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WHY IS PSI SO ELUSIVE? A REVIEW AND PROPOSED MODEL

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ABSTRACT: Eleven hypotheses that have been proposed to explain why psychic phenomena are so weak, unreliable, and/or rare are reviewed. The hypotheses are (1) alleged psi results are actually due to methodological artifacts and oversights, (2) few people have psi, (3) psi depends on precarious psychological conditions, (4) psi occurs frequently without notice, (5) psi is an efficient goal-oriented process subject to shifting goals, (6) fear of psi suppresses psi, (7) evolution has inhibited psi, (8) psi serves ecological rather than personal purposes, (9) the purpose of psi is personal or spiritual growth, (10) psi effects are influenced by many people in the future, and (11) psi is controlled by nonphysical beings. To integrate available data, a model is presented that proposes 2 distinct groups: those with many anomalous experiences and those with few or none. Genetic factors probably have a significant role in these differences. Those with actual psi experiences are a subgroup of those with many anomalous experiences. *Psi practitioners* are a smaller subgroup who have an ability to reliably guide psi by intention or motivation. Psi-conducive experimenters are psi practitioners who influence their experimental outcomes in a goal-oriented manner. Further research is needed on the distribution of psi, the possible genetic aspects of psi experiences, the effects of psi experiences, and several characteristics of psi that can be investigated with meta-analyses.

One of the most important and perplexing questions in parapsychology is why psi phenomena are so weak, unreliable, and/or rare. The usual working assumptions in parapsychological research appear to be that (a) many people have the ability to demonstrate psi (Pratt, 1978; J. B. Rhine, 1966) and (b) psi is guided by human motivation (J. B. Rhine, 1964; Stanford, 1993; Weiner & Geller, 1984). These assumptions lead to the prediction that psi effects would be much more widespread and consistent than they are. The gap between these assumptions and reality is the central challenge of parapsychology.

Parapsychology may benefit from adapting the "correspondence principle" from quantum physics. The correspondence principle had an important role in guiding the development of quantum physics. Several concepts from quantum physics already have been incorporated into parapsychological thought, including "nonlocality" and the possible role of the "observer."

The correspondence principle states that the predictions from quantum physics must agree with classical physics in those areas in which classical physics was developed and works well. Quantum physics did not

overturn classical physics, rather it supplemented it and made physics more complete. This principle prevented inconsistencies between the quantum predictions and established reality as we know it. In a sense, it defined the natural niche for quantum physics. After this initial understanding of quantum physics was achieved, practical applications were developed.

A correspondence principle for parapsychology would suggest that psi phenomena would be expected to be weak, unreliable, and/or rare. If this were not true, physics would never have developed as it did. Eisenbud (1992) devoted the greatest effort to exploring the implications of this basic concept.

Rather than viewing the elusive nature of psi as a temporary obstacle that needs to be overcome, this approach embraces it as a valuable guiding principle for learning about psi. In practical terms, the correspondence principle shifts or expands the strategies for research. For example, most meta-analyses in parapsychology have not included relatively straightforward analyses that might offer important insight into why 70% or more of the studies in most lines of research are not significant. Specific examples are discussed later in the section on suggestions for further research.

Whether or not the correspondence principle is useful for parapsychology, the question of why psi phenomena have historically been so elusive is a fundamental issue. Answers or assumptions for this question are a necessary step for developing realistic models of psi phenomena and for developing more reliable manifestations of psi.

The present article reviews and evaluates 11 hypotheses that may explain the elusive nature of psi phenomena. For each of the hypotheses, supporting and opposing positions are summarized and a conclusion presented. The supporting and opposing positions are presented for the sake of discussion and do not necessarily represent my actual opinions. Finally, a model is proposed that integrates several of the topics.

Hypothesis 1. Alleged Psi Results Are Actually Due to Methodological Artifacts and Oversights

This is the skeptical hypothesis that psi does not exist. Most criticisms of psi research can be put into one of three categories: (a) *supported criticisms* that identify methodological weaknesses and discuss empirical evidence for the occurrence and impact of the weaknesses, (b) *unsupported criticisms* that speculate that certain methodological problems may have occurred even though the proponents have no evidence for the occurrence, and (c) *wayward results criticisms* that argue that certain research findings are more consistent with methodological artifacts than with the parapsychological assumptions or conclusions. The unsupported criticisms generally contribute little to scientific inquiry. The present discussion focuses on wayward results criticisms because these are the current state of

the art for psi criticism and they apply to studies without identified methodological flaws. It should be noted that most skeptics do not have sufficient knowledge of parapsychological research findings and of research methodology in general to proficiently implement this strategy of criticism. Hyman (1994, 1995) has done the most to develop this strategy.

Supporting Arguments

Parapsychological findings do not have the statistical properties expected for a real phenomenon amenable to experimental investigation. Statistical methods assume that the effects under study will be more reliable with larger sample sizes (z score will be proportional to the square root of n). However, parapsychological studies do not have this property. In an analysis of initial ganzfeld studies, the z scores were unrelated to sample size (Honorton, 1983). The subsequent ganzfeld series described by Bem and Honorton (1994) had an equivalent unexpected result (effect size inversely related to sample size) that was also found in an analysis of early ESP tests (Nash, 1989). A meta-analysis of studies with random number generators also found that the z scores were not related to sample size (May, Radin, Hubbard, Humphrey, & Utts, 1986). These findings are very consistent by parapsychological standards. The usual argument that the low reliability of psi results is due to poor statistical power (Utts, 1991) is based on the assumption that larger studies have more reliable results. The evidence indicates that this fundamental assumption does not apply for psi research.

After decades of involvement with parapsychological research, the founding statisticians expressed doubts that the experimental results were sufficiently consistent to meet the requirements for valid statistical analysis (Greenwood & Greville, 1979).

Braud (1985) commented that experiments designed to provide useful comparative information about the operation of psi seem less likely to get significant results than simple experiments designed primarily to provide evidence for the existence of psi. This observation is implicitly supported by the pervasive and otherwise inexplicable lack of control groups in prominent psi research such as studies investigating ostensible psi-enhancing properties of the ganzfeld procedure.

These findings and observations are more consistent with the hypothesis that the results are due to methodological artifacts than with the hypothesis that they indicate lawful but unexplained information transfer as conceptualized in parapsychological research.

Although specific methodological flaws that could account for recent meta-analysis findings have not been identified, the history of psychical research suggests that methodological problems are a likely explanation for the effects. For over a century, psychical research has been a continuing sequence of new test techniques heralded as definitive proof by their advocates and subsequently dropped from investigation when unrecognized

methodological problems were found and attempted replications failed (Hyman, 1995). It can take years of detailed data analysis and attempted replications before the methodological problems are fully recognized. In addition, the fact that parapsychological findings are not cumulative and convergent suggests that there is not a meaningful underlying phenomena. For individual researchers and the field as a whole, each new research interest replaces previous interests rather than builds on them.

The lack of convergence is most apparent in the inconsistent results for specific research techniques. For example, the initial ganzfeld studies obtained significant results with pictures as targets. In a later series of studies that investigated the hypothesis that videotapes would produce better results than still pictures, the trials with videotapes were significant and the trials with still pictures were not significant, even though there was adequate statistical power based on the previous findings (Bem & Honorton, 1994; Hyman, 1994). These inconsistent findings suggest that the different results are produced by different factors, which raises the likelihood that the results are due to methodological problems rather than a common underlying phenomenon of information transfer (Hyman, 1995).

Other problematic issues related to the lack of cumulative findings include the lack of a theory or coherent explanation for the findings, the lack of an ability to predict when the alleged phenomenon will occur, claims for a wide diversity of manifestations (displacement effects, psi missing, position effect, etc.) that are unpredictable and difficult to distinguish from random fluctuations, widely differing results among investigators, and a negative definition of psi that is based on what it is not rather than what it is (Hyman, 1995).

Opposing Arguments

The position that psi results are due to unknown methodological problems is a personal opinion that can be neither proved nor disproved, and therefore is not within the realm of science.

Parapsychological research is cumulative in the sense that it does incorporate previous research findings. Meta-analyses include all studies, old and new (see Radin, 1997). Early research is still examined for useful insights into psi (e.g., Honorton, 1975; Nash, 1989). Previous findings are incorporated in new research. For example, ganzfeld studies often collect data on classic moderating variables such as belief in ESP and the personality dimension extroversion. These factors have been found to be significant predictors of ganzfeld ESP performance (Bem & Honorton, 1994; Broughton, Kanthamani, & Khilji, 1990).

Many of the experimental findings that skeptics interpret as evidence for methodological problems may actually reveal important characteristics of psi. In his criticism of ganzfeld research, Hyman (1994) admitted that some of the results uncovered by his analysis may possibly reflect

characteristics of psi rather than methodological artifacts. This situation is an indication that the gap between knowledgeable skeptics and parapsychologists is narrowing. Slow but steady progress is being made in sorting out the many interacting factors.

The meta-analysis evidence that *z* scores are not related to sample sizes needs further verification and may reflect characteristics of psi operation. As discussed later for Hypothesis 5, these findings have been proposed to be part of the evidence for goal-oriented experimenter effects (Kennedy, 1994, 1995).

Conclusion

The hypothesis that psi effects are due to unknown methodological flaws brings into focus the importance of understanding the elusive nature of psi. In the absence of a coherent explanation for the elusive nature of psi, the majority of scientists will almost certainly continue to believe that methodological flaws are the most likely explanation. As long as psi remains elusive and is conceptualized as an unexplained anomaly, neither side will have convincing arguments.

Parapsychological research is more cumulative than the skeptics admit, but at the same time, the field has not provided alternative explanations for the problematic properties of the experimental results. Given the cumulative research findings and the scientific problem that the hypothesis of unknown methodological flaws is impossible to prove false, the overall scientific evidence favors the hypothesis that the elusive nature of psi is largely caused by factors other than methodological flaws.

Hypothesis 2. Few People Have Psi Ability

Psi may be an ability that is very rare.

Supporting Arguments

Both spontaneous case studies and laboratory research suggest that only a minority of people have consistent, noticeable psi. Only about 1% of the volunteers who were screened for remote viewing ability were consistently successful (Utts, 1996). Broughton (1991, p. 10) noted that although surveys find that over half of the population report having had a psi experience, closer examination of the cases suggests that only 10% to 15% of the population have had experiences that appear to be possible psi. This estimate is consistent with early surveys (J. B. Rhine, 1934/1973, p. 17) and with later studies (Haight, 1979; Schmiedler, 1964). Given the well-established fact that relatively few psi experimenters consistently obtain significant results, combined with the evidence for psi-mediated experimenter effects (Kennedy & Taddonio, 1976; Palmer, 1997; White,

1976a, 1976b), Millar (1979) concluded that psi studies with unselected participants generally reflect psi by special experimenters.

Opposing Arguments

The steadily accumulating evidence for psi as indicated by meta-analyses suggests that the traditional working assumption that psi ability is widely distributed is valid (Radin, 1997). Parapsychology started by looking for participants with special abilities but moved beyond that when psi was demonstrated with a wide variety of participants and settings (J. B. Rhine & Associates, 1965). Even if psi ability is present for only a minority of people, there are still large numbers of people with psi ability.

Conclusion

Although psi ability may not be distributed as widely as often assumed in parapsychology, people with psi cannot be considered rare. There are clearly substantial individual differences in the occurrence of psi. The distribution of psi may be a contributing factor, but other factors appear to have a larger role in causing the elusive nature of psi.

Hypothesis 3. Psi Depends on Special Psychological Conditions or States of Consciousness That Are Precarious

The traditional model for parapsychology is that psi is an unconscious process that has delicate and precarious links to human volition and conscious awareness (J. B. Rhine & Pratt, 1957). Special psychological conditions are necessary for psi to be guided by human intention or to have the unconscious psi information mediated into conscious awareness. In recent years, a more general model has been common, which views psi as a weak signal embedded in other cognitive activity (e.g., Bem & Honorton, 1994). The task for research is to find conditions that provide a more favorable signal-to-noise ratio.

Supporting Arguments

Throughout the history of experimental psi research, successful experimenters have consistently described certain conditions as being important for obtaining significant results (J. B. Rhine, 1934/1973; J. B. Rhine & Pratt, 1957; Targ, Braud, Stanford, Schlitz, & Honorton, 1991). These conditions include (a) high motivation, enthusiasm, and expectations by participants and experimenters; (b) attention to the task without distraction or boredom; and (c) an atmosphere of spontaneity. Some of the best results have occurred when the experimenters and participants were convinced that they were working together on research that was profoundly important for science and humanity.

It is difficult and precarious to maintain these psychological conditions during sustained research.

The hypothesis that altered states of consciousness can facilitate conscious awareness of psi information has a long history (Alvarado, 1998). Successful research with internal states of consciousness supports this view (Honorton, 1977). In particular, the ganzfeld procedure is a highly successful line of research (Bem & Honorton, 1994). Also, many experiments indicate that hypnosis is more psi-conducive than the normal waking state (Honorton, 1977).

Opposing Arguments

After 70 years of research looking for psi-conducive conditions, there is no evidence that psi can be demonstrated now more reliably than when this effort began. A review of well-controlled card experiments in the 1930s found that 27 of 33 (82%) were statistically significant (Honorton, 1975). For comparison, for the first ganzfeld studies, 23 of 42 (55%) were significant (from Honorton, as reported in Hyman, 1985, p. 5), and for the first remote viewing studies, 15 of 28 (54%) were significant (Hansen, Schlitz, & Tart, 1984).

The common pattern throughout the history of psychical research has been for the replication rates for each new technique to decline, particularly as more experimenters become involved (Beloff, 1994; Pratt, 1978). For example, a meta-analysis of 30 more recent ganzfeld studies found nonsignificant results overall, with 6 (20%) significant at the .05 level with a one-tailed test and none significant at the .01 level (based on Table 1 in Milton & Wiseman, 1999). Many of these studies had larger sample sizes than the first ganzfeld studies. With the addition of a subsequent significant study, the meta-analysis reaches overall statistical significance, but the replication rate and effect sizes remain significantly lower than for the initial studies (Milton, 1999; replication rate comparison by the present author). Even for lines of research that do not show declines, there is no evidence that research is progressing toward increased occurrence of psi. For example, a meta-analysis of 309 precognition studies found no change in the effect size over a 50-year period (Honorton & Ferrari, 1989).

As the replication rates in the previous paragraphs indicate, there is no evidence that the ganzfeld procedure increases the occurrence of psi. Direct evaluation cannot be done because very few ganzfeld studies have included a control group. However, a meta-analysis of 78 free-response studies that did not use an altered-state induction procedure found that the effect size was not significantly less than the effect size for the early ganzfeld studies (Milton, 1997). Studies that directly compared altered states with normal states are also inconclusive. With regard to hypnosis, Stanford and Stein (1994) concluded that the findings "make it difficult to draw substantive conclusions from the current database" (p. 235).

Experimenter effects may dominate both hypnosis (Schmiedler, 1994, p. 114; Stanford & Stein, 1994) and ganzfeld (Milton, 1999) research.

The traditional strategy of looking for psi-conducive conditions has not been able to advance parapsychology beyond debates about the existence of psi. Factors such as motivation and expectation have little quantified supporting evidence and little predictive value. A review of studies of expectancy and psi concluded that "the data do not clearly support the hypothesis that high expectancy is psi-conducive, and, indeed, there is some indication that low expectancy may be so" (George, 1984, p. 203). Thus, studies of expectancy have exhibited the same type of inconsistent, elusive results as other lines of psi research.

Conclusion

The discussions and hypotheses about psi-conducive psychological conditions basically remain in the domain of lab lore rather than useful, predictive science. This approach has been extensively investigated and, with the possible exception of experimenter effects, does not appear to be addressing the major factors causing the elusive nature of psi.

Hypothesis 4. Psi Occurs Frequently Without Being Noticed

Under this hypothesis, psi is not elusive, it just occurs without being noticed. Given the elusive nature of "noticed" psi, the occurrence of noticed psi must be inhibited compared with unnoticed psi.

Supporting Arguments

Studies of nonintentional psi support the hypothesis that psi may occur without notice (Stanford, 1993). Observations during psychoanalysis offer further evidence for frequent, unnoticed psi (Ehrenwald, 1978; Eisenbud, 1970).

Several ideas have been proposed to explain why noticed psi may be inhibited. Braud (1982) suggested that psi may primarily process information that is not perceptual in nature (such as emotions), and therefore, the identified perceptual aspects may be only a small part of the overall operation of psi. Broughton (1988) suggested that psi "works best and most unhampered when it is not noticed by the individual it is serving, and it may even be necessary for the individual's protection that the operation of psi remain hidden" (p. 197). Broughton also noted that the concept of "ownership resistance" (Batcheldor, 1984) and the long history of belief that psi is produced by spirits or gods are consistent with the idea that people avoid being identified as the source of psi. Eisenbud (1992) proposed that psi underlies all probabilistic processes in nature and therefore occurs constantly. With this idea, instances of noticed psi

are rare because they are counter to the basic characteristics of this pervasive, intrinsic, unnoticed psi.

Opposing Arguments

The nonintentional psi studies do not provide evidence for unnoticed psi because the experimenters intend for a psi effect to occur and clearly notice whether the desired effect does or does not occur. The hypothesis of frequent, unnoticed psi may need to be evaluated outside of an experimental setting.

The psychoanalytic observations are ad hoc speculations that cannot be construed as scientific evidence. Psychoanalytic theories in general have little scientific support (Ford & Urban, 1998, pp. 234–235), and these speculations are some of the most far fetched even by psychoanalytic standards.

The speculations that noticed psi is inhibited in comparison with unnoticed psi are basically efforts to try to imagine that psi reliably achieves some purpose in the absence of supporting evidence. Of course, psi effects that are never noticed or observed would be outside the domain of scientific study.

Conclusion

The hypothesis that psi occurs frequently without notice has little scientific support at present and offers little useful insight into why noticeable psi is so elusive. As Eisenbud (1992), Braud (1982), and Broughton (1988) pointed out, these ideas challenge the traditional research strategies in parapsychology and have received little attention.

Hypothesis 5. Psi Is an Efficient, Goal-Oriented Process Subject to Shifting Goals

The hypothesis that psi is an efficient goal-oriented process means that psi (a) is independent of the complexity or information-processing aspects of the task and (b) achieves the outcome in a way that has the minimum effect or disturbance to the system. Experimental outcomes change as the experimenters' interests and intentions change, which indicates a dominant role for the experimenter. Declines in psi occurrence across experiments may be due to the experimenters shifting their goals from success for individual participants and studies to success for the line of research. The goal of a statistically significant line of research could be achieved with many later studies being nonsignificant.

Supporting Arguments

The hypothesis that psi is independent of task complexity and related information processing is supported by evidence (a) that the success rates

are similar for normal PK and blind PK (in which the identity of the target must be obtained by paranormal means), (b) that psi can affect many different types of random processes, (c) that the psi effect does not depend on the inner workings of the random process, and (d) that the influence is not related to how well the psi source understands the random process (Kennedy, 1978, 1979, 1995; Stanford, 1977). The seminal experiments for this concept were by Foster (1940) and Schmidt (1974).

With goal-oriented experimenter effects, the *z* score for an experiment would be unrelated to the sample size. Several meta-analyses (Bem & Honorton, 1994; Honorton, 1983; May et al., 1986; Nash, 1989) have reported findings that are consistent with this hypothesis and are significantly different from the traditional assumptions for statistical research (Kennedy, 1994).

The hypothesis that psi is efficient is supported by studies that use majority-vote or repeated-calling techniques to try to enhance psi accuracy. The clearest example is the study by Brier and Tyminski (1970) that used the majority vote of five calls to predict the outcome of a random event. The most accurate predictions and entire statistical significance were due to cases with majorities of three out of five. The raw trials were not significant. The statistical theory underlying the majority-vote strategy predicts that the cases with majorities of five out of five will be the most accurate and that the raw trials will have a more significant *p* value than the majority-vote outcomes. The observed result suggests that psi achieved the goal of a significant majority-vote outcome in the most efficient manner. Several other majority-vote studies can be evaluated for efficiency and are consistent with the hypothesis (Kennedy, 1979, 1995). Unfortunately, it is not clear how to evaluate efficiency in the more complicated majority-vote studies that involve index trials and extensive data manipulations, such as the studies by Carpenter (1991).

Situations when the experimental results appear to change when the experimenter's interest changes support the hypothesis of efficient, goal-oriented experimenter effects. For example, trials with still-picture targets were no longer significant in ganzfeld experiments after the experimenter began investigating the hypothesis that the video targets would give better results (Bem & Honorton, 1994; Hyman, 1994). Targ (2001) recently pointed out four other cases in which the experimental results changed when the experimenter's interests changed. In addition, the tendency for lines of research in parapsychology to have decreasing replication rates but overall statistical significance on meta-analyses may be consistent with the hypothesis of efficient goal-oriented experimenter effects (Kennedy, 1995).

Opposing Arguments

In psi research, achieving any goal is elusive, whether the goal is success on an individual trial, a study, or a line of research. This hypothesis

does not explain why many lines of research are not successful. Also, if the key to psi was simply to focus on the goal of success on the current task, that fact would probably have been recognized long ago. In addition, the interpretation of the meta-analysis results on the relationship between sample size and *z* scores is not yet compelling because of methodological questions for the existing data (Kennedy, 1994).

Conclusion

Shifting goal-oriented psi may possibly contribute to decline effects for certain experimenters, but this hypothesis does not appear to be the major cause of elusive psi.

Hypothesis 6. Psi Is Suppressed by Resistance to or Fear of Psi

Deep-seated fear of psi may suppress psi ability. The reasons for fearing psi include (a) loss of privacy for one's inner thoughts, hopes, and fantasies; (b) information overload from psychic information; (c) distress from being aware of the negative thoughts and emotions of others; and (d) harming others through paranormal expression of one's tendencies for aggression and competition.

Supporting Arguments

The fact that some people have deeply entrenched skepticism about the possibility of psi phenomena is the most widely discussed evidence for resistance to or fear of psi (e.g., Ehrenwald, 1978; Eisenbud, 1992; Tart, 1982). The manifestations of this resistance range from a lack of healthy curiosity about the possibility of psi to fanatical opposition to the very concept.

The elusiveness of psi in experimental research is increasingly recognized as possible evidence for latent fear or resistance by researchers (Braud, 1985; Eisenbud, 1992; Tart, 1984). Several writers have suggested that weak statistical effects are within the comfort zone of researchers, but resistance may manifest for extremely significant experimental results (Batcheldor; 1984; Braud, 1985; Tart, 1984). The occurrence of misplaced psi efforts such as psi missing, differential effects, and displacement effects may be manifestations of resistance. Perhaps more relevant, flawed methodology that compromises the conclusions of research may be manifestations of resistance to psi (Eisenbud, 1992).

Similarly, the lack of efforts by psi-conducive experimenters to explore their own obvious role in producing their results and the lack of efforts to explore important, fundamental questions such as what are the actual motivations involved with psi may be manifestations of resistance.

The experience with "sitter groups" that attempt to induce paranormal physical phenomena using techniques specifically intended to deal

with resistance to psi offers additional support for this hypothesis (Batcheldor, 1984; Brooks-Smith, 1973; Isaacs, 1984). The tendency for people to drop out of the groups when they are on the verge of producing striking phenomena may be as revealing as the descriptions of the phenomena.

A study that asked participants how they would react to having permanent, irreversible mind-reading or psychokinetic abilities within a 100-yard range found a predominance of negative reactions (Tart & Labore, 1986). The reactions included fears of loss of control, sensory overload, personal rejection by others, and inability to function ethically and responsibly.

Opposing Arguments

The perpetual popularity of books (e.g., Robinson & Carlson-Finnerty, 1999) and courses on psychic development clearly indicates many people want more psi in their lives and is inconsistent with the idea that fear is the primary factor limiting psi. Although people might fear certain strong or uncontrollable psi effects, they would welcome more frequent occurrence of weaker psi, such as winning at slot machines and predicting the stock market. Stanford (1976) discussed some of the issues and implications of this widespread interest in psychic development.

Fear of psi does not explain the elusiveness of statistically significant experimental results. Statistical results at the .05 level of significance appear to be within the comfort zone of most researchers, yet remain elusive

The assumptions that psi is purposeful and controllable neutralize most of the proposed reasons for fearing psi, particularly when psi is viewed in context of personal growth. People specifically seek psychic readings and advice with little concern about invasion of privacy. The concept that psi is goal oriented eliminates the problems with information overload and most of the concerns about psi being uncontrollable. Also, information overload normally does not occur with the physical senses, and those same principles could be assumed to apply with psi information.

Conclusion

Although individual fear of psi may inhibit psi in some cases, the available evidence suggests there are other more dominant factors limiting psi occurrence. Psi could be substantially less elusive without reaching the point of threat for many people. The hypothesis of individual fear of psi is basically a special case of the psychological conditions hypothesis described earlier (Hypothesis 3).

Hypothesis 7. Evolution Has Inhibited Psi

This hypothesis extends the rationale for resistance to psi (Hypothesis 6) to an evolutionary framework. Evolution has prevented or inhibited psi because psi is more detrimental than beneficial. The hypothesis of resistance to psi (Hypothesis 6) focuses on psychological issues and allows widespread but repressed psi abilities. The current hypothesis focuses on evolutionary issues that would limit the presence of psi in the population and would be more difficult to overcome.

Supporting Arguments

The primary support for this hypothesis is that it explains the fact that psi phenomena are so intractably weak and/or rare. The rationale for why psi would be detrimental is the same as for the previous hypothesis about fear of psi.

Opposing Arguments

This hypothesis has a weak rationale. Purposeful, controlled psi would be immensely advantageous within evolutionary competition. As with the hypothesis of individual resistance to psi (Hypothesis 6), speculations about adverse effects from strong or uncontrolled psi do not explain the elusive nature of weaker, controlled psi.

This hypothesis does not explain why intermittent psi occurs rather than a complete absence of psi. Presumably, psi occurrence would be related to certain conditions. Therefore, in practical terms, this hypothesis is another subdivision of the hypothesis of special conditions (Hypothesis 3).

Conclusion

The hypothesis that psi has been inhibited by evolution has a weak rationale and little explanatory value in understanding the elusive nature of psi.

Hypothesis 8. Psi Is an Ecological Interconnectedness Within Evolution

Psi appears elusive because we do not understand that it consistently and lawfully achieves its ecological purposes.

Supporting Arguments

The primary support for this hypothesis is that it seems logically compelling when one contemplates what the world would be like if psi were widely available. A cat could use psi to catch a mouse, but the mouse could use psi to avoid the cat. Eisenbud (1992) proposed that psi is an

interconnectedness that includes sacrifice for the benefit of the overall ecological system. He described various observations of animal behavior that could be interpreted as sacrifice consistent with this hypothesis.

With this hypothesis, psi appears to be elusive because it fulfills purposes that pertain to the ecological system rather than to an individual as traditionally assumed in research. Broughton (1988) discussed a related concept of "evolutionary stable strategy" that balances individual abilities with competition among individuals.

Opposing Arguments

The extinction of many species appears inconsistent with this ecological interconnectedness or indicates a limited role for this interconnectedness. Similarly, in commenting on these ideas, Levin (1996, p. 226) pointed out that "competition among members of a population all of whom possess some particular skill usually leads to an evolutionary 'arms race,' as opposed to a mutual curtailing of its use."

Both reports of spontaneous psi experiences and the results of psi experiments indicate that psi can occur when the motivations or benefits appear to not have ecological or survival implications. This hypothesis explains the elusive nature of psi at the expense of failing to account for most of the available data supporting the existence of psi.

Conclusion

This intriguing hypothesis basically assumes psi is a process opposing the competitive forces of evolution. The support and opposition are largely theoretical rather than empirical. The relevant empirical evidence currently available raises doubts about the hypothesis and suggests limited applicability at best.

Hypothesis 9. The Primary Purpose of Psi Is Personal or Spiritual Growth

The primary function of psi may be to inspire a worldview that is more interconnected, purposeful, or spiritual. Psi consistently achieves this function and is considered elusive only because it does not consistently conform to the egocentric wishes of people.

Supporting Arguments

The fact that psychic experiences tend to influence a person's worldview and spiritual perspectives is clearly established. A study of the effects of paranormal or transcendent experiences found that the most frequent effects pertained to spirituality (Kennedy & Kanthamani, 1995a). Similarly, a community survey of spontaneous psi experiences found that the most frequent effects were on attitudes toward self,

meaning in life, and spirituality (Palmer, 1979). McClenon's cross-cultural surveys and field observations also indicate that paranormal experiences influence spiritual beliefs (McClenon, 1994). J. B. Rhine (1953, p. 227) and Tart (1997) have argued that parapsychological research demonstrates that humans have a spiritual aspect.

Representative national surveys in 13 countries found that reports of psychic experiences were associated with spiritual beliefs (Haraldsson & Houtkooper, 1991). A smaller study found suggestive evidence that reporting a paranormal experience was correlated with spirituality being an important purpose of life (Kennedy & Kanthamani, 1995b). The weak associations in these studies may be due to the lack of information about the number of psychic experiences. More experiences appear to be associated with greater effects on worldview (Kennedy & Kanthamani, 1995a). Religious literature has long indicated that paranormal phenomena are associated with religious or spiritual beliefs (McClenon, 1994; Pratt, Rhine, Smith, Stuart, & Greenwood, 1940, pp. 4–6).

For the great majority of spontaneous psi experiences, the primary result for the people involved appears to be an awareness that something exceptional happened, with no other practical benefit. An examination of reports in spontaneous case collections such as that of Louisa Rhine (1981) readily supports this point. In the cases with high emotion such as awareness of a death, the psi experience usually does not alter the outcome of events, only the worldview relating to the events. Further, the relatively few situations that involve tangible benefits may be vehicles for this transformative function rather than indicating that psi is directed by other human motivations as traditionally assumed in parapsychology.

This hypothesis suggests that psi experiences are specifically intended to be noticed as exceptional. It shifts the focus of research away from speculations about frequent, unnoticed psi.

The inconsistent nature of psi may be useful or even necessary for psi to have this effect. If psi were predictable and usefully reliable, it would likely be viewed as another physical principle. The defining characteristic of the established physical forces is that they are predictable. The theories or concepts to explain these forces have changed greatly over time and have been labels on unknown processes more than true descriptions of reality. Reliable psi effects would not have the mysterious implications and meanings that result from elusive psi phenomena. From a psychological perspective, Braud (1985) pointed out that the intermittent occurrence of psi in both experiments and spontaneous cases is the type of reinforcement schedule that generates extremely stable and persistent behavior. This intermittent reinforcement may optimize interest in the phenomena and associated worldviews.

Opposing Arguments

The weak associations between psi experiences and spiritual beliefs in the multinational study (Haraldsson & Houtkooper, 1991) suggest that psi at best has only a slight effect on spirituality. The size of the associations is equivalent to correlations of less than .15 for most of the results.

More frequent and stronger psi would induce greater changes in worldview. Psi does not appear to be optimized for maximum effects on worldview, and therefore, it is unlikely that the primary function of psi is to change worldview.

Conclusion

There is significant evidence on both sides for this hypothesis. Further research on the relationship between psychic phenomena and worldview/spirituality is needed before conclusions can be drawn.

Hypothesis 10. Psi Is Influenced by Many or All of the People Who Are Interested in the Potential Results

The assumptions that psi is related to human motivations and that it is independent of space and time directly lead to the possibility that many people may contribute to a psi effect. In the extreme case, all the people who eventually learn about or would have an interest in a psi result may contribute to the outcome. Psi would be elusive because the net result of this integrated psi is to oppose or suppress psi manifestations.

Supporting Arguments

Studies showing that psi results can be influenced by the person who generates the targets (West & Fisk, 1953) or checks that data (Feather & Brier, 1968) suggest that psi effects are a diffuse combination of effects from various people in addition to the participants and the primary experimenter. White (1976a) reviewed the early studies in these areas, and Weiner and Zingrone (1989) provided a later summary of the evidence for the "checker effect."

Braud (2000) reviewed numerous studies of "retroactive intentional influence" that support the hypothesis that people's intentions and motivations can influence past events. In these studies, data are recorded from a random process and then sometime later goals for a PK effect are defined as the recording is played back. Success on these tasks implies that the future goals influenced the previous random process. Precognition experiments may also be evidence for backward influence. The results could be due to the participant's precognitive calls being influenced backward in time by motivations associated with the subsequent scoring of the results.

Two studies found evidence that efforts to influence prerecorded targets appeared to affect the original recording even after the targets had already been played one or more times (Schmidt, 1976, 1990). These results support the hypothesis that many psi influences from the future can have effects backward in time.

Opposing Arguments

The studies of randomizer and checker effects provide evidence that certain individuals appear to influence, and perhaps dominate, the experimental outcomes, but these idiosyncratic results do not provide evidence for extensive influence by many people.

The studies of retroactive intentional influence may be due to the experimenter using precognition combined with real-time PK to influence the random process. The evidence for goal-oriented psi suggests that this type of information-processing complexity is irrelevant for psi. The precognition-PK task is similar to the clairvoyance-PK task of blind PK.

Two studies found evidence that efforts to influence prerecorded targets appeared to not affect the original random process after the targets had already been played once (Schmidt, 1985, 1986). These results oppose the hypothesis that multiple psi influences from the future can have effects backward in time. Three other studies on this topic were inconclusive (Schmidt, 1984; Schmidt & Dalton, 1999; Schmidt & Stapp, 1993).

The hypothesis of backward influence does not explain why the net integrated psi effect would make psi elusive rather than completely suppressed or enhanced. This hypothesis appears to require additional, questionable factors such as resistance to psi (Hypothesis 6).

Conclusion

The available data are inconclusive regarding the hypothesis that a psi result could be influenced by multiple future observers. Also, this hypothesis by itself does not explain why the integrated result would make psi elusive.

Hypothesis 11. Psi Is Controlled by Nonphysical Beings or Powers

Psi may be the result of nonphysical beings such as spirits or gods, and the elusive nature of psi may reflect the will of those beings. The hypothesis that psi is an entity or power that directs evolution is also in this category.

Supporting Arguments

It is common throughout many cultures for people and particularly psi practitioners to believe that psi effects are due to nonphysical beings

such as spirits, gods, or God. These ideas appear to be at least as consistently held and predictive of psi phenomena as the speculations that motivation and expectancy are important for successful psi experiments or that unknown unconscious factors control psi. There have been extensive investigations of possible spirit survival after death (Gauld, 1982). Although there are alternative explanations for these findings, there is no compelling evidence that the effects are not due to spirits. Scientists generally reject or ignore the possibility that nonphysical beings cause psi phenomena because this possibility is less testable than the hypothesis that living people cause psi effects (Kennedy, 1994). This scientific position is based on philosophy rather than empirical data.

The lack of scientific progress in parapsychology supports the hypothesis that psi effects are not caused solely by the motivations of those directly involved as traditionally assumed. Within the scientific framework, the failure of a more testable hypothesis to provide scientific progress is evidence in favor of some type of less testable hypothesis.

The recurring theme in psychical research that psi appears to be "capricious" or "self-obscuring" (e.g., Batcheldor, 1994; Beloff, 1994; Braud, 1985; James, 1909/1960) implies independent intentions by psi. These ideas are more consistent with the hypothesis of nonphysical beings as the source of psi than with the traditional assumptions for parapsychological experiments.

Several writers have argued that some type of nonphysical guiding power is needed to fully explain the evolution of life (reviewed in Stokes, 1997, pp. 208–211).

Opposing Arguments

There is no convincing scientific evidence for these speculations about nonphysical beings or powers. As J. B. Rhine (1960) and others (e.g., Braude, 1992a, 1992b) have long pointed out, the phenomena in survival research could be due to psi by the living, which is a more parsimonious and therefore scientifically acceptable alternative. Evidence for survival would require that phenomena occur that are outside established limits for psi from living beings. There is little hope of establishing reasonably noncontroversial limits on psi by living beings in the foreseeable future.

These concepts cannot be directly tested and therefore must be rejected in favor of hypotheses that can be investigated scientifically. The idea that psi effects are produced by gods or other beings that were never alive on earth is even less testable than the spirit survival hypothesis and is virtually never mentioned in scientific discussions.

Conclusion

The reality of nonphysical beings can be neither proved nor disproved at present. The possibility that research on the motivations and

experiences causing these beliefs may provide insights into the elusive nature of psi remains largely unexplored.

Overall Conclusions

No single hypothesis stands out as explaining the elusive nature of psi. For several hypotheses, the available evidence suggests that the hypothesis may possibly contribute to the elusive nature of psi but other factors have a larger role. For other hypotheses, there is little relevant data or the data are inconclusive.

This situation could indicate that many factors combine together to make psi elusive. If this were true, each hypothesis alone would have a minor role compared with the combined effect of all the other factors.

Proposed Model

The following model or set of hypotheses is intended to organize the diverse findings in a way that may establish priorities for further research. Many existing findings in the parapsychological literature relate to this model; however, more extensive evaluation of the model is beyond the scope of the present article.

1. The tendency and ability to have anomalous experiences has a bimodal distribution with two distinct groups: those who have many experiences and those who have few or none (Kohr, 1980; Palmer, 1979). Those with many experiences tend to have a variety of experiences and appear to have a more open exchange of information with unconscious processes (Kennedy & Kanthamani, 1995a; Palmer, 1979; Thalbourne & Delin, 1994). It is likely that there is a significant genetic component for these differences. Research with twins indicates substantial genetic components for psi-related personality characteristics, such as absorption (Tellegen et al., 1988), hypnotic susceptibility (Morgan, 1973), and interest in spirituality (Waller, Kojetin, Bouchard, Lykken, & Tellegen, 1990).
2. Among those who have many anomalous experiences, *psi experiencers* are a subset who have actual psi experiences. Although distinctions are fuzzy because of the diverse and often interacting anomalous experiences, this subgroup is indicated by the 10% to 15% of the population who have had experiences that appear to be possible psi (Broughton, 1991, p. 10). The majority of people with many anomalous experiences do not, and perhaps cannot, make clear distinctions among the different types or categories of experiences.

3. *Psi practitioners* are a subset of psi experiencers who have an ability to reliably guide psi by intention or motivation. This subgroup is indicated by the 1% of those screened for remote viewing who could perform reasonably reliably (Utts, 1996). After reviewing studies that screened for psi ability, Millar (1979) proposed that a "very rough" estimate of the incidence of "psi stars" may be 1 in 1,000. The basic ability to be a psi practitioner appears to be largely innate rather than something that can be learned.
4. Psi-conducive experimenters are psi practitioners. This is indicated by the evidence that most consistently successful psi experimenters have produced reliable results as participants (Kennedy & Taddonio, 1976; Palmer, 1997). The hypothesis that motivation, expectancy, and novelty enhance psi occurrence is probably true for psi practitioners. However, these factors cannot turn a person who is not a psi practitioner into a psi practitioner.
5. Psi-conducive experimenters usually achieve their experimental outcomes in an efficient, goal-oriented manner. The experimental outcomes change as an experimenter's interests and intentions change. Various effects discovered in parapsychology, such as decline effects, position effects, and differential effects, may be residual patterns from the efficient operation of psi.
6. For most psi experiencers, a relatively autonomous or independent aspect of consciousness influences or guides the occurrence of psi. This *higher consciousness* may be a deeply unconscious process or some type of transpersonal or collective unconscious, or possibly even a nonphysical entity or some combination of these factors. Whatever the exact process, the effect is experienced as something that happens to the person that is outside the person's control. These effects are experienced as unusually meaningful experiences that relate to higher guidance, personal growth, or personal transformation. These are the most common type of psi experience for psi experiencers who are not psi practitioners. For experimenters who are not psi practitioners, these experiences can include occasionally obtaining significant experimental results that are meaningful to the experimenter. The relative roles and interactions between this higher consciousness and a psi practitioner's intentional direction of psi are not clear at present.

Suggestions for Further Research

This model brings into focus several topics for further research.

1. The bimodal distribution of psi experiences found by Palmer (1979) and Kohr (1980) needs further investigation. The General Social Survey (GSS) has long had questions on "parapsychological"

and mystical experiences (see www.icpsr.umich.edu/gss/). Unfortunately, these items are not as useful as would be desired. The GSS solicits suggestions for additional questions and special modules. Enhancing the questions on anomalous experiences could provide a means to obtain high-quality national data.

2. Collaboration with behavioral genetics research centers to add psychic and/or anomalous experience questionnaires to future twin studies would provide valuable information on the genetic aspects of the tendency to have psi experiences.
3. Virtually all meta-analyses should investigate the underlying statistical assumption that the *z* score is proportional to the square root of the sample size. Other strategies for investigating goal-oriented psi can also be explored (Kennedy, 1995).
4. The observation that multivariable, process-oriented studies tend to be less successful than simple evidence-for-psi studies has far-reaching implications and clearly merits formal study. Existing meta-analysis databases may provide significant, quantitative insights with relatively little effort.
5. The ostensible declines in replication rates and effect sizes for the different lines of research need to be investigated and quantified. Some meta-analyses have not found declines over time (e.g., Honorton & Ferrari, 1989). Meta-analyses should routinely address the possible decline in effect.
6. A more quantitative characterization of the differences among experimenters in producing significant results is needed. A rough estimate of the proportion of experimenters who consistently obtain significant results would be valuable.
7. Further research is needed on the function and effects of psi experiences, and particularly the differences between those who are and are not psi practitioners. Altered worldview and enhanced spirituality have emerged in the initial studies of the effects of psi experiences, but many questions remain about the magnitude, consistency, and process for these effects. In particular, the function and effects of psi for experimenters need investigation. Schlitz's recommendation (Targ et al., 1991) for a phenomenological approach to investigating psi-conducive experimenters may be a useful starting point and should include non-psi-conducive experimenters as well.

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