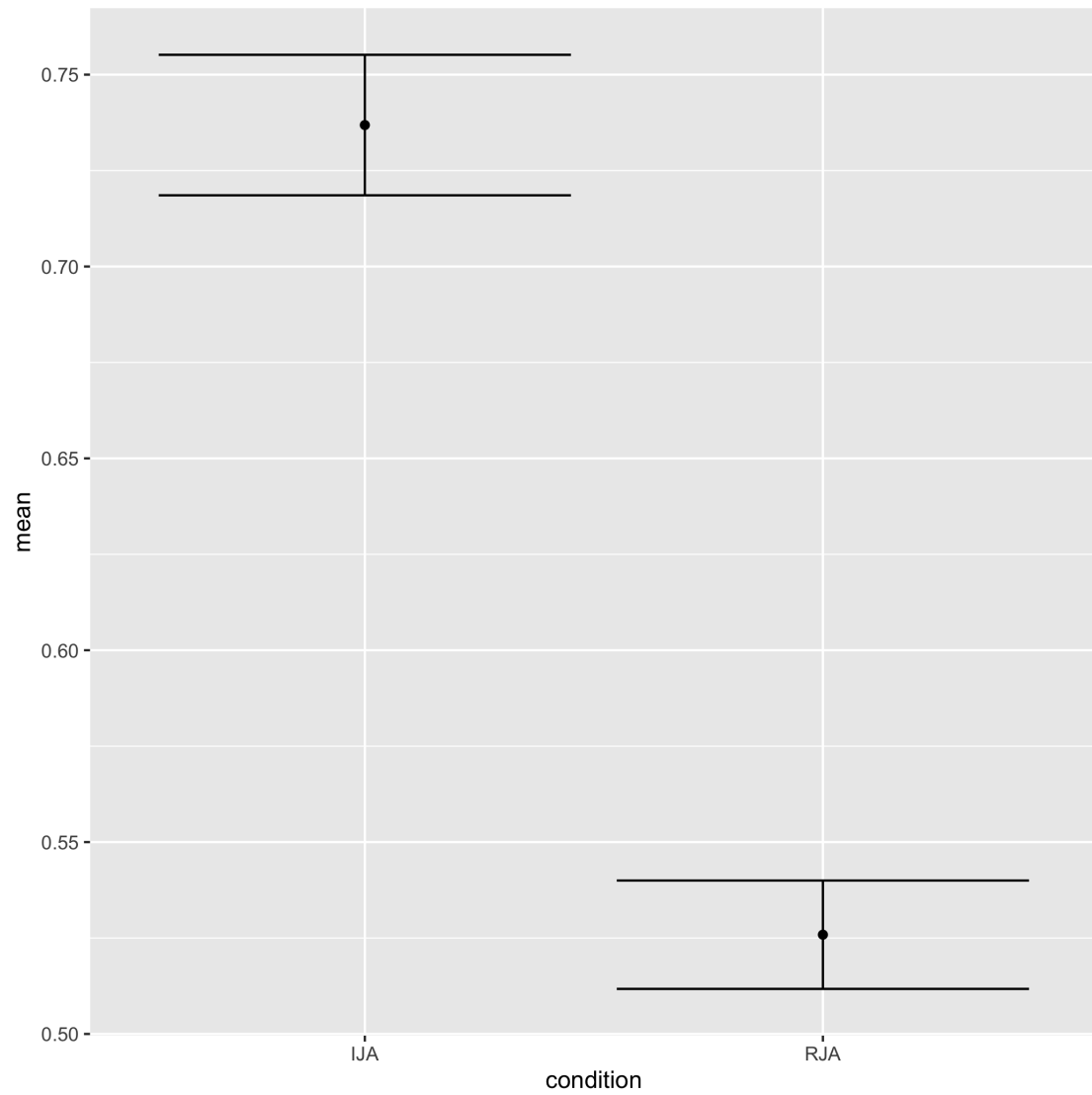


Figure 5: Visualizing interaction of condition, variable and tea. \*non significant

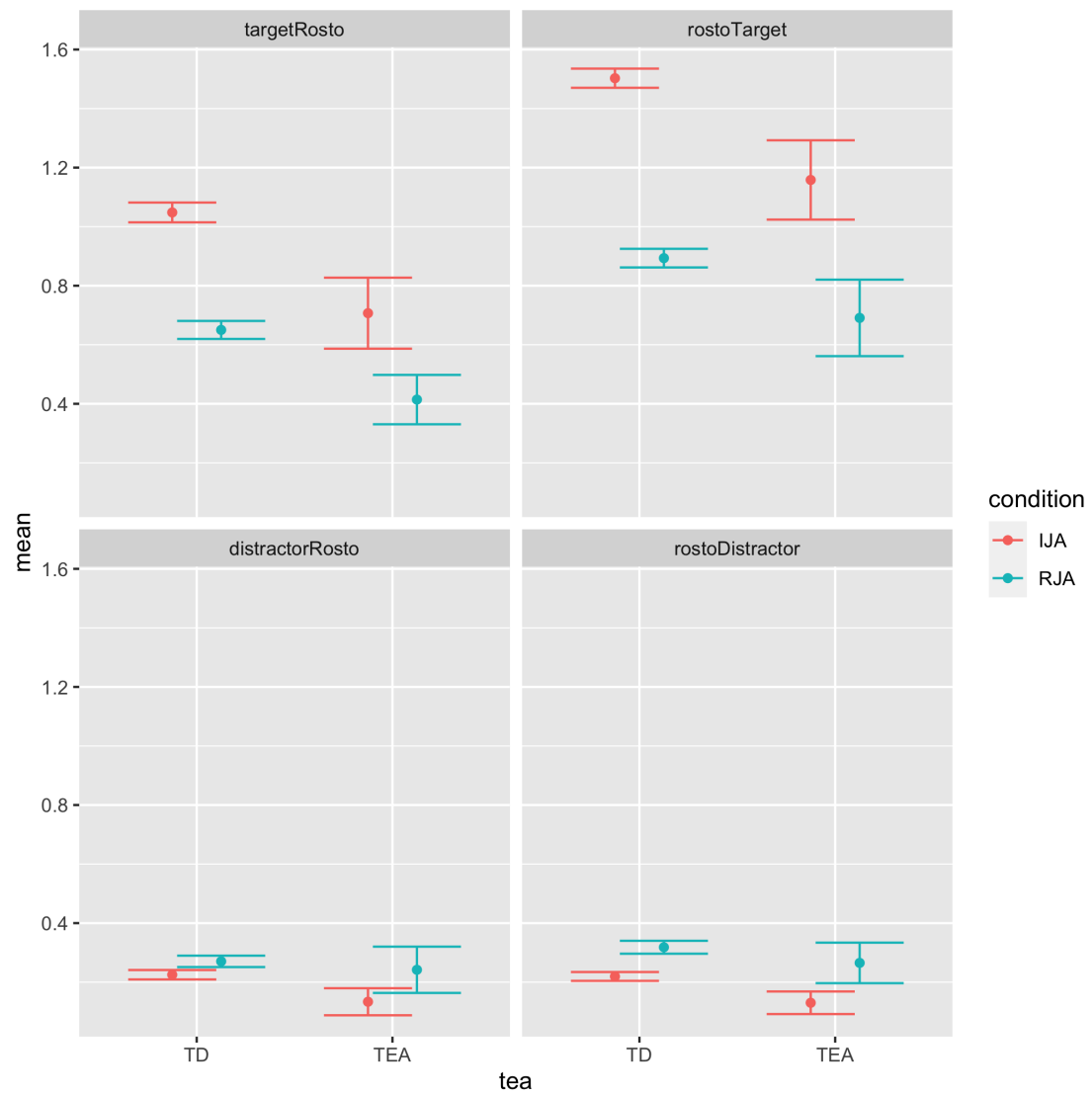
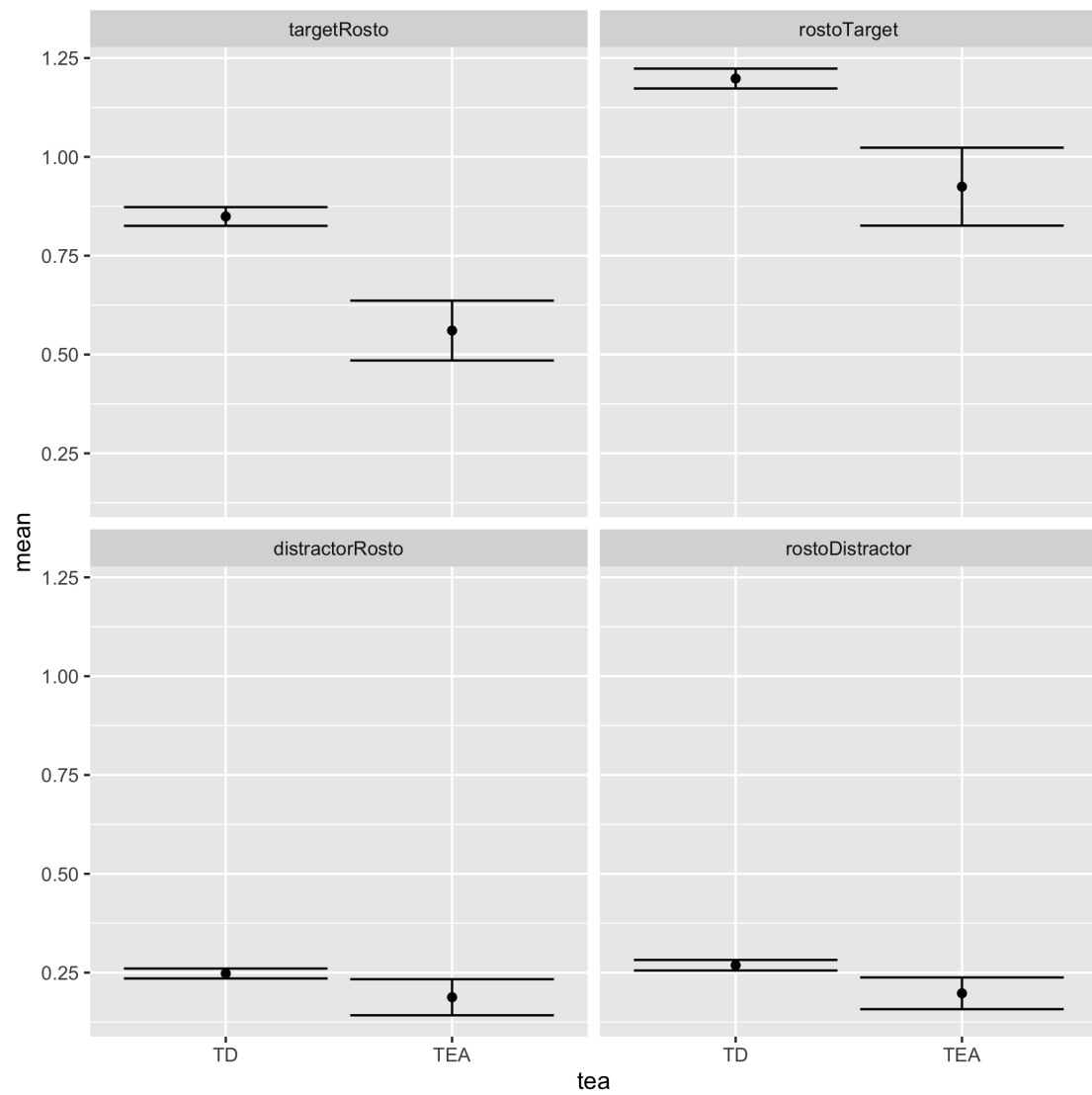


Figure 6: Visualizing interaction between tea and variable. \*Non significant



## 2.2 Proportion fixation

Figure 7: Anova table for proportion fixation

Effect	DFn	DFd		F	p	p<.05	ges
tea	1.00	412.00	-4.90000e-18	1.00e+00			2.45e-37
condition	1.00	412.00	-3.21000e-13	1.00e+00			4.45e-32
variable	1.85	763.31	1.44129e+02	1.29e-50		*	1.94e-01
tea:condition	1.00	412.00	-7.45000e-15	1.00e+00			1.03e-33
tea:variable	1.85	763.31	3.23600e+00	4.40e-02		*	5.00e-03
condition:variable	1.86	766.37	7.83020e+01	7.93e-30		*	5.60e-02
tea:condition:variable	1.86	766.37	1.05900e+00	3.44e-01			8.02e-04



Figure 8: Visualizing interaction of tea and variable

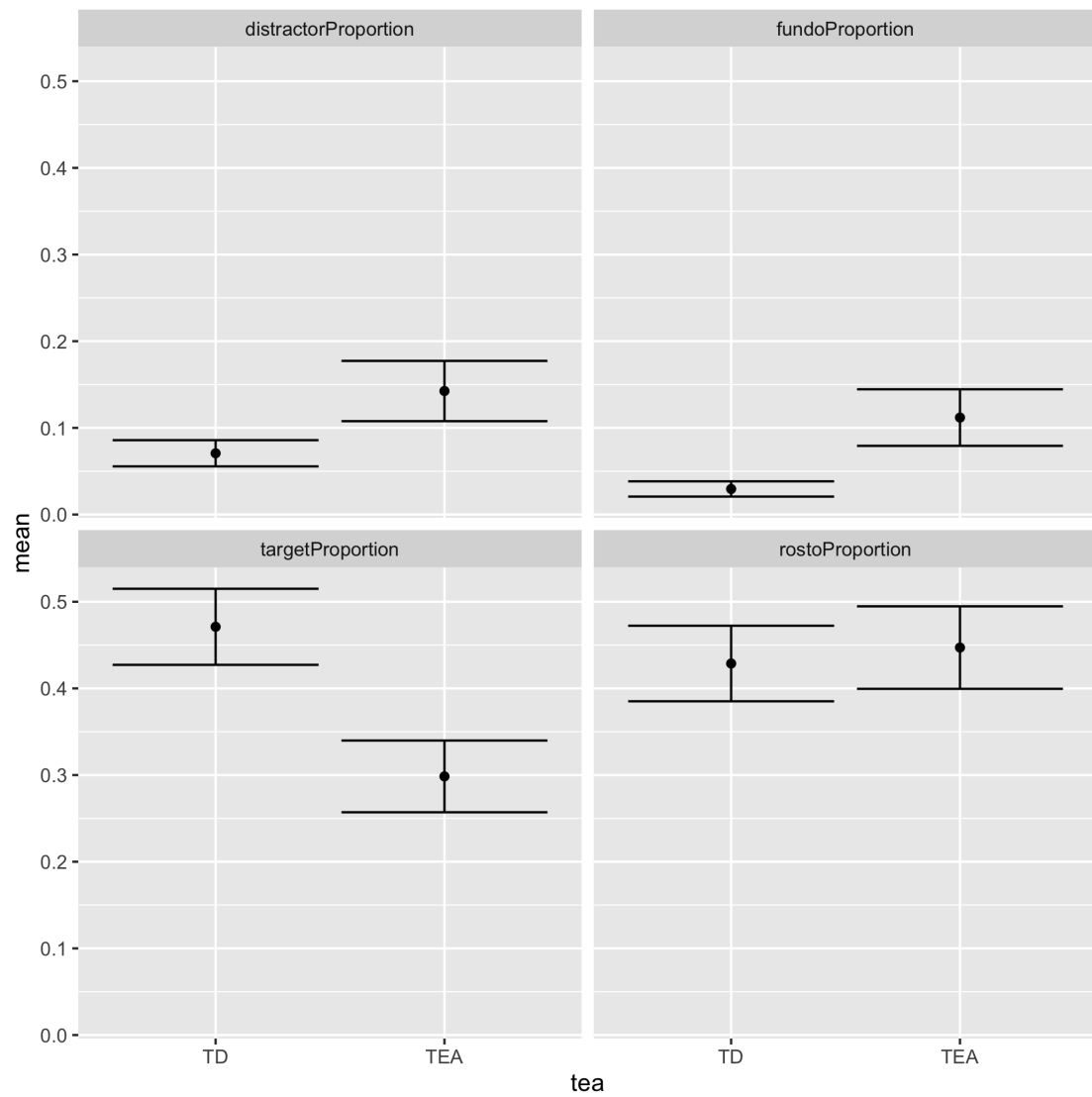


Figure 9: Visualizing main effect of variable

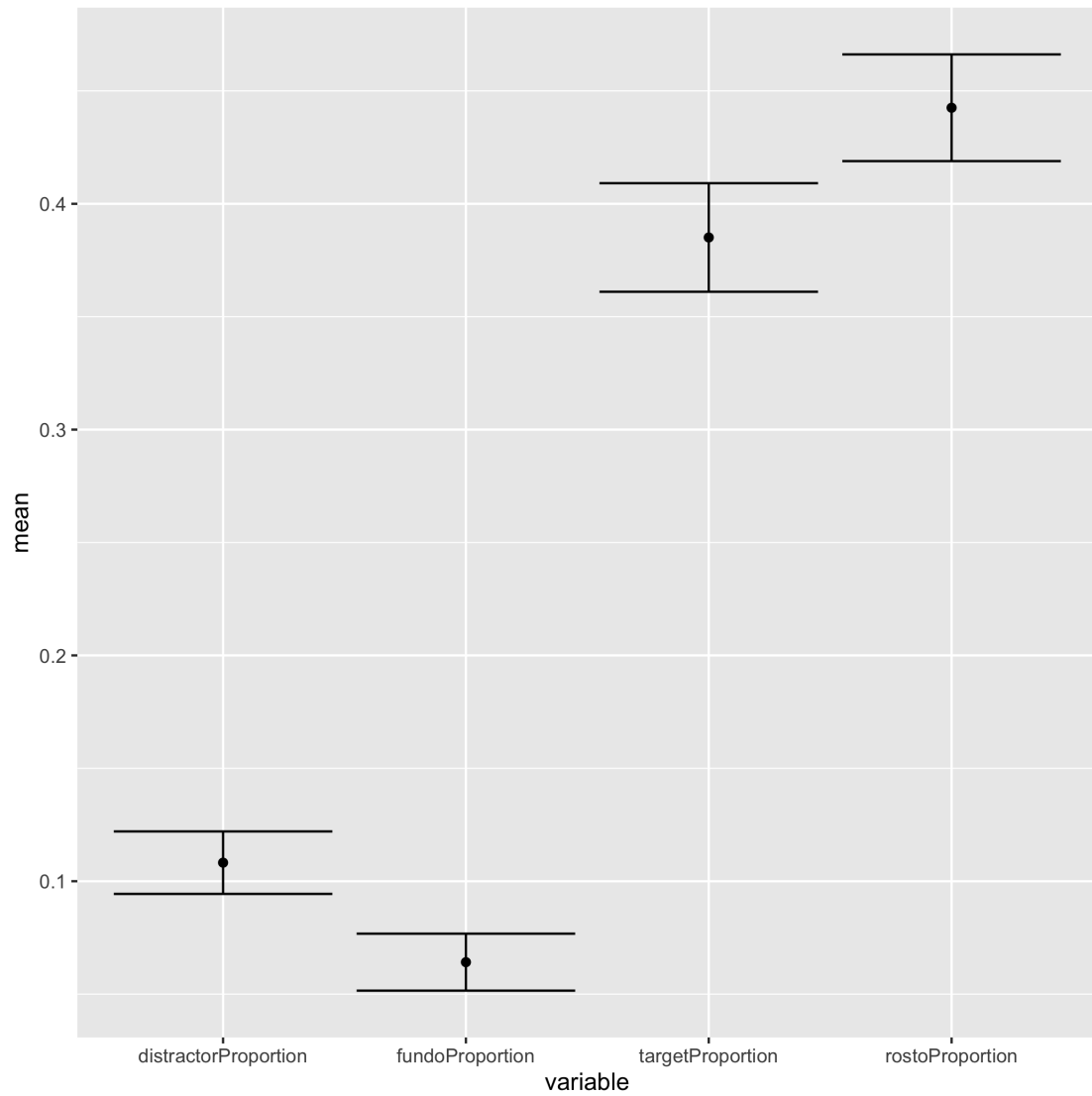


Figure 10: Visualizing interaction of condition and variable

`./condidionVariableProportion.png`

Ho, D., Imai, K., King, G., & Stuart, E. A. (2011). MatchIt: Nonparametric Preprocessing for Parametric Causal Inference. *Journal of Statistical Software*, 42(8), 1–28. <https://doi.org/10.18637/jss.v042.i08>