

The Role of Text in Visualizations: How Annotations Shape Perceptions of Bias and Influence Predictions

Category: Research

Paper Type: Evaluation

Table 1. Table depicting the pre-registered baseline and fully saturated models for predictions in Study 1.

| Study 1 | <i>Dependent variable:</i> | |
|------------------------------|----------------------------------|------------------------|
| | Prediction Likelihood (Baseline) | (Saturated) |
| Line Chart | −0.091 (0.494) | −0.012 (0.494) |
| Prediction Control | −0.648 (0.624) | −0.985 (1.046) |
| Prediction Unaligned | −1.875** (0.570) | −2.537* (1.131) |
| L3 | | −0.542 (0.929) |
| L2 | | −1.213 (0.971) |
| Title | | −0.185 (0.777) |
| Appraisal Unaligned | | 0.684 (0.604) |
| Prediction Unaligned * L3 | | −0.534 (1.399) |
| Prediction Unaligned * L2 | | 0.628 (1.406) |
| Prediction Control * Title | | −0.454 (1.252) |
| Prediction Unaligned * Title | | 1.339 (1.144) |
| Constant | 12.200** (0.35) | 13.629** (0.81) |
| Observations | 640 | 640 |
| Log Likelihood | −2,080.654 | −2,066.421 |
| Akaike Inf. Crit. | 4,171.308 | 4,160.841 |
| Bayesian Inf. Crit. | 4,193.615 | 4,223.302 |

*p<0.05; **p<0.01

Table 2. Table depicting the pre-registered baseline and fully saturated models for appraisals in Study 1.

| Study 1 | <i>Dependent variable:</i> | |
|-----------------------------|---------------------------------|-------------------------|
| | Appraisal Likelihood (Baseline) | (Saturated) |
| Line Chart | 0.041 (0.546) | 0.288 (0.514) |
| Appraisal Control | −4.781** (0.751) | −4.374** (1.001) |
| Appraisal Unmatched | −5.908** (0.675) | −5.290** (1.358) |
| L3 | | 0.869 (0.880) |
| L2 | | 1.002 (0.908) |
| Title | | −0.417 (0.740) |
| Prediction Unaligned | | 1.242* (0.599) |
| Appraisal Unmatched * L3 | | −1.305 (1.568) |
| Appraisal Unmatched * L2 | | −1.831 (1.563) |
| Appraisal Control * Title | | 0.222 (2.230) |
| Appraisal Unmatched * Title | | 0.740 (1.246) |
| Constant | 5.350** (0.81) | 8.018** (1.29) |
| Observations | 640 | 640 |
| Log Likelihood | −2,145.417 | −2,093.269 |
| Akaike Inf. Crit. | 4,300.833 | 4,214.539 |
| Bayesian Inf. Crit. | 4,323.141 | 4,276.999 |

*p<0.05; **p<0.01

Table 3. Table depicting the pre-registered baseline and fully saturated models for predictions in Study 2.

| Study 2 | <i>Dependent variable:</i> | |
|---|----------------------------------|-----------------------|
| | Prediction Likelihood (Baseline) | (Saturated) |
| Line Chart | 0.936 (0.478) | 0.985* (0.479) |
| Prediction No-Side | −1.790 (0.953) | −1.289 (1.202) |
| Prediction Unaligned | −1.216* (0.590) | −1.085 (1.164) |
| Low Bias | | 1.352 (1.078) |
| Prediction Prime | | −0.639 (1.086) |
| Prediction Unaligned * Low Bias | | −2.709 (1.676) |
| Prediction No-Side * Prediction Prime | | 0.057 (1.367) |
| Prediction Unaligned * Prediction Prime | | 0.897 (1.652) |
| Low Bias * Prediction Prime | | −0.611 (1.541) |
| Prediction Unaligned * Low Bias * | | 2.976 (2.360) |
| Prediction Prime | | |
| Constant | 12.822** (0.644) | 12.588** (0.903) |
| Observations | 660 | 660 |
| Log Likelihood | −2,158.263 | −2,125.213 |
| Akaike Inf. Crit. | 4,285.376 | 4,278.425 |
| Bayesian Inf. Crit. | 4,316.822 | 4,341.317 |

*p<0.05; **p<0.01

Table 4. Table depicting the pre-registered baseline and fully saturated models for appraisals in Study 2.

| Study 2 | <i>Dependent variable:</i> | |
|---------------------------------|------------------------------------|-----------------------------------|
| | Appraisal Likelihood (Baseline) | (Saturated) |
| Line Chart | 0.301 (0.468) | 0.405 (0.453) |
| Appraisal No-Side | -4.638** (0.529) | -4.815** (0.856) |
| Appraisal Unaligned | -5.130** (0.629) | -4.360** (0.634) |
| Low Bias | | -2.508** (0.919) |
| Prediction Unaligned | | 3.015** (0.790) |
| Prediction Prime | | -0.276 (0.781) |
| Low Bias * Prediction Unaligned | | -1.965 (1.125) |
| Low Bias * Prediction Prime | | -0.259 (1.106) |
| No-Side * Prediction Prime | | -0.073 (1.105) |
| Constant | 7.371** (0.414) | 7.671** (0.702) |
| Observations | 660 | 660 |
| Log Likelihood | -2,117.513 | -2,086.691 |
| Akaike Inf. Crit. | 4,249.025 | 4,199.382 |
| Bayesian Inf. Crit. | 4,280.471 | 4,257.781 |

*p<0.05; **p<0.01