# Predictions on Task Performance

**Applied Cognitive Science**

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## Abstract

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## 1 Introduction

- Measuring metacognition is important because .. ?
- Metacognitive sensitivity ?
- Metacognitive bias?
- Metacognitive efficiency?

- Useful starting point for all measures of metacognitive sensitivity: 2x2 confidence-accuracy table ("type 2" SDT table)
- Simplest measure of association between rows and columns of the table is the phi($\phi$) correlation.
- $G$: Goodman-Kruskall gamma coefficient
- Both are affected by metacognitive bias
- Standard way to remove influence of bias: Apply STD ($d'$)
- $d'$ will be constant given different biases
- Several approaches to metacognitive sensitivity
- But type 2 $d'$ is also affected by changes in metacognitive bias
- One solution: Apply non-parametric analysis that does not make equal-variance gaussian assumptions (e.g. use ROC analysis)
- Can be applied to type 2 data.
- Further complication: $\phi$, $G$, $d'$ and type 2 ROC are affected by the task performance.

## 2 Method

- Measuring metacognition is important because .. ?
- Metacognitive sensitivity ?
- Metacognitive bias?
- Metacognitive efficiency?

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## 3 Results

- Measuring metacognition is important because .. ?
- Metacognitive sensitivity ?
- Metacognitive bias?
- Metacognitive efficiency?
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## 4 Discussion

**What to do?**

- discuss challenges that you faced during implementation,
- reflect your solution
- give an outlook

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Our universal goal was to design an experiment which can understand how well people estimate their performance. Therefore is our study a preliminary study. For this we designed an experiment, where subjects had to solve several five item sorting tasks. After finishing each task, the subject had to draw a probability density function over their performance. The questionnaire had two conditions. The first condition was sorting without active recall. The five answers to the question were already given in a randomized order and had to be sorted in the write order. The second condition was sorting with active recall. The question was open and the subject had to know the items and the correct ordering. In total we had 7 questions for condition one and one question for condition two.

After collecting the answers from XX subjects, our program read the probability density functions with the help of computer vision and we analyzed the the Brier score of the data.

**Objectivität Finding the correct type of questions.**
**Finding the correct questions.**
**Finding the correct metric.**
**Explaining the concept of probability density functions.**
**Computer Vision.**