Rex G Stanford

Rex Stanford (1938-2022) was an American psychologist and parapsychologist known for his influential Psi-mediated Instrumental Research (PMIR) model.

Life and Career

Rex G Stanford was born in 1938 in Robstown, Texas.

Stanford's scientific interests were strongly supported by his parents. In his teens he read widely in science, including hypnosis, social psychology, psi research, Darwinist evolution, relativity theory and astrophysics. He also read philosophy, for instance Bergson, existentialism and eastern philosophies.

Stanford had planned to go into physics because of his interest in the fundamental nature of the world. He shifted to psi research after reading credible evidence for worldview-challenging psi phenomena. Psychological variables seemed to influence psi-task performance, so he decided to intensively study psychology and its research methods. He enrolled at the University of Texas where he earned a BA (psychology major) with high honors (1960-1963) and a PhD (1964-1967) with a cognitive psychology dissertation.

As an undergraduate, Stanford also focused on philosophy and took physiology courses to further his interest in neural function. His written discourse in a freshman philosophy course taught by Frederick H Ginascol led to an invitation to grade written materials for undergraduate philosophy courses during his remaining undergraduate years. This enhanced his skills in careful, understanding-directed, reading, and in providing evaluative written feedback to students.

His PhD (1967) dissertation was in cognitive psychology (using word-association methodologies) under Louis J Moran, a clinical psychology researcher. Moran had done cross-cultural studies of word association and understood the value of examining person-situation interactions, a major focus in Stanford's doctoral dissertation and in some of his later research. Graduate courses in philosophy of science and in psycholinguistics (philosophy department) were of special interest. He also valued a graduate social-psychology seminar under Elliot Aronson that required constructive written critiques of scientific reports published in refereed social psychology journals. Students received feedback on their critiques from the professor and from fellow students. These challenging exercises were invaluable with regard to later career demands.

Stanford's parapsychological career benefited from personal encouragement from JB Rhine and the financial support provided by Rhine's affiliated organizations (three summer research fellowships; two-year graduate study fellowship). He was inspired by Rhine's conviction that science can address the difficult problems of psi research. However, he differed from Rhine's view that psi-research methods should stay on the 'main line' methodologically, avoiding free-response ESP-test designs.

Stanford believed that methodology should be shaped by its suitability to address the questions driving the research.

Stanford carried out psi research as a research associate (1968-1973) in the Division of Parapsychology, Department of Psychiatry, University of Virginia School of Medicine, and in the Department of Psychology at New York's St John's University, as assistant professor (1973-1976), associate professor (1980-1983) and full professor (1983-2007); following his retirement he was awarded the status of professor emeritus. (Between 1976 and 1980 he held a non-academic post as director of the Center for Parapsychological Research, Austin, Texas.)

At the Parapsychological Association (PA) he was long-standing member of its council and later of its board, serving as president (1973 and 2006-2007) and chair of the committee on professional standards and ethics (1980-1987). He directed a systematic revision of the PA's code of professional-scientific ethics, which was enhanced through his first-hand discussions with ethics-related professionals from non-parapsychological scientific disciplines. He won the PA's Outstanding Contribution Award (1993), largely for an in-depth book chapter)[1] reviewing research and concepts from parapsychology and psychology with relevance to the extrasensory part of his Psi-mediated Instrumental Response (PMIR) model.[2] In 2019 he won the PA's Outstanding Career Award.

Stanford's published work comprises 27 book chapters, 55 journal articles and 24 book reviews.

Psi-mediated Instrumental Research

Parapsychologists have assumed that psi aims to consciously encode the information to which it responds, and that anything else is partial, incomplete, and somehow inferior.[3] Stanford questioned that assumption, insisting on the importance of empirically testing an alternative view. This led to the creation of his Psi-mediated Instrumental Research (PMIR) model.

Stanford's questioning was based on two considerations: (a) extrasensory response, like sensory response, presumably functions in support of the needs and/or dispositions of the organism; but (b), serving those inclinations logically need *not* require conscious knowledge of the information to which psi-driven action is responding. Indeed, an adaptive or disposition-affirming outcome orchestrated by *implicit* (that is, unconscious, automatically processed) psi or sensory information often might be the most efficient way to move the organism away from a threat or toward a gratifying situation. PMIR mechanisms support that possibility even when the respondent has no conscious awareness of it.

Spontaneous-case examples of how PMIR might operate in life situations may be found in Stanford's initial PMIR model paper.[4] An example from Stanford's personal experience, which involved either implicit psi or implicit sensory information, is described in a later paper[5] on modeling receptive psi using memory-related concepts. The psychological machinations of response to either type of implicit information might often be parallel. Considerable recent research on 'anomalous implicit cognition'[6] is conceptually akin to the PMIR model and may be deemed to support some of its fundamental assumptions, especially as related to psi-mediated elicitation of arousal.

PMIR is posited to occur as both receptive (extrasensory) function[7] and active-influence (psychokinetic) function.[8] Stanford included in his model explicit, testable statements about boundary conditions for such effects. The extrasensory phase of the model has inspired considerable related research.[9]

One important implication of the PMIR model is that adaptation- or disposition-subserving PMIR often can occur without the respondent fundamentally changing an intended behavioral-action plan, simply by PMIR's influence on the *timing of behavior* by facilitating or inhibiting certain action sequences as needed for adaptive response. Some research supports psi-mediated adaptive timing adjustment,[10] showing how PMIR can potentially be highly flexible in responding to implicit psi information. On the other hand, other indications suggest that specific behavioral dispositions can effectively block or limit its efficacy.[11]

With regard to PMIR, Stanford focused almost exclusively on the extrasensory model; his active-influence PK-PMIR theoretical discourse[12] has not been revised.

Studies

Stanford intensively studied specific elements of the psi-test-situation's psychological milieu, looking at possible consequences for psi-task performance in terms of both facilitative and inhibitory influences.

EEG Measures and Extrasensory Performance

Three of Stanford's studies examined alpha measures during the psi task and during a pre-test period of deliberate relaxation or meditation, also the shift in those measures across those time periods.[13] The first two involved contrasts across subjects (in forced-choice psi tasks), and the third, a contrast across eighty free-response extrasensory trials by a single subject (Stanford). All three found significant evidence that a shift upward in the frequency of alpha rhythms (8-12 Hz band) from a pre-test relaxation or meditation period to the receptive-psi-task phase was associated with greater psi-task success. This consistent replication across two forced-choice, between-subjects studies and one free-response study with a single subject strongly suggests a genuine and likely robust effect. A plausible interpretation of this effect is that the pre-test relaxation/meditation period serves to cognitively relax the mind (favoring alpha), but that success during actual testing seems to require somewhat high-frequency alpha rhythms, possibly indicative of the attentional deployment needed to notice and report emergent psi-mediated material. (The two studies had only male subjects, so no generalization to female subjects should be assumed.)

Another free-response EEG-ESP study,[14] using photos as targets, involved a pretest exercise intended to help facilitate subjects' flow of imagery. Subjects who scored above mean chance expectation evinced significantly greater alpha density during the image-reception period than those whose scores were at or below mean chance expectation (alpha density means of around 38% against around 12%, respectively). On the other hand, none of several alpha density measures studied as potential predictors of psi-tsk performance reliably predicted it. Something more than just alpha rhythms seems required for psi-task success, perhaps a relaxed but effectively attentional state. Stanford and Palmer [15] cited two studies by other investigators that seem decidedly concordant with that ‘something more is needed’ conclusion; one was with a selected, high-performance ESP subject and the other with subjects alpha-trained by biofeedback.

Influence of Behavioral Constraints on ESP performance

In forced-choice work, cognitive constraints can include deliberate call balancing across target types, and in free-response work not reporting, for example, an image of a cartoon figure because that character is one from one’s favorite comic strip. Such constraints presumably can inhibit psi-task image (or impression) development and/or reporting and thus can obstruct receptive-psi expression, whether that expression be psi-hitting or psi-missing. Stanford[16] documented support for the adverse effect of call balancing on extrasensory performance, based on that which had been induced experimentally in his own data and on spontaneous balancing found in other experimenters’ data that had not been manipulated. Stanford reviewed this and related work.[17]

Response Bias Hypothesis

Target-category-related response biases can affect extrasensory performance on specific targets simply by influencing their false-arm rate. This effect presumably shows nothing about the nature of psi *per se* but simply reflects what happens, if ESP is present, when a response bias affects readiness to call a certain type of response. If receptive psi is occurring in a study, all else being equal, one can expect to see a greater hit rate on under-called targets and reduced success on over-called ones *due to effects of these biases on those targets’ false alarm rate.* Stanford[18] discussed the presumed nature of such an effect, and reviewed evidence for it. His early interest in effects of response bias in ESP tests[19] had grown out of his familiarity with signal detection theory (SDT).[20] In a methodologically innovative study of unconscious psi affecting memory, Stanford[21] found evidence for these response-bias effects in both experimental (response-bias manipulation) and correlational (spontaneous bias) contexts.

Testing Extrasensory Activation of Memory Traces

Stanford’s [22] innovative, large-sample (N = 60) study used word-association methodology to test five psychological hypotheses about extrasensory function, three of which achieved statistical significance. A conceptually important one was based on William Roll’s landmark theory of ESP and memory.[23] That theory’s *frequency assumption* implies that psi manifests through activating existing memory traces and that, therefore, frequently activated (reinforced) memory traces should, thanks to their greater *readiness* for activation, more readily become vehicles for the expression of extrasensory information than targets that are less often activated. In a 1993 study,[24] an extrasensory test based on free word association, there was, for each subject, a randomly-selected target (p = .50) for each of the 36-

word trials. The target was either the primary response (that is, independently assessed normatively most frequent response) or the secondary response to that stimulus word. The frequency assumption's ramifications for extrasensory performance were supported by: i) significantly positive extrasensory performance rate when subjects produced primary responses, and ii) primary responses that evinced a significantly higher rate of hitting than did secondary responses. (See Stanford 1982, regarding the high potential usefulness of word-association methodology in psi research.)

Hypnosis-ESP Meta-analysis

In 1994 Stanford and Stein[25] reported a meta-analysis of extrasensory outcomes in 25 studies by 12 investigators that provided both a hypnosis and a comparison condition. Its concluding reflections[26] include considerations of the effect of flaws in meta-analysis and design-related caveats. The authors make clear that their findings seriously complicate conceptual interpretation of the hypnosis-comparison extrasensory results. As an example, 21 of the studies (84%) were within-subjects designs, even though these can produce very different results than between-subjects designs, thanks in part to task-juxtaposition effects;[27] testing order can also be important in this regard. The meta-analysis provided clear statistical evidence that a within-subjects design can result in very different results for the hypnosis-comparison contrast, depending on test order.[28] The authors recommend that researchers consider carefully the potentially undesirable consequences of testing subjects under more than one condition, especially in the same session.

Conceptual Development and Replicability

A 2003 paper[29] that Stanford regarded as one of his most important publications discusses research strategies needed for conceptual advance and for enhancing replicability, with special emphasis on investigating the psychology of the test situation (both psi and non-psi related). Slow progress in these domains may, he suggested, be due in part to frequent failure to develop clearly focused, testable conceptual (process-explicit) hypotheses to explain earlier research findings and then to develop and/or adopt methods suitable specifically for testing those hypotheses. Stanford's strategy-oriented discourse is intended to help researchers select methods suitable for examining particular types of research questions and to caution about problems that can arise in interpreting research data, including when using pre-post designs (as in training studies), within-subject manipulations (often in hypnosis-ESP research), and administration of multiple psychological measures in a single session (commonplace).

Stanford emphasizes the potential benefits of examining conceptually-relevant subject-situation interactions, for example whether hypnotizability moderates the psi effect of the hypnosis/comparison manipulation. Also explained is the fallacy of inferring interactions – which appears in some meta-analytic papers – based on between-study comparisons (they may suggest, but not demonstrate.) Stanford appeals for wider use of performance-based measures of constructs, which can sometimes be derived from or during actual psi testing. Unobtrusive, *objective* measures carefully selected for construct validity potentially can obviate multiple problems often encountered with self-report measures, including one's test being reactive and thereby compromising a study's construct validity. Sometimes such objective measures can be behavioral (as in studying calling patterns in a forced-choice ESP task[30] sometimes physiological (as with EEG measure(s) related to arousal[31] or trait-related measures (for example, a reliable measure from free word-association of the subject's inclination to think in visual images.[32]

In a 1987 paper, Stanford[33] gives an in-depth discussion of research relative to conceptual hypotheses that might help explain prior psi-research findings with ganzfeld and hypnosis: Honorton's *psychophysical noise reduction*, Stanford's *reduction in encoding constraints*, and Stanford's *reduction in response constraints*. He expresses concern about the paucity of incisively designed, construct-valid research on such conceptual hypotheses. Of special importance for future research and theorization is the discussion[34] of problems that can arise in efforts to understand conceptually any hypnotic induction-control differences in extrasensory performance. Many of these points may also have relevance to ganzfeld/comparison work.

Further Conceptual Work

Stanford argued that a broader base of investigation may be needed to understand psi events, going beyond experimental lab work to develop potentially fruitful ideas about methodology and conceptual hypotheses for research.

In his first Parapsychological Association Presidential Address, Stanford[35] advocated consideration of a wide range of life events, cultural beliefs and experiences in trying to formulate hypotheses about psi, rather than base hypotheses solely upon laboratory findings. In a later paper[36] he looks at the role played in experimental research by case studies, folklore and investigators' personal experiences. He argues that preoccupations of some spontaneous-case approaches caused their advocates to ignore reports of the very kinds of experiences that helped inspire the PMIR model, that might have informed their thinking about the broader nature and functions of psi. He makes suggestions about how case studies might be made more useful for the purposes of experimentalists and notes examples of how other kinds of non-laboratory inputs, especially folklore, have led to highly productive laboratory studies. A notable example is Charles Honorton's psychophysical noise reduction construct and methodological adoption of the ganzfeld paradigm, which were decidedly influenced, as he himself noted, by his having read, at Stanford's suggestion, psi-relevant aspects of the yoga aphorisms of an ancient Indian author, Patañjali.

Stanford[37] also discussed as of possible interest several folkloric beliefs: faith in relation to action; the possibly involuntarily expressive character of dramatic, ostensibly anomalous events such as levitation, as expressive of saints' ecstatic raptures; seemingly expressive events in lab psi research; and reports suggestive of vicarious suffering of one person for another. However, he stressed the need for research-based scientific study before hypotheses based on folklore, however intriguing, can be viewed as suitable for constructing a scientific view of the nature of psi.

Michael Duggan

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Endnotes

Footnotes

- 1. Stanford (1990).

- 2. Stanford (1974a).
- 3. see Stanford (1992) for elaboration.
- 4. Stanford (1974a).
- 5. Stanford (2007).
- 6. reviewed by Palmer (2015).
- 7. Stanford (1974a, 1990, 2015).
- 8. Stanford (1974b).
- 9. see Stanford (1990), an in-depth review of extrasensory PMIR research; also, Palmer (2015).
- 10. see Stanford (2015), 96-97 (assumption 5), for review and citations.
- 11. Stanford (2015), 97-98 (assumption 6).
- 12. Stanford (1974b).
- 13. Stanford (1971); Stanford & Lovin (1970); Stanford & Stevenson (1972).
- 14. Stanford & Palmer (1975).
- 15. Stanford & Palmer (1975).
- 16. Stanford (1966).
- 17. Stanford (1975).
- 18. Stanford (1975).
- 19. Stanford (1967b).
- 20. Stanford (1982).
- 21. Stanford (1970).
- 22. Stanford (1973).
- 23. W. G. Roll's 1966 landmark theory of ESP and memory.
- 24. Stanford (1993).
- 25. Stanford & Stein (1994).
- 26. Stanford & Stein (1994), 258-65.
- 27. Poulton (1973).
- 28. Poulton (1973), 255-58.
- 29. Stanford (2003).
- 30. e.g., Stanford (1966).
- 31. See for instance Stanford & Stevenson (1972).
- 32. See for instance Stanford (1967a).
- 33. Stanford (1987).
- 34. Stanford (1987), 42-47.
- 35. Stanford (1974c).
- 36. Stanford (1992).
- 37. Stanford (1992).