

Title: Am I Being Watched? The Hawthorne Effect Modulates Neural Responses in a Sequential Learning Task

Authors: Ashley Lauterbach, Peyton Raley, and Joanne Deocampo

Introduction:

Research on the Hawthorne Effect suggests that behavior changes dramatically when participants know they are being watched (Kidwai and Abujudeh 2015). However, it is unknown if the Hawthorne Effect affects neural responses as measured by event related potentials (ERPs). It is also not known whether the Hawthorn Effect affects incidental learning. We hypothesize that telling participants they are being watched will encourage them to pay attention, which will cause a change in ERP patterns during an implicit sequential learning task.

Method:

Two groups of adult participants were recruited (n=17 and n=5, with data collection ongoing). The first group was not observed. For the second group, we are monitoring participants by video and telling them that we are watching them. The experimental task consists of participants responding to a target within a sequence of stimuli. In each trial, the target is preceded by a high probability predictor (HP), low probability predictor (LP), or no predictor (NP). ERPs were time-locked to the predictor conditions with learning evidenced by distinct ERP responses to the three predictor conditions.

Results:

Although there are currently too few participants in the second group for significant results, preliminary 3(predictor) x 2(block: beginning or end of task) repeated measures ANOVAs for each group suggest that the two groups are showing different ERP patterns. In the first group (no observation), there was a predictor*block interaction in which the HP and LP ERP amplitudes remained the same across blocks while the NP ERP amplitude increased substantially. However, thus far, the second group appears to have a different pattern across blocks in which only the LP amplitude increases dramatically.

Discussion/Conclusion:

Results thus far suggest that the two groups of participants show different ERP patterns. Because the only change across groups was the introduction of the camera, the change in ERPs across conditions suggests that ERPs measured in an implicit learning task may be susceptible to the Hawthorne Effect. It may be that being observed encourages adults to attend more carefully to the task.

Key words:

Hawthorne/ Observer Effect
Event Related Potential (ERP)
Sequential Learning

Source:

Kidwai, A. S., & Abujudeh, H. H. (2015). Radiologist Productivity Increases With Real-Time Monitoring: The Hawthorne Effect. *Journal Of The American College Of Radiology: JACR*, 12(11), 1151-1154. doi:10.1016/j.jacr.2015.03.041