

# An Exploratory Study on Relationship Between Preference and Scanpath — Evidence from Color Preference Sorting Task

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Researchers have used subjective rating methods such as survey and pair-comparison procedures to study preference of human beings in the past century. Less empirical studies were done using the eye-tracking method. This paper provides first empirical data using eye-tracking experimental method to explore the relation between subjects' color preference and their scanpath. Visual stimuli used in this study were seven different kinds of objects (color chip, cup, T-shirt, chair, motorcycle, floppy disk, and backpack) with their 8 primary colors (red, orange, yellow, yellow-green, green, blue-green, blue, and purple). Identical objects with eight different colors were presented on the computer screen each time. Subjects were given five seconds to browse each object with eight different colors per trial. An eye tracking machine

was used to track their eye movements. After subjects finish browsing all objects, they were asked to rank the color preference for each object. Results from MANOVA showed that the fixation time, fixation counts and return counts were significantly longer and higher for more preferred colors. In addition, subjects had longer fixation time and higher fixation counts for color chips than other kinds of objects. In general, we concluded that eye-tracking paradigm provides another method to measure color preference objectively. Moreover, colors and other details of objects may be another important factors to attract subjects' eye movements.

**Keywords:** *color preference, eye tracking, fixation time, fixation counts*

