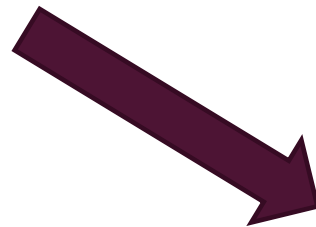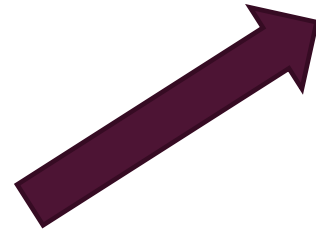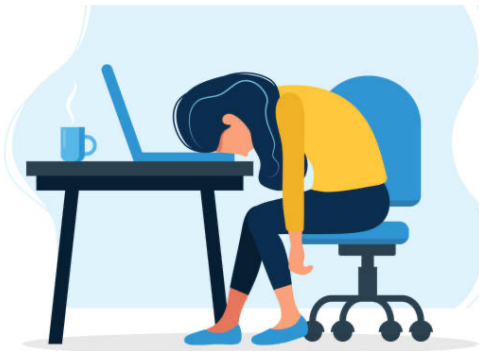# Exploring the Effects of Goal Setting When Training for Complex Crowdsourcing Tasks (Extended Abstract)

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Many Approaches Have Been Developed to Enable the Completion of Complex Tasks by the Crowd

Setting Goals Has Been Shown to Enhance Learning and Performance in Students and Employees

The Effects of Goals in the Context of Crowdsourcing Are Unclear

Step 1: Set Goals

Step 2: Learn New Skill/Information

Step 3: ???

Step 4: Profit 💸

Main Research Questions

Q1: How does setting different goals affect workers' learning perceptions during training?

Q2: How does setting different goals affect workers' learning gain during training and performance on tasks after training?

Experimental Task

Task 2/12: Which meal has more **protein**?

(Assume equal portion sizes)

Peanut butter and jelly sandwich

Kale, red peppers, bacon and cream cheese on a bagel

○ The left meal has more protein

○ The right meal has more protein

4 Nutritional Components:

❖ Fat

❖ Fiber

❖ Protein

❖ Carbohydrates

Experimental Procedure

Goal Setting Treatments

We considered an experimental design along two factors:

Initiator of goal
- Worker-set
- Requester-set

Type of goal
- Performance goal
- Learning goal
- Practice goal

Altogether, this is a 2 × 3 + 1 design for a total of **7 treatments**

And a control treatment where workers did not have a goal

The Nutrition Task Was Difficult for Our Workers

❖Average number of pre-test questions answered correctly was 8.5 out of 12 (71%)

❖11% of the workers answered no more than 6 pre-test questions correctly

Workers Asked to Set Learning Goals Set Meaningful Goals…
but Workers Asked to Set Practice Goals Did Not Challenge Themselves

- ❖ "I want to learn more about fat content in food"

- ❖ "I'd like to learn which foods likely don't have gluten but also have high fiber"
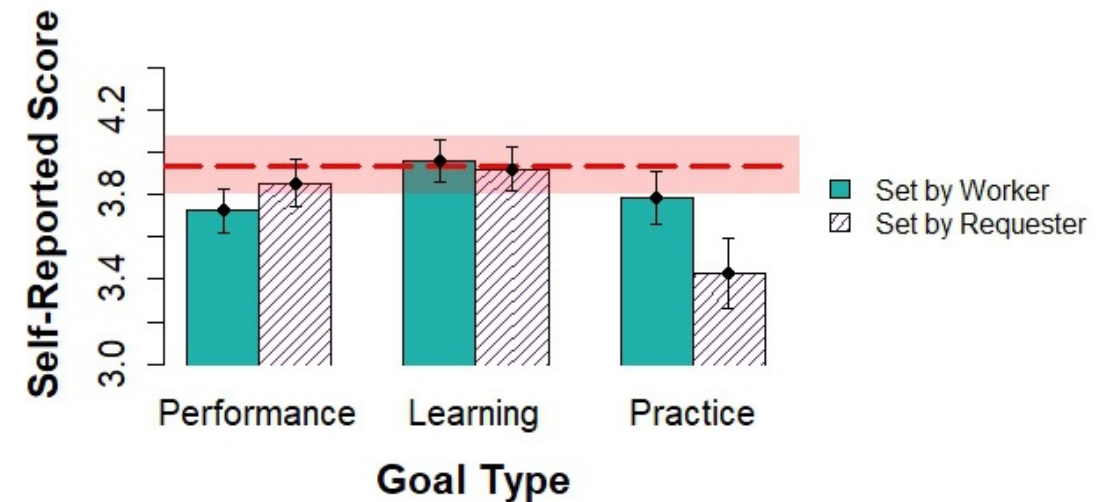
Workers who were asked to set their own practice goals aimed to complete at least 4.3 out of 10 possible practice tasks

Effects of Goal Setting on Perception & Performance

Perceived Helpfulness of Lessons
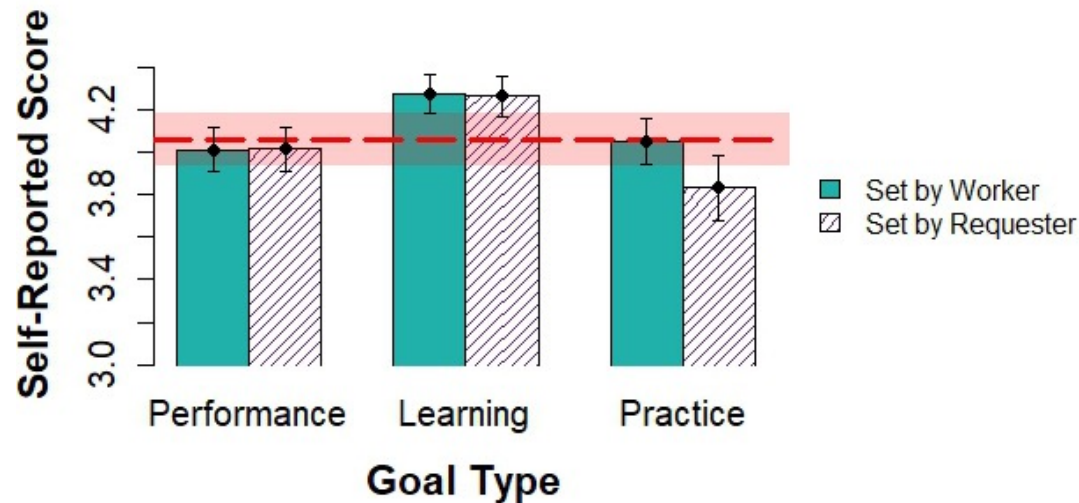
Perceived Learning Level in Lessons

Setting different goals while training was **not** found to lead to significantly different learning outcomes or post-training performance

Exploratory Analysis

Q1: Does setting a goal for workers that matches with their goal orientation lead to higher levels of learning gain and post-training performance?

Q2: Does setting a practice goal lead to more practice tasks being completed, and does completing more practice tasks associate with higher levels of learning gain and post-training performance?

Further Analysis Provides Support for Personalization of Goals

Matching workers who are highly motivated to learn new things with learning goals led to **improved** learning gain, but not improved post-training performance
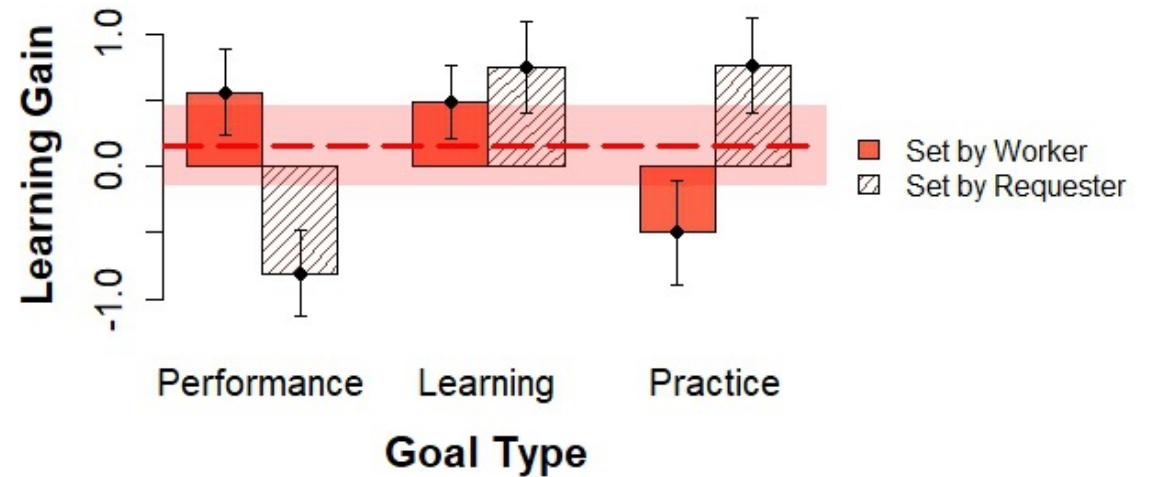
Behavioral Goals Lead to Unexpected Results
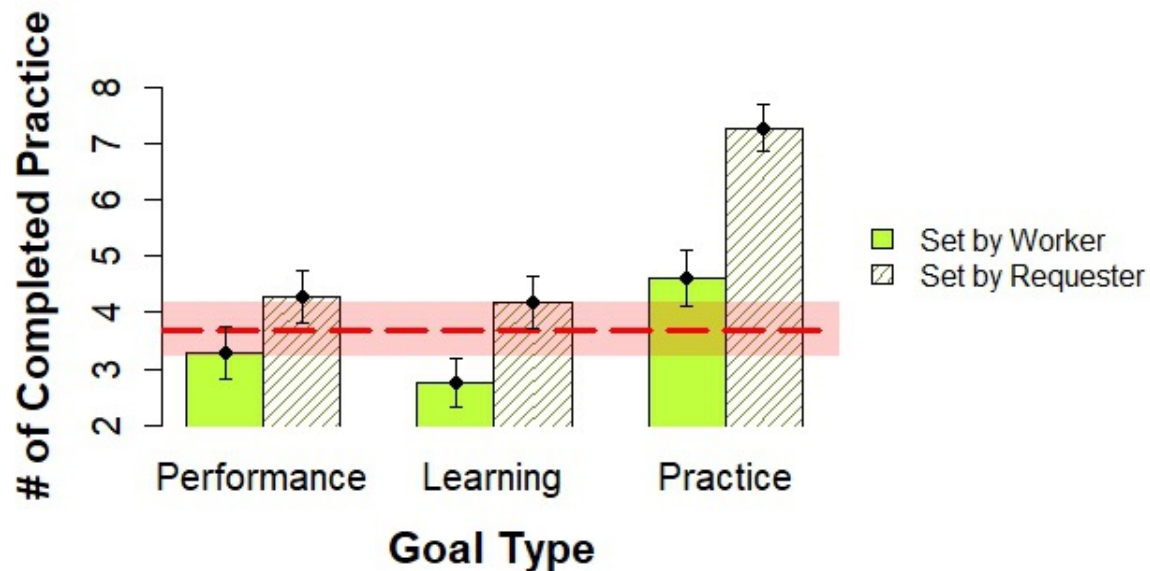
Workers with requester-set practice task goals completed **more** practice tasks on average than workers in other treatments

However…

Their learning gain and post-training performance was **lower** than workers in other treatments who chose to complete many practice tasks

Practical Implications for Setting Goals When Training Crowd Workers

❖ Additional studies should be done to further explore ways to **personalize goals** for workers in order to see greater benefits when training for complex tasks

❖ Behavioral goals **increase adoption** of desired behavior, and future work should be done to discover how to make workers see the merit of this desired behavior

Thank You!