# ASCR ECX Evaluation Toolkit

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# README for ETK 2 Alternative Forced Choice Module

## File List:

* ETK-2AFCQualtrics.html
* ETK-2AFCQualtrics.css
* ETK-2AFCQualtrics.js
* ETK-2AFCREADME.docx
* ETK-2AFCSurveyFlow.png
* Sample Images: Image00.png – Image04.png

## Overview

This module is intended to be run within a Qualtrics survey. Qualtrics survey software can be found at www.qualtrics.com.

The 2 Alternative Forced Choice method is a psychophysical technique to find a threshold or a change point. In this image-based implementation, a participant (study subject) is shown a series of pair-wise comparisons. All comparisons are against a single *baseline* image. The baseline image must be the first image in the list of “Test” images and the baseline image is, by default, compared against itself to get the 50% starting point in a classic 2AFC experiment. Each pair of images is shown randomly as A vs. B or B vs. A. The set of pairwise comparisons are shown in random order. A generic study within Qualtrics might consist of:

1. An IRB consent block/question.
2. An introduction block/question to explain the task and how an image should be chosen out of the pair shown.
3. A study block with a 2AFC module question.
4. A demographic block containing any relevant demographic questions.

## Instructions for implementation of the 2 Alternative Forced Choice Module

There are three files that work together for the implementation, an HTML, a CSS and a JavaScript file. The CSS file is added in the Look and Feel part of the survey options. Choose the Advanced tab and click on Add Custom CSS. Cut and paste the CSS sheet as directed. The HTML and JS files are added in the individual question. Choose a Descriptive Text question type. Click on the question text and an HTML View tab will appear. Click on the HTML tab and insert the HTML file. The list of images will need to be updated as will the phrasing of the specific question under study. Lastly, to the left of the question is the settings icon. Click on the settings icon and choose Add JavaScript. The custom JavaScript code should be added there.

Detailed information on developing surveys and using the Qualtrics JavaScript API can be found on the Qualtrics website.

A set of five example images are included so the user can explore the functionality. An imgURL variable is used to point to the URL host for the images and must be modified by the user.

For each image pair, information on which choice was made corresponding to each of the Test images must be saved to embedded variables. The Qualtrics JavaScript API allows the user to write out information via the setEmbeddedData method. The embedded data variables MUST be created within the Survey Flow in order to save this information. An example Survey Flow screenshot in included. Each comparison is saved with the name of the Test image shown and the choice that is made: 1=Baseline Image; 0=Test Image. By default, the names and choices are saved as “nX” and “cX”. If the user wishes to change those defaults, the JavaScript file must be edited so that the embedded data variable names match the ones created in the survey flow. More information on creating embedded data variables and the survey flow can be found on the Qualtrics website.

A Boolean variable, AllOneSide, is used as a check to make sure that participants are faithfully completing the task. If a user always chooses the left (or right) button, the AllOneSide flag is set to 1. This can be used in post-processing to remove bad participants. Again, AllOneSide must be declared in the Survey Flow as an Embedded Variable (with no preset value). Note that if AllOneSide is false, it is not written out by Qualtrics.

## Amazon Mechanical Turk

Amazon Mechanical Turk, <https://www.mturk.com/mturk/welcome>, is a crowdsourcing site that can provide a convenient source of study participants for online studies. A URL link to a Qualtrics study can be input into an Mturk HIT to launch a study. More information can be found on the Mechanical Turk website.

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