The Relationship Between Latent Inhibition and Performance at a Non-intentional Precognition Task

Glenn A.M. Hitchman, Ph.D.# Simon J. Sherwood, Ph.D., and Chris A. Roe, Ph.D.

Context: Many spontaneous cases of extra-sensory perception (ESP) seem to occur without the conscious intent of the experient to manifest any anomalous phenomena. Indeed, Stanford's psi-mediated instrumental response (PMIR) theory, which frames ESP as a goal-oriented function, goes as far as to suggest that such intent may be counterproductive to psi.

Objectives: The present study was the latest to build on the successful paradigm developed by Luke and colleagues in testing the non-intentional psi hypothesis and potential covariates of psi task success. This study focused on the ability of latent inhibition—an organism's cognitive tendency to filter out apparently irrelevant information—to predict an individual's sensitivity to psi stimuli.

Method: A total of 50 participants completed a two-part auditory discrimination performance measure of latent inhibition; a battery of questionnaires; and a 15-trial, binary, forced-choice, non-intentional precognition task. They were then either positively or negatively rewarded via images from subsets that they had pre-rated, seeing more images from their preferred subsets the better they performed at the psi task and vice versa.

Results: Participants scored a mean hit rate of 7.96 [mean chance expectation (MCE) = 7.50], which just failed to reach a statistically significant level, $t(48) = 1.62$, $P = .06$, one-tailed, ESr (effect size correlation) = 0.23. However, latent inhibition was found to be unrelated to participants' precognitive performance.

Key words: Extra-sensory perception, non-intentional precognition, latent inhibition

(Explore 2015; 11:118-126 © 2015 Elsevier Inc. All rights reserved.)

INTRODUCTION

Researchers in the field of parapsychology are concerned with the investigation of the potential existence of what have been termed "psi phenomena." According to Palmer,[1] psi can be defined as "a correspondence between the cognitive or physiological activity of an organism and events in its external environment that is anomalous with respect to generally accepted *[basic] limiting principles* of nature" (p. 139). One example of a purported psi phenomenon is known as extra-sensory perception (ESP), defined by Thalbourne[2] as "The acquisition of information about, or response to, an external event, object or influence (mental or physical past, present or future) otherwise than through any of the known sensory channels." The importance of studying ESP is highlighted by the prevalence of the general public's belief in the phenomenon as well as the volume of anecdotes of purported manifestations, whether willful or unintended, of extra-sensory phenomena. Fairly recent surveys conducted by the market research company MORI[3,4] found that 64% and 54%, respectively, of UK adult respondents indicated that they believed in ESP/premonitions, with 41% and 48%, respectively, of those canvassed claiming to have personal experience of the phenomena. Furthermore, data from Gallup polls[5,6] and Icelandic research[7] indicate that Americans and Europeans have a similar profile of belief in ESP.

Rhine[8] highlighted that a property of spontaneous cases of extra-sensory perception, as distinct from those instigated or sought after, is the absence of the conscious intention of the experient to manifest any kind of anomalous cognition. Indeed, Broughton[9,10] has argued that psi, as it occurs naturally, may be an entirely unconscious process that has an evolutionary origin in helping to facilitate adaptive outcomes. One theory of extra-sensory perception that reflects this non-intentional, need-serving conceptualization of psi is Stanford's[11–14] psi-mediated instrumental response (PMIR) model. The PMIR model can be summarized as suggesting that psi is primarily a goal-oriented, unconscious function that can serve to help organisms achieve positive outcomes or avoid negative outcomes by triggering pre-existing behavioral responses. In detailing the model, Stanford noted that the conscious use of will or intent to manifest extra-sensory effects may be counterproductive to the psi process.

Centre for the Study of Anomalous Psychological Processes, Division of Psychology, University of Northampton, Park Campus, Boughton Green Road, Northampton NN2 7AL, UK

Corresponding author. Permanent address: 28 Windsor Road, Chichester, West Sussex PO19 7XG, UK.
e-mail: glenn_hitchman@yahoo.co.uk

 © 2015 Elsevier Inc. All rights reserved.
ISSN 1550-8307/$36.00

EXPLORE March/April 2015, Vol. 11, No. 2
http://dx.doi.org/10.1016/j.explore.2014.12.004

Recent empirical studies that have, in part, provided tests of Stanford's model include a series of four experiments conducted by Luke et al.[15,16] and Luke and Morin.[17] These four studies employed a computer based, non-intentional, forced-choice psi paradigm in which participants were asked to complete a picture preference task by indicating their favorite image from among four fractal patterns. Unbeknown to the participants, this was actually a covert precognition task as, immediately after they indicated their selection, the computer would randomly choose one of the images as a target, with the participant's selection being scored as a "hit" if it matched with the computer's selection, and as a "miss" if it did not. After 10 such tacit precognition trials, participants were "rewarded" or "punished" based on their performance in relation to the mean chance expectation (MCE = 2.5), thus capturing the goal-oriented nature of psi proposed by Stanford. Participants who scored more hits than would be expected by chance were rewarded by being shown either erotic or humorous cartoon images, whereas those who scored below chance were punished by having to take part in a boring number vigilance task. Mean hit rates were above chance in each of the four studies, significantly so for three of them. The four studies combined yielded a mean psi score of 2.92 [standard deviation (SD) = 1.46] hits, significantly greater than the MCE of 2.50 [$t(197) = 4.04$, $P = .000078$, two-tailed], with an effect size of ESr = .28[a].

Given the promise of the main psi effects reported by Luke and colleagues, Hitchman et al.[18,19] were interested to see if the results could be replicated by alternate investigators. The Hitchman et al.[18] study maintained the same experimental approach, but employed a rewritten computer program to rule out the possibility that the results obtained in previous studies were due to a software artifact and a refined contingent outcome task structure to provide a more sensitively graded level of punishment or reward. Additionally, the number of experimental trials per participant was increased from 10 to 15. Their subsequent study[19] was built upon this protocol but was further adapted to contain intentional as well as non-intentional precognition trials, and it employed a trial-by-trial rather than end-of-run feedback mechanism.

Participants in the Hitchman et al.[18] study scored more hits on the non-intentional precognition task than the mean chance expectation (mean hit rate = 4.02 vs. MCE = 3.75), but their performance did not significantly exceed chance, $t(49) = 1.14$, $P = .13$, one-tailed. Hit rates in the subsequent study[19] were at near-chance levels in both non-intentional and intentional trials. Despite the poorer performance of participants in the two studies reported by Hitchman and colleagues, a combined analysis of the six Luke and colleagues and Hitchman and colleagues studies together suggests that the paradigm overall has yielded significant evidence of tacit psi, Stouffer $Z = 3.75$, $P = .00008$, mean ESr = 0.19. This approach can therefore be considered worthy of further attention, especially with respect to its relevance to the PMIR theory.

In specifying the PMIR model, Stanford noted a number of factors that he believed to be key in determining the likelihood that a person would exhibit a psi-mediated instrumental response. In particular, he identified a person's sensitivity to extra-sensory information and their capacity to respond freely to such information as potentially being among the strongest predictors. With respect to a person's psi sensitivity, the focus on the present study, the latent inhibition construct was proposed as an indicator of receptivity to extra-sensory information. Latent inhibition is popularly conceptualized as a cognitive inhibitory mechanism that serves to screen out information that has previously been learned as irrelevant from receiving conscious attention.[20] Lubow[20] stated that individuals vary markedly in their capacity to exhibit latent inhibition, suggesting there may be substantial individual differences in people's sensitivity to psi.

The theoretical links between latent inhibition and Stanford's conceptualization of the functionality of psi appear to be well founded. For example, Eysenck[21] suggested that the generation of specific ideas and behaviors may be related to a deficit in cognitive filtering mechanisms, which would serve to limit the associations made between incoming information to only those processes that are relevant to situational and ongoing concerns. While it is not known how (or even if) extra-sensory information might be processed within the cognitive system, this theoretical assertion would certainly appear to provide a sensible basis on which latent inhibition could relate to the generation of psi-mediated instrumental responses: incoming extra-sensory information would stand less chance of being filtered out within the cognitive system of individuals with lower levels of latent inhibition and hence would have a greater propensity to be associated with subsequent cognitive processes involved in the generation of instrumental behaviors.

Despite the conceptual appeal of the latent inhibition construct, it is relatively complex and not straightforward to measure experimentally. The aforementioned studies by Luke and colleagues and Hitchman and colleagues employed Goldberg's[22] Openness to Experience (OE) scale as an indirect experimental proxy of latent inhibition on the basis that those with greater levels of openness tend to exhibit diminished latent inhibition.[23,24] Luke et al.[16] reported a significant positive correlation between Openness to Experience and precognition scores ($r = 0.46$, $P = .01$, two-tailed), although this result was not replicated in the subsequent study by Luke and Morin[17] ($r = -0.08$, $P = .64$, two-tailed). In their replication attempt, Hitchman et al.[18] reported a significant positive correlation between participants' tacit precognitive performance and their levels of Openness to Experience, $r = 0.29$, $P = .02$, one-tailed. Unexpectedly, however, in the subsequent Hitchman et al.[19] study, it was found that males' non-intentional precognition scores were *negatively* correlated with their levels of Openness to Experience ($r = -0.46$, $P = .04$). In considering these findings, Hitchman et al. (under review) noted that internal effects in the parapsychological literature are characteristically inconsistent,[25] and also expressed concerns over the use of a questionnaire proxy to give an indicative measure of latent inhibition. The main focus of the current study was therefore to identify a more direct, performance-based measure of latent inhibition to enable a

[a] Throughout this article, effect sizes for t tests are calculated according the following formula: $\text{ESr} = \sqrt{t^2/t^2 + \text{df}}$

Download English Version:

https://daneshyari.com/en/article/2685996

Download Persian Version:

https://daneshyari.com/article/2685996

Daneshyari.com