

Abstract for RIP 82

LEARNING TO USE PSYCHOKINESIS: THEORETICAL AND METHODOLOGICAL NOTES

Charles T. Tart (University of California, Davis)

In 1966, I proposed that if we provided immediate trial-by-trial feedback of results to initially talented percipients who were motivated to learn, they might increase their ESP performance, rather than showing declines (JASPR, 1966, 46-55). Given the expanded model of this process published later (JASPR, 1977, 375-408), this was a matter of discriminating relevant experiential characteristics of successful ESP responses so that a percipient could respond only on trials that were associated with such relevant, psi-hitting characteristics and/or deliberately induce such characteristics.

Any multiple-choice type ESP test, where the probability of a hit is p , has p proportion of chance hits. This proportion of hits will be associated with irrelevant experiential characteristics and so constitutes inherent noise and an extinction procedure. Thus a percipient must bring some higher-than-chance level of ESP performance to the task initially if learning is expected.

A review of the empirical research on ESP (JASPR, 1979, 151-165) provided strong support for the prediction that immediate feedback would usually eliminate decline. The rarity of talented percipients working in immediate feedback situations, however, leaves the prediction that learning can occur largely untested. An empirical estimate of the level of ESP talent that needs to be brought to the feedback training situation for learning to occur is that it requires a psi coefficient (Timm, JASPR, 1973, 282-294) of about 10%.

Although the original presentation of the learning theory focused on ESP, almost all aspects of it apply directly to the possibility of teaching improved PK ability through immediate feedback training. If initially talented

PK agents, who are motivated to learn, are given immediate, trial-by-trial feedback on their efforts, decline should be eliminated and improved performance should occur. The agent should be able to discern experiential qualities associated with successful PK use and either wait to try until these qualities are present and/or induce these qualities deliberately.

At first glance, the learning hypothesis seems contradicted by the PK literature. In the ESP test literature, immediate feedback has been rather rare, but immediate feedback has been almost universal in PK studies. The agent sees how dice fall or sees the indicator on the electronic random number generator (RNG) move one way or another. Yet Stanford notes (Handbook of Parapsychology, 324-381) that decline effects are common and incline effects rare in PK work.

Recalling the need for strong initial talent, however, due to the inherent noise level and extinction procedure caused by chance-produced hits, I reviewed the PK literature to see if the theory has been adequately tested.* It has not.

I have reviewed 33 successful (psi-hitting with P less than or equal to .05) studies of PK on mechanical systems (usually dice) and 35 similarly successful studies of PK effects on electronic RNGs, and computed psi coefficients for their most successful conditions. As distributions of psi coefficients did not differ significantly between the two types of studies, I then

*I am indebted to Barry Boatman for his library research for me on mechanical PK studies, and to Ed May for use of his review data that he collected for an SRI International report on electronic RNG PK studies.

looked at the combined results. The majority of psi coefficients fall in the 1% to 3% range, with 90% of all studies showing less than 10% psi coefficients. If the 10% psi coefficient I empirically estimated as necessary for learning ESP performance is a reasonable estimate of learning the rather similar multiple-choice PK type task, it is clear that there has been little chance for learning to occur in the vast majority of PK studies. The learning theory application has not been adequately tested, and the prevalence of declines is not surprising.

I would like to have seen whether learning had occurred in the few PK studies with high psi coefficients, or declines eliminated in those with moderate coefficients, but frequent lack of analyses for decline/incline effects and/or great variation in style of analysis precluded this analysis. Overall, the possibility that improved PK performance might be possible through immediate feedback training is still with us, but untested.

It should be noted that my learning theory application to both ESP and PK is about instrumental or operant conditioning, where we take a behavior that exists in poorly developed, unreliable form (initial psi functioning) and try to increase and stabilize it by informational feedback. The percipient/agent must be motivated to learn, otherwise they won't expend the effort needed. Because of this motivation, the information that you are right also acts as a reward, a positive reinforcer.

Recently Broughton, Millar, and Johnson (EJP, 1981, 317-344) applied an aversive conditioning procedure to try to increase PK. Using an electronic RNG PK task, they applied very strong, unpleasant electric shocks to their four would-be agents when they did poorly. No significant indications of PK were found in the data, much less signs of learning. Although these researchers connected their approach with my learning theory application, this connection is mistaken.

Tart -4

Aversive conditioning is applicable to an already well-developed behavior whose frequency we want to decrease. When the task is to try to discriminate subtle experiential correlates of a poorly developed and unreliable talent like psi, however, the physiological activation and anxiety resulting from aversive stimulation would only increase the noise level and make learning more difficult than ever. Thus there is no use for aversive conditioning procedures at our present level of development.

In conclusion, the provision of immediate feedback of results to motivated percipients or agents in ESP or PK tasks may lead to improved levels of performance on theoretical grounds. The rarity of talented agents in PK experimentation to date has not allowed adequate test of this possibility. If immediate feedback training can allow high level, stable ESP or PK performance, however, parapsychology will move on to much more fruitful research.