Getting the Most Out of ClimateQUAL: Interpreting and Presenting Your Results

The ClimateQUAL (CQ) survey, administered by the Association for Research Libraries (ARL), provides a standardized assessment of employee perceptions of clarity and working conditions within academic libraries.

In 2015, the Smathers Libraries at the University of Florida administered the CQ survey to library staff. After receiving our CQ results from ARL, we undertook a lengthy program designed to make these results more useful and understandable.

This poster outlines two major elements of this program:

Interpretation of CQ Results: We discuss two characteristics of the CQ survey results that can hinder an accurate interpretation, and propose ways that libraries can address them.

Enhancing CQ Graphics: Effective data visualization is crucial. We show how we extended the standard CQ charts by adding and combining data elements, and created new visualizations to increase understanding and facilitate discussions.

As is widely recognized, data visualization plays a crucial role in the effective presentation of statistical results. The graphics supplied by CQ focus on the averages, or means, and they also provide the standard deviations of the means.

Interpretation 1: CQ Survey Questionnaire

One key issue involves the CQ survey itself. Since administering libraries do not receive the full questionnaire with their survey results—the questionnaire is seen only by respondents as they take the survey—their company may engage a third party to interpret CQ results. We can see this by examining one of the scales addressed in the survey: Distributive Justice.

### Scenarios calculated on a 1-7 scale

**Figure 1: Sample Distributive Justice Scores**

These summary scores were created by adding scores from four individual Distributive Justice survey questions, and that the Distributive Justice scores provide a useful summary of employees' opinions in this area. However, only two of these questions are available—provided as ‘sample questions’ by ClimateQUAL:

- Question 1  Mean: 2.4
- Question 2  Mean: 2.8
- Question 3  Mean: 2.6
- Question 4  Mean: 6.6

**Aggregate Score:** 3.6

Accordingly, since we have access to only two of the four survey questions, it is not entirely clear what the summary scores represent, nor what sorts of specific work issues went into these scores. This can make it hard to identify specific employee concerns and to target them programmatically.

To address this, if the question set remains available, one should keep in mind that the CQ survey results represent the beginning of a longer process. After receiving their survey results, participating libraries use them to prioritize areas to discuss and to devise programs that can address any identified problems or concerns. Presumably, these discussions could expand upon or clarify the CQ results by attempting to recall the types of concerns that were originally tapped by the survey, and thus bring them back into the discussion.

### Interpretation 2: Aggregate Statistical Results

In most areas, ClimateQUAL reports its results as a set of aggregate statistics. Aggregate statistics provide a useful summary, but they can be hard to interpret.

For Distributive Justice, these statistics were created by combining responses to four individual survey questions, and the statistical results for these individual survey questions are not provided. Accordingly, it is unclear how well these aggregate statistics reflect the scores on individual survey questions.

We can see this with a hypothetical example. Consider this hypothetical scenario:

| Question 1 | Mean: 3.7 |
| Question 2 | Mean: 3.6 |
| Question 3 | Mean: 3.4 |
| Question 4 | Mean: 3.7 |

**Aggregate Score:** 3.6

As this example suggests, identical aggregate scores can result from very different patterns of individual question results. Accordingly, these aggregate scores provide little precise information about the individual question scores for our library. We suggest that simple awareness represents a useful approach here. Libraries interpreting and implementing their CQ results should be aware of the possibility that the single, reported statistic will conceal significant underlying variation in specific responses.

Graphics 1: Enhancing CQ Graphics

As a widely recognized, data visualization plays a crucial role in the effective presentation of statistical results. The graphics supplied by CQ focus on the averages, or means, and they also provide the standard deviations of the means.

This graphic is well designed—the means are the central results, but it omits some other important statistical data points that provide context needed for better interpretation.

### Graphics 2: Flipped CQ Graphics

While the standard CQ graphics focus on a useful way to view survey results, other formats also are possible. In contrast to the approach examined above, which shows Distributive Justice scores for all units, we discovered that unit-level discussion were enhanced by visualizing present all scales for the unit.

This graphic provides the staff of each unit, for example, a branch library (West), with an convenient way to compare all CQ scores for their department, with those of other library units and departments, and with all employees and all institution means.

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