

## **Seeing the future: Exploring presentiment with eye gaze and pupillary dilation**

### **Results:**

A broad range of human activity is involved in anticipatory behavior, from the placebo effect, to predicting the next influenza strain, to catching a baseball. Conventional models of anticipation assume that events unfold in a strictly unidirectional flow of time, from past to future. This assumption was tested experimentally.

Pupillary dilation, spontaneous blinking, and eye movements were tracked before, during and after participants viewed photographs with varying degrees of emotional affect. Photos were selected uniformly at random with replacement from the International Affective Picture System. Eye data prior to exposure to emotional and calm photos were compared using nonparametric differential procedures. Eye data were predicted to show larger anticipatory responses before emotional photos than before calm photos, under conditions that excluded sensory cues, statistical cues, and other conventional means of inferring future events.

Pupillary dilation and spontaneous blinking increased more before emotional vs. calm photos (combined  $p = 0.00009$ ). Horizontal eye movements indicated a brain hemisphere asymmetry before viewing the photos that was appropriate to both the emotionality ( $p = 0.05$ ) and the valence of the future images ( $p = 0.01$ ). Overall females tended to perform better than males.

In alignment with the outcomes of previous studies based on other physiological variables, this outcome suggests that comprehensive models of anticipatory behaviour may require consideration of transtemporal influences from the future.

### **Published Works:**

Radin, D. I. & Borges, A. (2009). Intuition through time: What does the seer see? *Explore: The Journal of Science and Healing*. 5(4), 200-211.

### **Researchers' Contacts:**

Dean Radin, PhD  
Senior Scientist  
Institute of Noetic Sciences  
101 San Antonio Road, Petaluma, CA 94952 USA  
Email: [dean@noetic.org](mailto:dean@noetic.org)  
707-779-8233  
[www.ions.org](http://www.ions.org)  
[www.deanradin.com](http://www.deanradin.com)