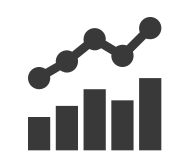


Neologue Case Study



Quantitative UX Research

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Overview

About Research

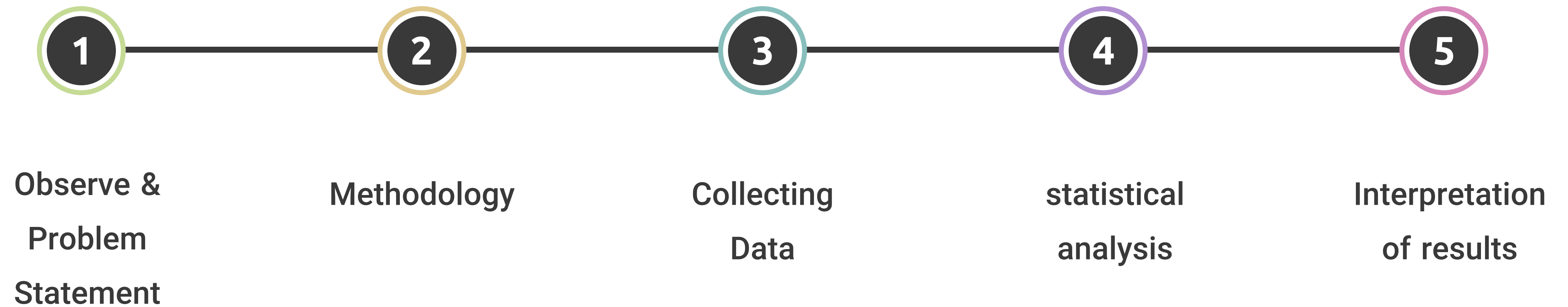
Our research aimed to find a comprehensive solution to a problem that affected both internal and external aspects of the organization. Eventually, we devised a solution to assess the usability of website pages quantitatively, enabling continuous monitoring over time. This in-house solution has significantly improved product management accuracy.

The story began when a leak was detected on one of the website pages, prompting usability testing with various users. Given the page's immense significance to the business, its managers expressed skepticism about the usability results and demanded a precise numerical method to monitor usability outcomes.

About Platform

Neologue is an online platform for creating and sharing catalogs that offers a range of features, such as free and user-friendly catalog creation, personal catalog sharing, customer communication, and exhibition information for businesses and other audiences.

Research Process



Observe & Problem Statement

Observe

- The problem arose when a page required a redesign due to a design flaw. Unfortunately, stakeholders lacked a reliable quantitative means to compare the old and new designs, which hindered effective comparison. In various meetings with stakeholders, we agreed to establish a process for utilizing a quantitative method to benchmark usability. This process would allow for easy usability determination and long-term monitoring of the page. Thus, the quantitative user research process commenced.

Problem Statement

- Utilizing a quantitative and comparable method to benchmark page usability.

Methodology

Definition of applicability according to ISO standard

According to the ISO-9241-11 standard, usability is defined as the degree to which a product or system can be used by specified users to achieve specified goals with:

- effectiveness
- efficiency
- satisfaction

These three components - effectiveness, efficiency, and satisfaction - are the class of applicability for measuring usability.

How to benchmark using SUM

This method utilizes indicators for measuring effectiveness, efficiency, and satisfaction, which are then used to collect data and generate a single number as a usability benchmark.

Effectiveness

Task completion rate and task error rate

Efficiency

Task time

satisfaction

using a 3-5 question survey where participants rate their experience on a scale of 1 to 5.

Methodology

Source

In this method, the collected data have varying units. For instance, task completion time is measured in seconds, completion rate is represented in binary data, and satisfaction is measured on a scale of 1 to 5 without any specific unit.

To create an index, we utilize the Z-Score method to standardize the collected data and establish benchmarks for each metric. This allows us to scale all the data points to a range of -100 to +100 for effective comparison.

Source: A Method to Standardize Usability Metrics Into a Single Score, Jeff sauro

Our Process

We initially acquired the requisite data through the execution of a usability test.

Then we plotting the raw data for completion rate, completion time, and satisfaction on a graph, along with a 90% confidence interval.

Next, we standardize each data point using the Z-Score method to ensure they have the same scale and can be compared accurately.

Finally, we add all the standardized data points together to calculate the final SUM index.

Collecting Data

Conducting Usability Test

In order to gather the necessary data for this project, it was imperative to conduct a usability test. Moreover, as there was a need to perform certain data manipulations in this project, it was vital for our statistical sample to have a minimum size that would represent the characteristics of the statistical population adequately. Hence, the sample size needed to be relatively large.

Participants

Participants are people who want to introduce their small or big business.

Participants should be between 20 - 50

Participants should have different gender and abilities

Collecting Data

KPI's

- Completion Rate
- Time on Task
- Satisfaction

Usability Method

- Unmoderated- Remote
- 50 Participants
- 4 Task
- Each session will last for 10-15 minutes

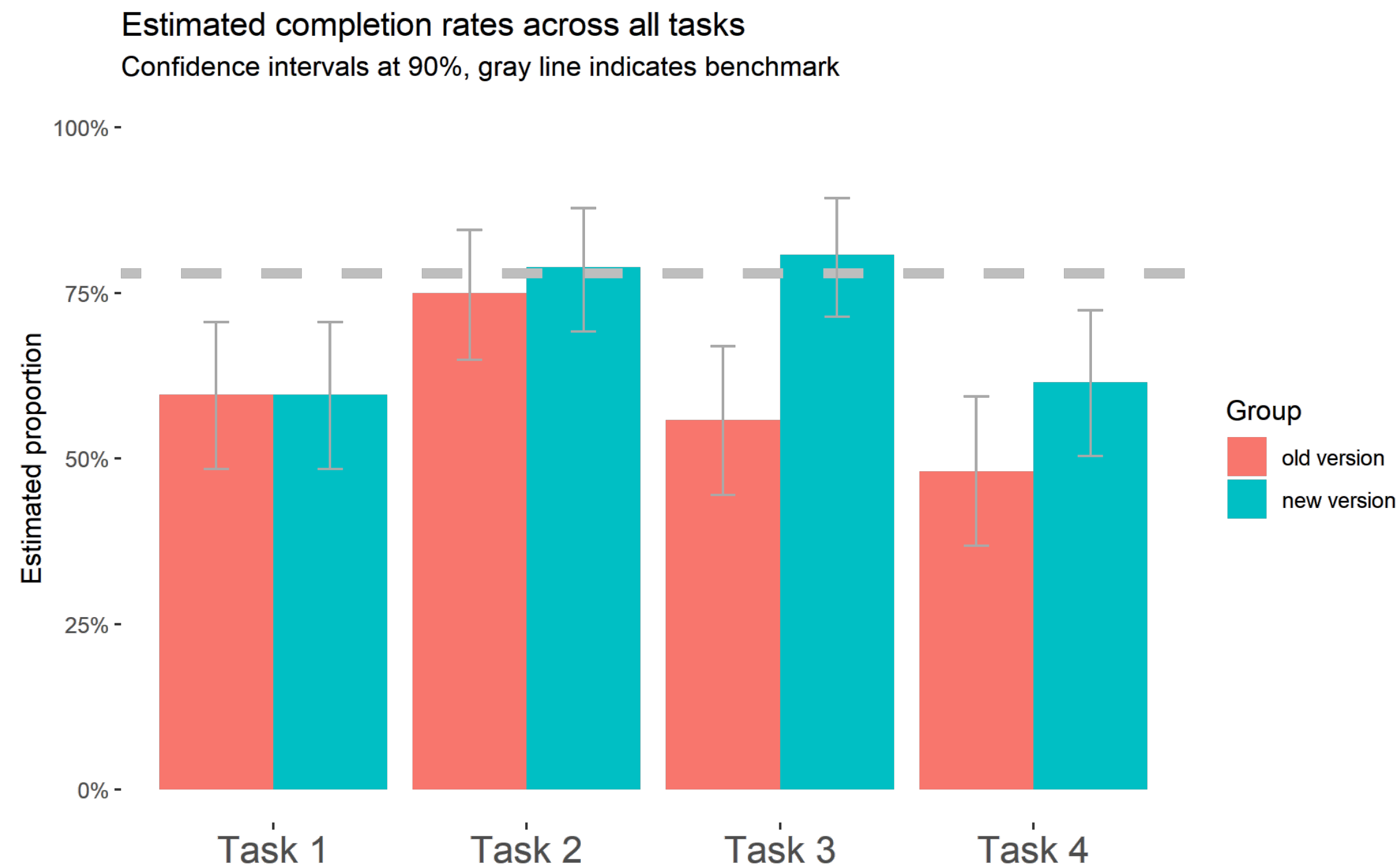
Data group

Quantitative data was collected from usability testing of both the old and new versions, resulting in two distinct sets of data.

Scripts

1. From the landing page, go to the catalog creation page and create a new catalog.
2. Choose a template and customize its color, photo and text.
3. Enter your phone number, address and website link.
4. Save your catalog and get its output link and file.

statistical analysis



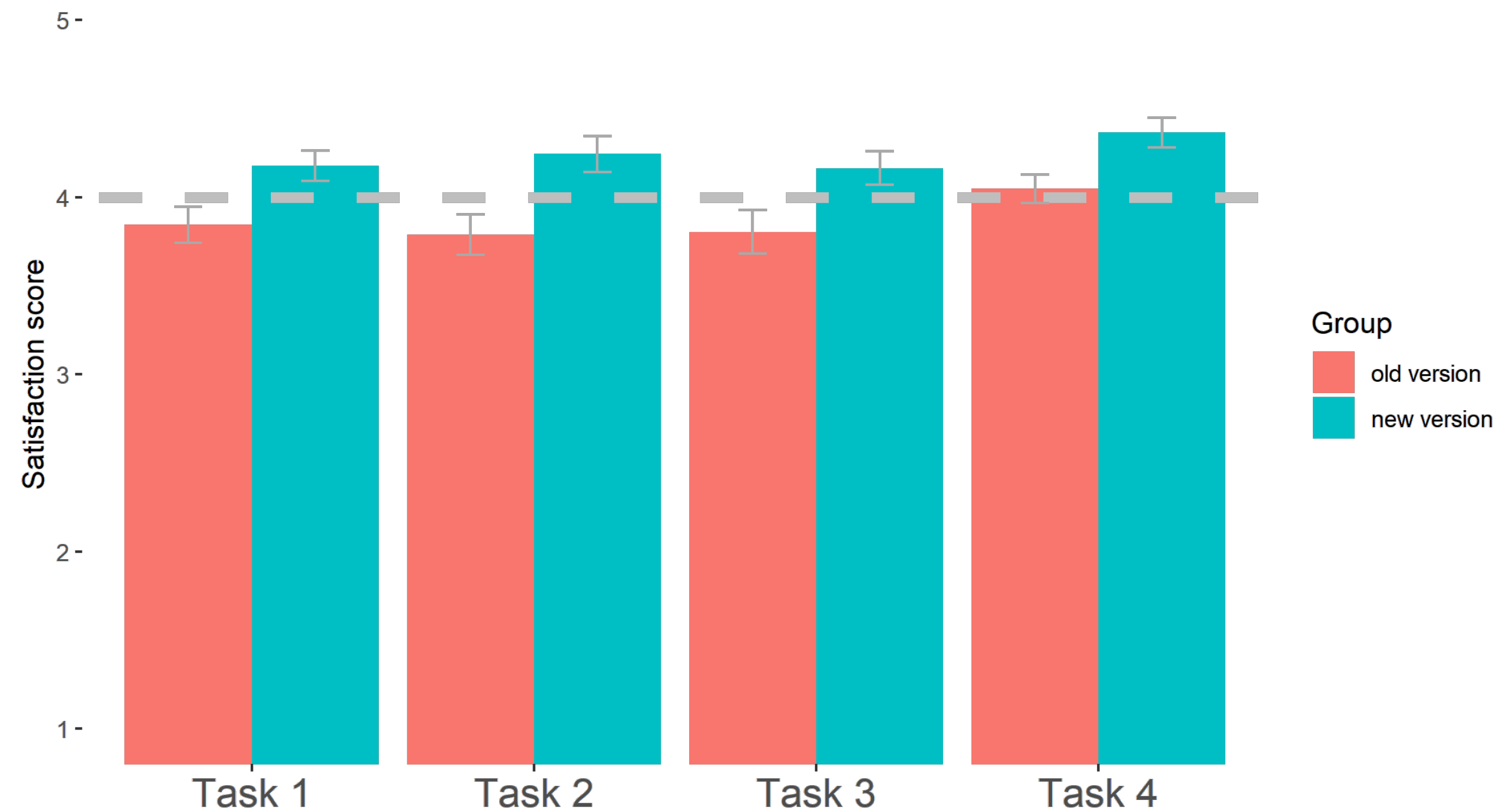
Details

This graph compares the task completion rate of the old and new versions. We asked 50 people to perform 4 tasks in each version and calculated the average results for each task. The confidence interval used is 90%.

statistical analysis

Average satisfaction measure scores across all tasks

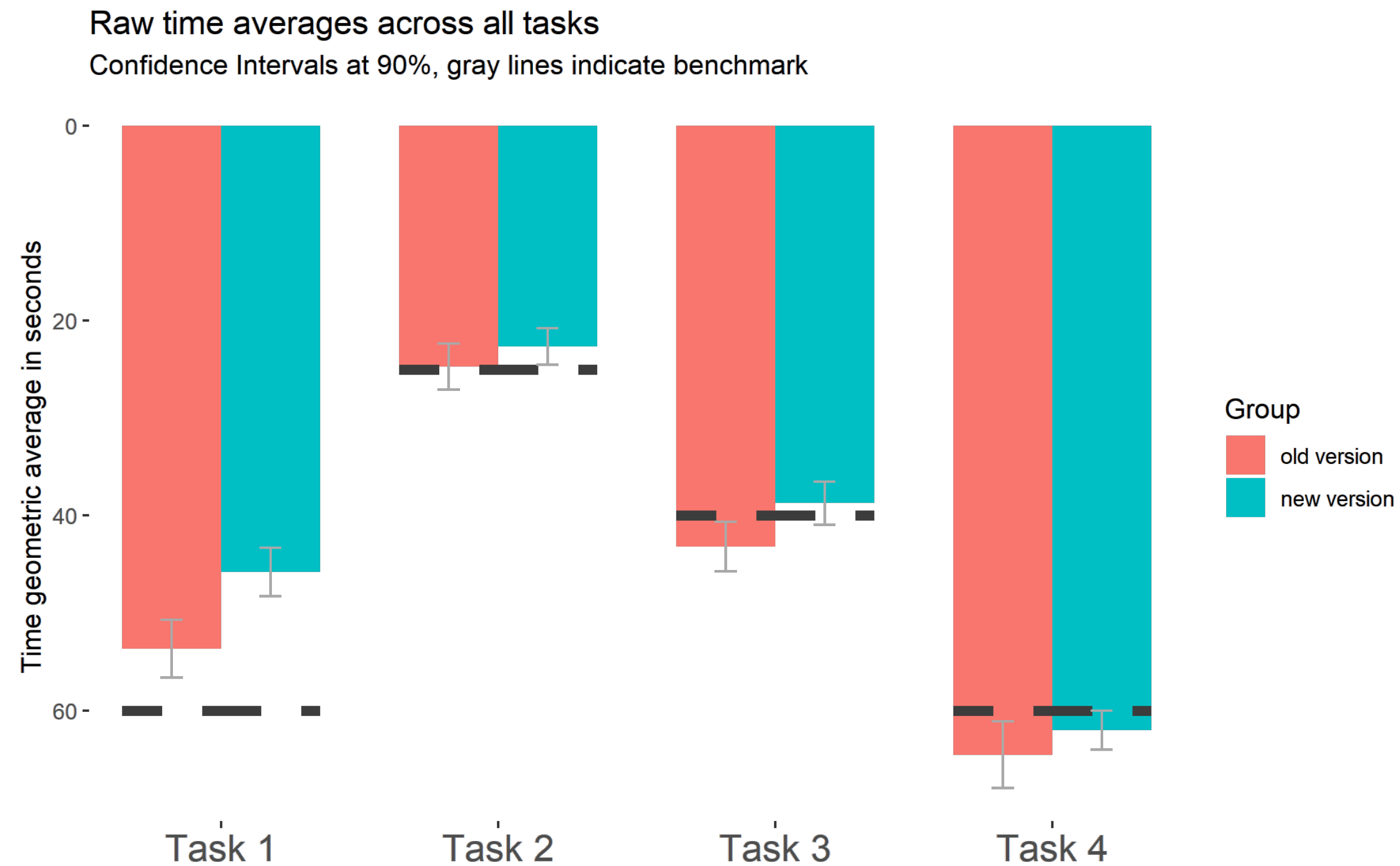
Confidence Intervals at 90%, gray line indicates benchmark



Details

This graph displays the average user satisfaction level for both the old and new versions. After completing the tasks, we asked the 50 participants to rate their satisfaction level on a 1 to 5 scale in a 5-question questionnaire. The average score for each version is shown on the graph.

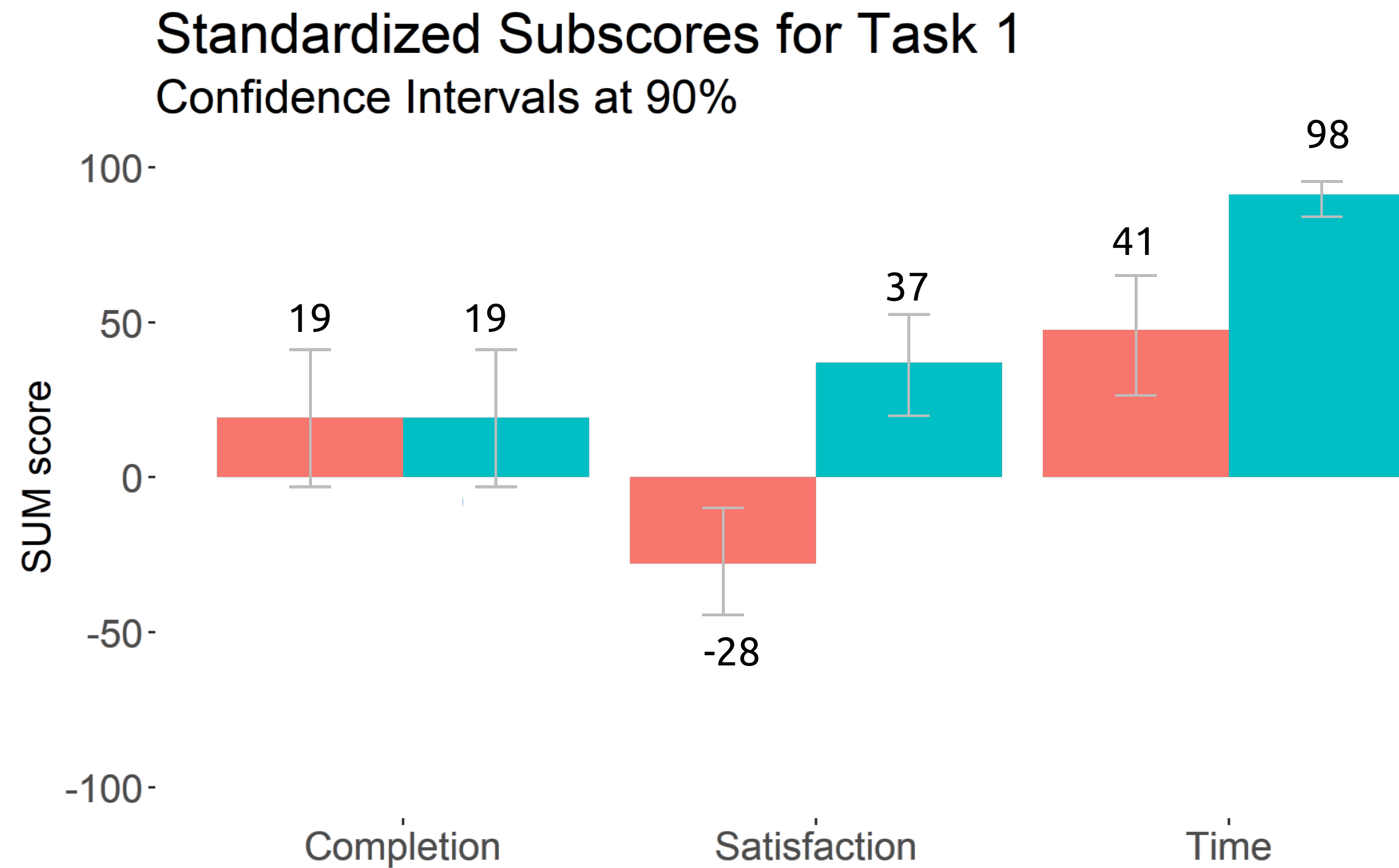
statistical analysis



Details

This graph presents the average task completion time for each version. It is displayed in reverse order as the criteria for comparison is different. In other words, a shorter task completion time indicates better performance, while a longer time indicates poorer performance.

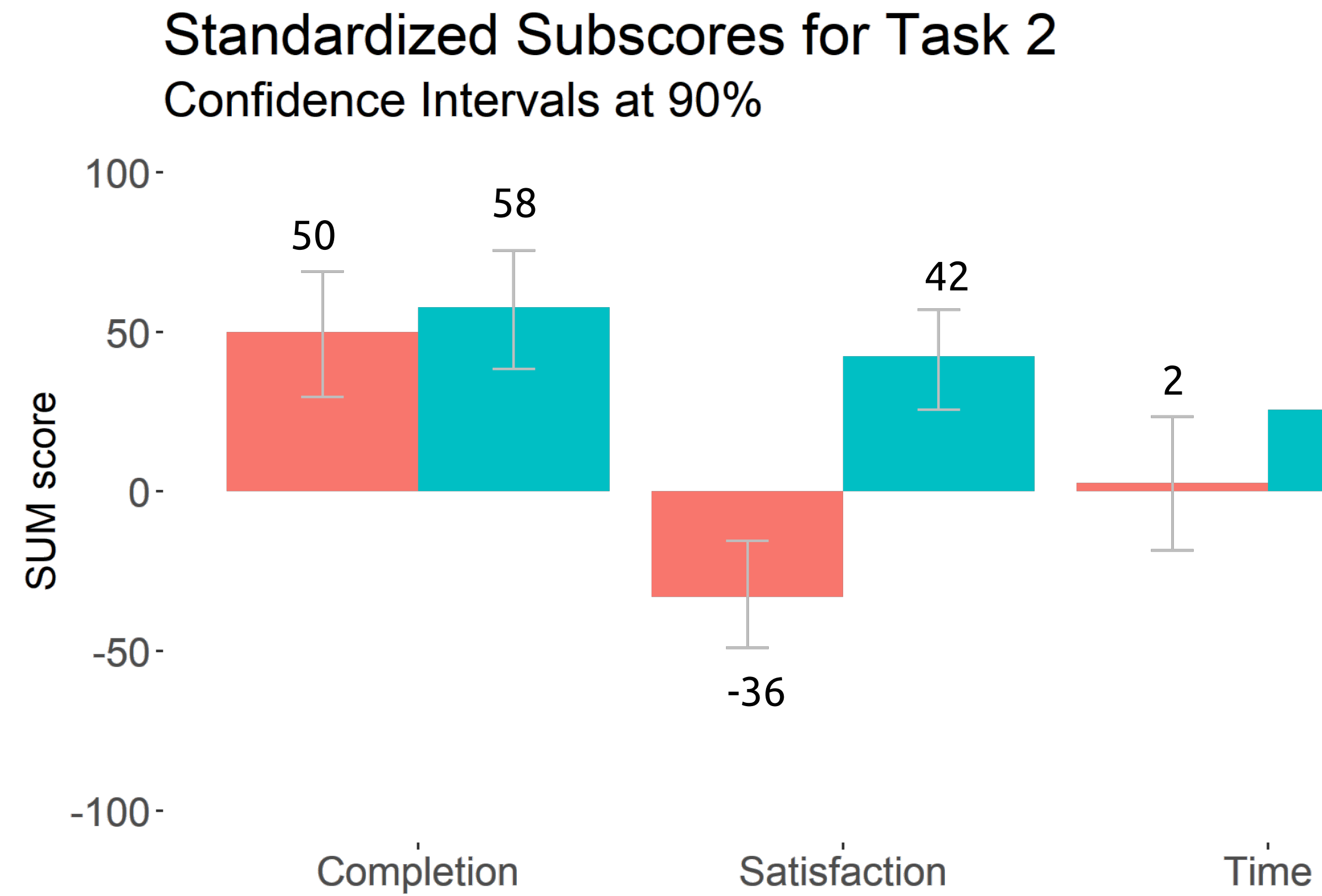
statistical analysis



Details

The previous charts showed that the units of measurement for our three metrics were different. To make them comparable, we standardized them using the Z score method. In this chart, we applied this method to Task 1, converting the completion rate, completion time, and satisfaction into comparable numbers.

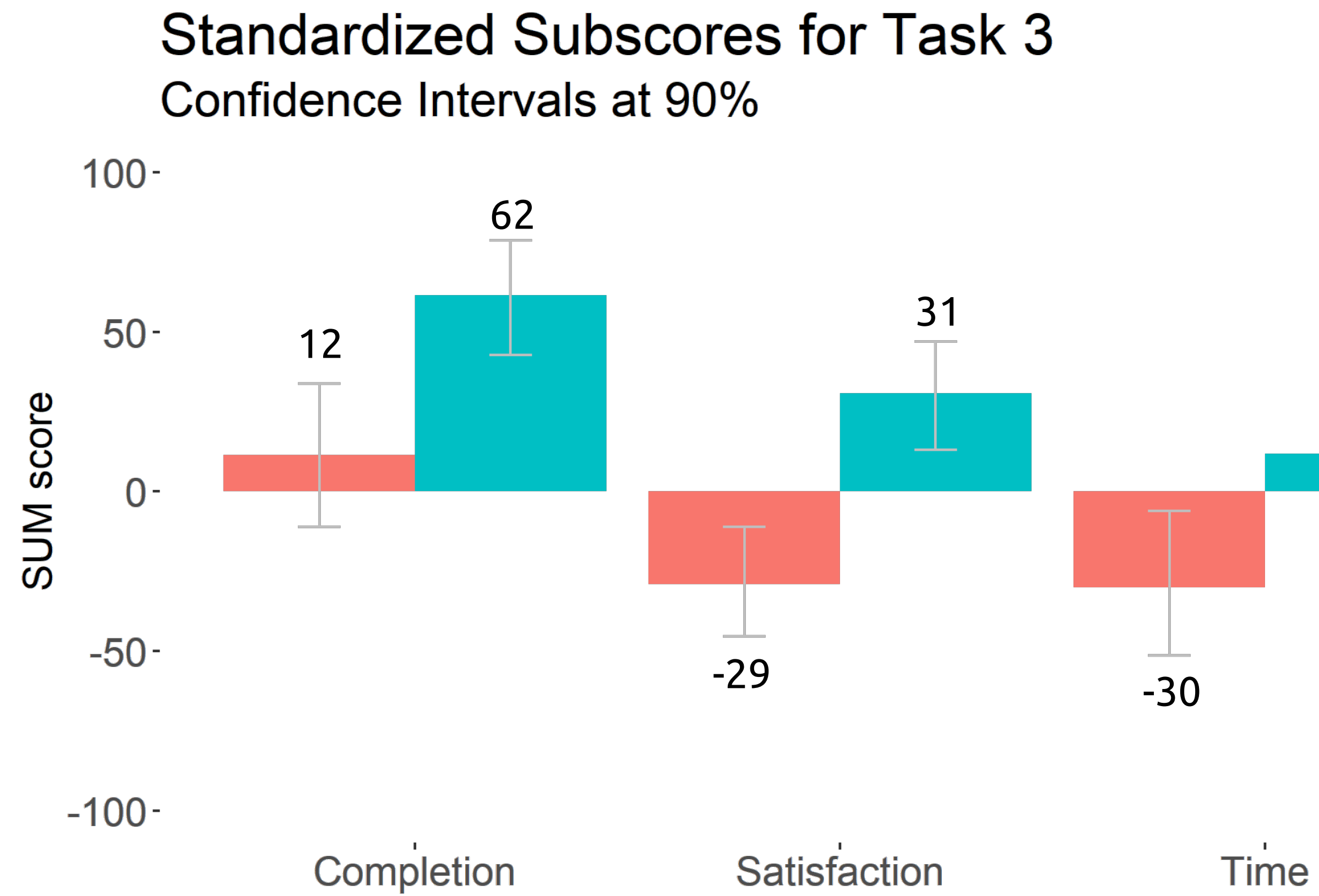
statistical analysis



Details

I repeated the process for task 2.

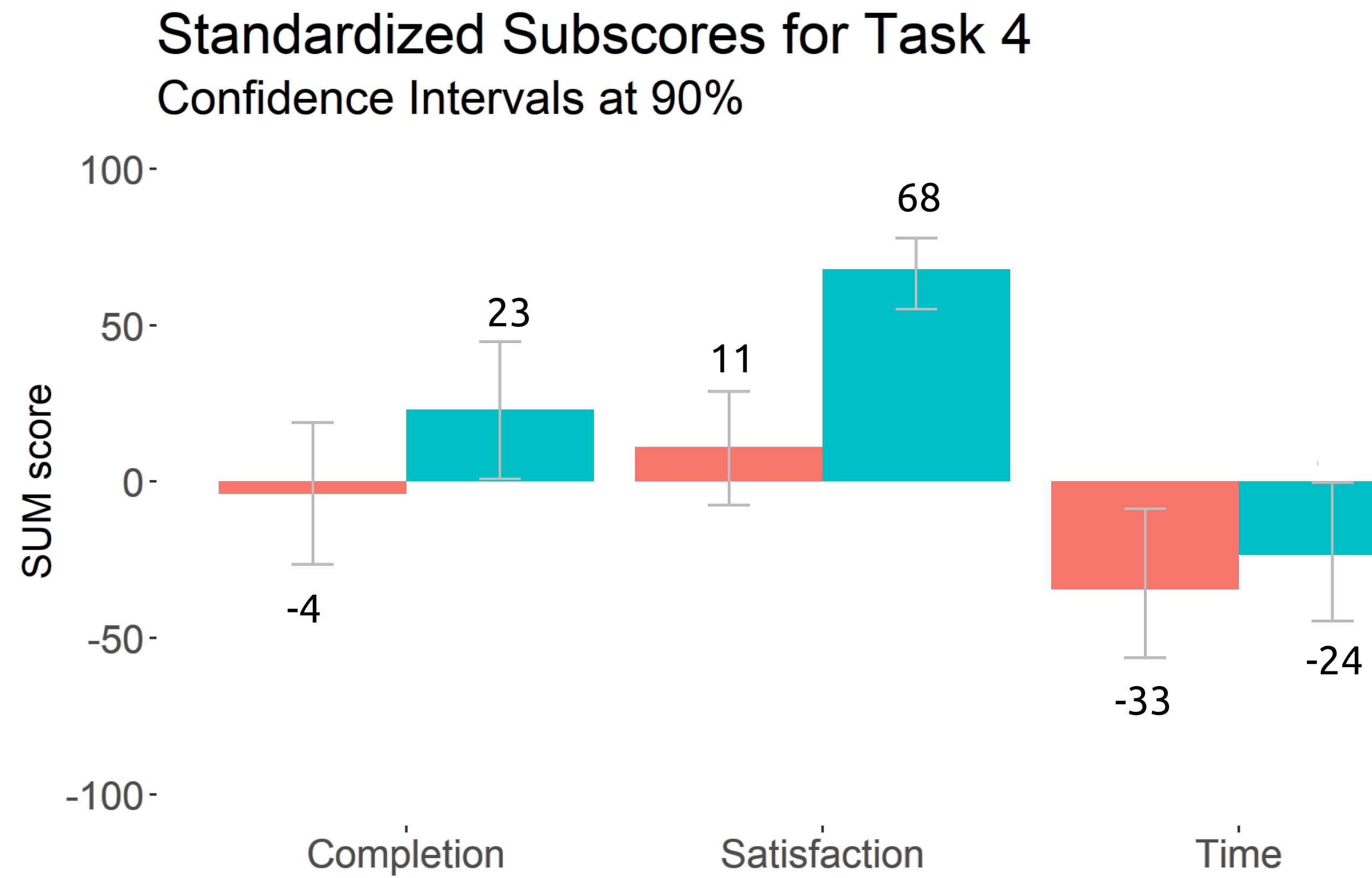
statistical analysis



Details

I repeated the process for task 3.

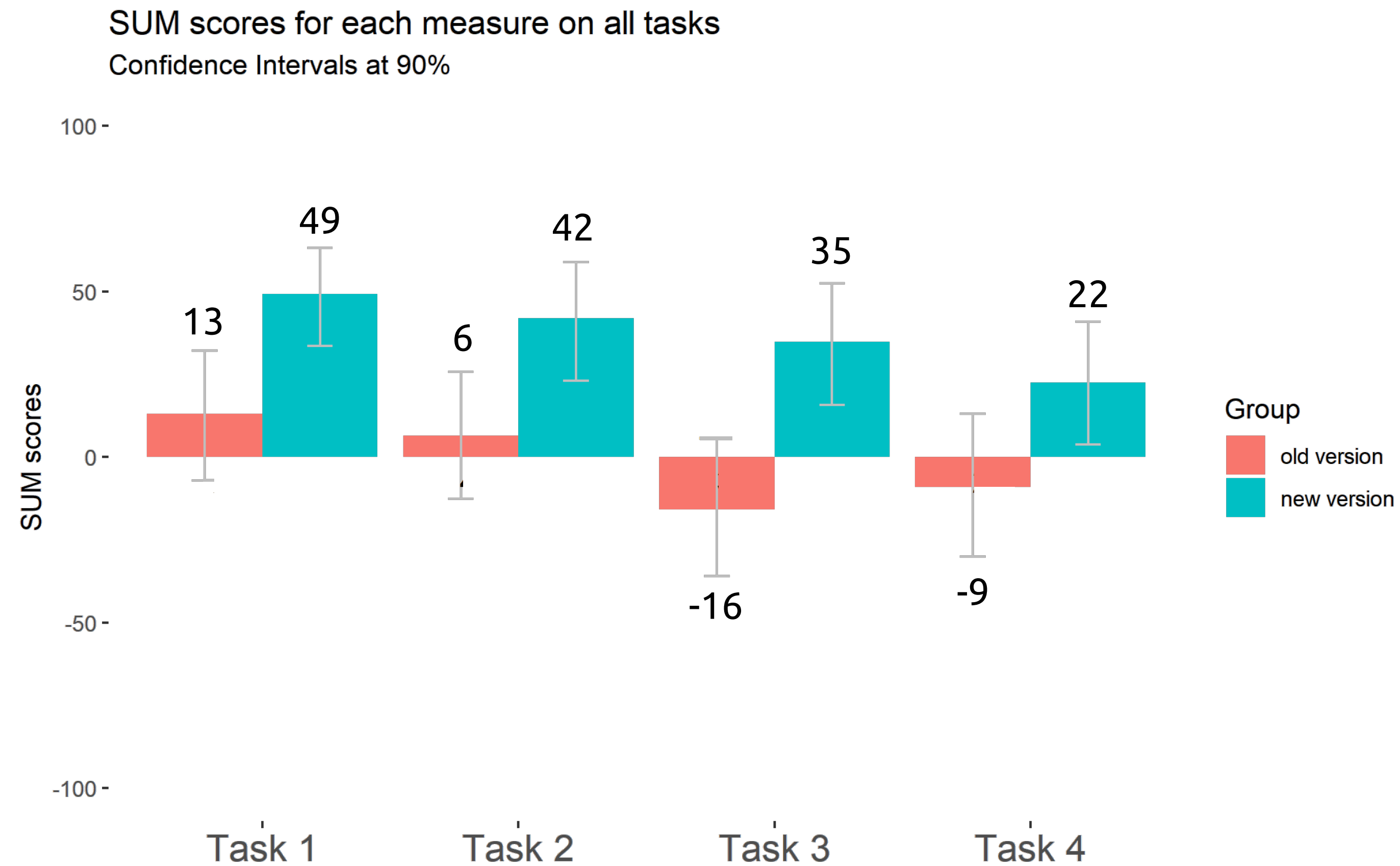
statistical analysis



Details

I repeated the process for task 4.

statistical analysis



Details

Now that we have standardized the three different metrics for each task to z-scores, they can be easily combined since their units have been eliminated. In the final chart, the scores are added together to obtain the final SUM index. This single number can be used to compare the usability of pages over time, making it an effective tool for evaluating changes in usability.

Interpretation of results

The SUM index has revealed a notable improvement in all four tasks, which provides evidence of the positive impact that the new design has had on the usability of the page. This process can now be repeated in order to measure the usability of the page quantitatively over time and after changes have been implemented, thereby generating reliable data on the effects of such modifications.

The statistical analysis was conducted with a 90% confidence interval and revealed a significant difference between the old and new versions of the page.

That's correct! By using a 90% confidence interval, we can be reasonably sure that the observed differences between the old and new versions of the page are statistically significant and not simply due to chance or random variation. This level of confidence allows us to draw more reliable conclusions about the effectiveness of the changes made in the new design.

Thank you for your interest in the project. If you would like to access the data and code used in the study, please feel free to contact me via email and I will be happy to share the materials with you. Thank you again for your time and interest in our work.

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