

Cognitive strategy and task difficulty are both evident in third-party observations of visual search

Allison A. Brennan, Marcus R. Watson, Alan Kingstone, & James T. Enns University of British Columbia

Abstract Number: 4069

Are cognitive processes visible in thin-slices of behavior seen by onlookers?

Traditionally, visual search measured by response time and accuracy, with three classes of factors having an influence:

Stable Traits – individual ability (Boot et al., 2009)

Temporary States – cognitive strategy (Smilek et al., 2006)



Stimulus Factors – clutter, eccentricity (Wolfe et al., 1998)

Two Phase Approach

Phase 1: 24 participants search for common objects in cluttered office



Easy Search Hard Search

Phase 2: Groups of raters, blind to hypotheses, rate behavior as seen in video-clips of searchers

Video-clips randomly ordered and balanced for trait (fast, slow searchers), state (active, passive strategy) and stimulus (easy, hard search) factors.



1. Some thin-slice ratings equal or exceed RT in discriminating traits, states, and stimulus factors.

Results

Stable Traits - Activity & Head Ratings > RT > Eye Ratings

Temporary States - Activity Ratings = RT > Head, Eye Ratings

Stimulus Factors - No Ratings quite as good as RT

2. Ratings reveal a State-Trait Congruency Effect!

Joy in search comes from adopting a strategy consistent with personal style

Implication



There is more to visual search than speeded RT. Many aspects of

cognition are visible to onlookers – observable behavior can be used

to better understand hidden mental processes.