Quantifying the effects of privileged knowledge on the perception of competence - Confirmatory Results

Nicole George1 & Matan Mazor1

1 University of Oxford

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# Confirmatory Data Analysis

## Rejection Criteria

Participants that fail the attention check will be excluded.

0 participants failed the attention, therefore none were excluded from the analysis.

## Hypotheses

The purpose of this study is to examine the effect of access to privileged knowledge on participants’ perception of others’ competence in an online gamified experiment.

Hypotheses will be tested using a series of 4 two-tailed repeated measures t-tests, with a significance level of 0.05.

### **Hypothesis 1 (position ranking):**.

We will test the null hypothesis that there is no difference in participants’ position ranking (on the leaderboard of the upcoming tournament of players) between the hidden outcome and revealed outcome conditions. A repeated measures t-test will be carried out on the paired participants between the hidden outcome and revealed outcome conditions.

#### *H1: no effect of outcome knowledge on predicted position*.

A paired t-test was conducted to compare the mean scores of the revealed and the hidden outcome position ranking, on a scale of 1 (best) to 100 (worst). There was no significant difference in the scores for the revealed outcome (*M* =34.22, *SD* =15.92), and the hidden outcome condition (*M* =34.43, *SD* =17.53), and non-significant t-test result of (, 95% CI , , ).

### **Hypothesis 2 (accuracy):**.

We will test the null hypothesis that there is no difference in participants’ accuracy (the measure between participants position ranking of the player and the real ranking of the player) between the hidden outcome and revealed outcome conditions. A repeated measures t-test will be carried out on the paired participants between the hidden outcome and revealed outcome conditions.

#### *H2: no effect of outcome knowledge on prediction accuracy*.

A paired sample repeated measures t-test was conducted to compare the accuracy (of the participants’ predicted position ranking of the player against the actual position ranking that player achieved in the supporting study) in the revealed and hidden outcome conditions. There was no significant difference in the absolute difference between the true and estimated scores in the revealed condition (*M* =30.15, *SD* =9.88) and the hidden condition (*M* = 31.54, *SD* =11.38), and non-significant t-test result of (, 95% CI , , ).

### **Hypotheses 3 (self-rating):**.

We will test the null hypothesis that there is no difference in participants’ self-rating (participants ranking of themselves from 1st to 6th, had they played against the 5 players they watched) between the hidden outcome and revealed outcome conditions. A repeated measures t-test will be carried out on the paired participants between the hidden outcome and revealed outcome conditions.

#### *H3: no effect of outcome knowledge on self-rating*.

A paired sample repeated measures t-test was conducted to compare the self-rating scores of the revealed and hidden outcome condition (figure 1, lower left panel). Self-rating measured where the participants think they would have come out of 6 had they played against the 5 players they watched, from 1 (best) to 6 (worst). There was no significant difference in the scores for the the revealed condition (*M* = 3.05, *SD* = 1.34) and the hidden condition (*M* = 2.88, *SD* =1.37), and non-significant t-test result of (, 95% CI , , ).

### **Hypothesis 4 (confidence):**.

We will test the null hypothesis that there is no difference in participants’ confidence (of their self-rating) between the hidden outcome and revealed outcome conditions. A repeated measures t-test will be carried out on the paired participants between the hidden outcome and revealed outcome conditions.

#### *H4: no effect of outcome knowledge on confidence*.

A paired sample repeated measures t-test was conducted to compare the mean confidence in self-rating score in the revealed and hidden outcome conditions (figure 1). There was no significant difference in the scores for the revealed condition (*M* =71.42, *SD* =23.29) and the hidden condition (*M* = 71.63, *SD* =24.25), and non-significant t-test result of (, 95% CI , , ). .