

## "Eye Tracking Methods for the Behavioral Scientist"

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### Abstract

Since the development of eye tracking methodologies, researchers have been able to get a glimpse into the mental processes involved with performing a task (e.g., making a decision). The advantage of such studies is that they allow one to go beyond studying the outcome of the task (i.e., the choice) and monitor the *process through which* a person goes about making such a choice. Because where someone is looking and what they are paying attention to are tightly coupled (i.e., there is an eye-mind link), researchers can track the decision maker's attention throughout a trial. With this information they can investigate both the sequence with which the decision maker samples information about decision options, as well as the duration of time they spend considering them. In so far as decision-making theories make predictions these behaviors, these methods will be useful in adjudicating between conflicting models with differing accounts.

Eye tracking methods, however, are not a panacea and are limited in their ability to support inferences about some aspects of decision-making. For example, it is difficult or impossible to study decisions about choices with no visual referent (i.e., options that are not visually present) and visual attention can be captured by decision-irrelevant properties of the display (i.e., bright colors or flashing objects).

In this talk I will provide an overview of how eye tracking works, describe a simple experiment using eye tracking to study visual decision-making (Schotter, Berry, McKenzie, & Rayner, 2010), and provide some general guidelines and considerations for researchers who want to apply such methods in their research programs.