Spirituality and the Capricious, Evasive Nature of Psi

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For the National Conference on Yoga and Parapsychology,
January, 2006, Visakhapatnam, India
Formatted/Edited Version of 1/12/2013
The presentations at this conference were published in the book
Yoga and Parapsychology: Empirical Research and Theoretical Essays,
Edited by K. Ramakrishna Rao, 2010.

Abstract: Many writers have noted that psi appears to be capricious and actively evasive. The evidence includes the unintended and undesired (a) reversal of direction of psi effects between and within studies, (b) loss of intended effects while unintended internal effects occur, (c) declines in effects for subjects, experimenters, and lines of research, and (d) failure to develop successful applications of psi. These characteristics are inconsistent with the assumptions for statistical research and have not been explained.

Investigating the effects that psi experiences have on people may provide insights about the function of capricious, evasive psi. Research studies have found that the primary effect of spontaneous psi experiences is to alter a person's worldview and increase his or her sense of spirituality and meaning in life. The primary function of psi may be spiritual transformation. The instances of striking psi draw attention away from the material world and the capricious, evasive properties of psi prevent psi from being used for material self-interest. Psi and mystical experiences have several common characteristics that suggest that they derive from a common source.

Another factor that complicates psi research is that many people apparently have motivations to misinterpret normal experiences as paranormal. These motivations include needs to control and to change the world and to feel superior to other people. A person's attitude toward paranormal phenomena appears to be related to innate personality differences. Research on spiritual and paranormal beliefs and on personality factors may promote better understanding among people with different dispositions. Investigating the relationship between psi and spirituality-related factors such as humility and gratitude may be one of the more productive strategies for scientific progress in parapsychology.

¹ This paper combines parts of three longer papers (Kennedy, 2003a; Kennedy, 2005; and Kennedy, in press).

The inability to demonstrate consistent, sustained paranormal effects is the most significant characteristic of experimental parapsychology. The discussions of this failure have often implied an active agency that prevents sustained psi effects. Beloff (1994) described psi as "actively evasive," Braud (1985) described it as "self-obscuring," Hansen (2001) as a "trickster," Batcheldor (1994, p. 93) as seeming "to avoid those positions in space and time when we are actively looking for it," McClenon (1994) as acting "capriciously, as if ...to resist complete verification," and William James (1909/1982, p. 310) as "intended ... to remain *baffling*." In addition, other writers such as Eisenbud (1992), White (1994), and Lucadou (2001, 2002) have suggested that psi cannot be controlled in the manner required for experimental research.

The purpose of the present paper is to summarize the key evidence for the capricious, evasive nature of psi and to discuss the implications of this property of psi.

Evidence for Capricious, Evasive Psi

Psi Missing

Psi effects that are significantly opposite to what is desired and intended in an experiment are called psi missing and have occurred frequently throughout the history of parapsychology. A shift to psi missing can occur within or between studies. In describing the evolution of ESP research at the Duke laboratory, Palmer (1981, p. 31) noted "more typical of the new trend was the performance of a teenage boy identified as P.H., whose promising psi-hitting when tested informally reverted to significant psimissing when better controls were applied (Russell & Rhine, 1942)."

Rao used terms like "bidirectionality" and "differential effect" to characterize the property that "shifts the mode of psi response from hitting to missing in a rather capricious manner" (Rao, 1965, p. 245). He summarized numerous examples and described this characteristic as preventing the useful application of psi. Bierman (1980) pointed out that the frequently observed shift between psi hitting and psi missing is not just low reliability, but negative reliability.

Psi seems to be almost defiant when the results are the opposite from what is intended and from what occurred previously.

Unintended Secondary Effects

Another seemingly capricious or defiant psi manifestation is when the overall intended effect becomes nonsignificant, but unintended secondary effects provide evidence for psi. The Princeton Engineering Anomalies Research (PEAR) laboratory provides a recent example. Studies with electronic REGs had small, but significant

effects for a decade. A recent large-scale replication effort obtained nonsignificant results overall, but Jahn, et al (2000) reported unintended internal structural effects that appeared to indicate psi. The analyses for these effects were based on findings in the previous data and the effects were reported as significant after adjusting for multiple analyses. However, the effects had different patterns than the earlier results and were not consistent across the 3 laboratories participating in the project.

Jahn and Dunne (2001) summarized the situation as:

At the end of the day, we are confronted with an archive of irregular, irrational, yet indismissable data that testifies, almost impishly, to our enduring lack of comprehension of the basic nature of these phenomena. (p. 300)

The evolution of research at the Princeton laboratory is notably similar to the earlier experience at the Duke laboratory. At Duke the initial research was remarkably successful in demonstrating the intended effects. However, a decade later, unintended, internal effects were increasingly being reported as the primary finding.

In fact, Rhine (1974) argued that these internal effects were some of the best evidence for psi because the lack of motivation, intention, and expectation for their occurrence reduced the likelihood of fraud or errors. Of course, skeptics would argue that the internal effects were (are) simply post hoc data selection in an effort to salvage nonsignificant results. However, the internal effects were remarkably consistent in the early studies—at least when they were not intended or expected.

Loss of Effects

The consistent loss of psi effects also indicates the evasiveness and unsustainability of psi. The loss of psi effects occurs for individual subjects, experimenters, and lines of research.

Pratt (1975) summarized the universal loss of psi effects with individual subjects:

we must recognize what has been the most serious limitation on psi research with outstanding subjects. This is the unexplained loss of ability that has always brought their successful performance in the test situation to an end. (p. 159)

Houtkooper (1994, 2002; Haraldsson & Houtkooper, 1995) proposed the term "meta-analysis demolition" to describe the loss of effect for an experimenter or experimenter group. His evaluation of 7 different series of studies found that a summary evaluation was followed by an average of 90% reduction in effect size. Kennedy and Taddonio (1976) noted other examples of declining effects for experimenters. In early parapsychological research, Taves and Dale (1943) used the term experimenter "Midas touch in reverse" to describe the tendency for effects to decline within a study.

Bierman (2001) showed that declines in effect are typical for most lines of research in parapsychology. His evaluation used several meta-analysis databases.

Throughout the history of parapsychology, new lines of research have initially had exciting results and great promise, but then the results became evasive. Beloff (1994, p. 71) described this pattern as a "succession of false dawns and frustrated hopes."

In spite of these various declines, the overall significance level for most of these subjects, experimental series, and lines of research remain significant. There is evidence for psi, but the effects seem systematically unstable.

Lack of Practical Application of Psi

The inability to practically apply psi provides some of the clearest evidence for the capricious or unsustainable nature of psi. Even minimal reliability of psi could be leveraged into moneymaking operations. The fact that parapsychological research is not financed by entrepreneurs profiting from successful applications of psi is a clear indication of the unsustainable nature of psi and lack of tangible progress.

Efforts to develop applications of psi have occurred throughout the history of parapsychology. However, the capricious, evasive effects did not maintain the interest of those supporting the research.

Several exploratory experiments have been carried out to predict the outcomes of casino games (Brier & Tyminski, 1970a, 1970b; Dean & Taetzsch, 1970, Puthoff, May, & Thompson, 1986). These studies provided statistically significant outcomes but failed to develop into useful applications. Such applications presumably would put gambling industries like casinos, lotteries, and races out of business. However, there is no realistic evidence that parapsychology poses a threat to gambling industries, even though there is a strong financial incentive to develop such applications.

A contracted project to investigate using ESP to find land mines produced statistically significant results in the first few sessions, but the later sessions declined to chance (Rhine, 1971). J.B. Rhine terminated the study because he thought it unlikely that the positive results would resume.

Targ described another case:

we did a series of trials some time ago where we had nine successes in a row forecasting silver futures changes, and then I tried to replicate that ... and got eight out of nine hits... I then sought for replication to take advantage of this mechanical psi machine we had created and I got eight out of nine failures. That has really stopped my personal psi investigation for a couple of years while I have tried to meditate on what the problem is here. (Targ, Braud, Stanford, Schlitz, and Honorton, 1991, pp. 76-77)

The U.S. government funded Star Gate project to investigate using psi in government intelligence work is probably the most well funded effort to develop applications of psi. After 24 years of effort with controversial results, the project was dropped.

The use of psychics in police investigations is another situation that has produced some striking anecdotal successes within a larger domain of unreliable results (Lyons & Truzzi, 1991; Truzzi, 1995).

Similarly, the initial research with intercessory prayer for healing appears to have the same issues of unreliability as other type of psi studies (Kennedy, 2002). Two large, well-funded, carefully designed studies at prestigious research institutions both failed to support the efficacy of prayer (Benson, et a. 2006; Krucoff, et al., 2005).

The great majority of spontaneous psi cases also have not involved a practical benefit. This is obvious from examining the cases in any case collection. For example, McClenon (2002a) reported that his case collection did not support the hypothesis that psi experiences generally provide direct benefits. Eisenbud (1992, p. 13) similarly commented "that psi-derived information is on the whole quite useless in the ordinary sense of the word is one of the most obvious facts of parapsychology."

The lack of practical use has been apparent throughout the history of paranormal phenomena. Inglis (1992) argued that interest in research on spiritualism declined due to a lack of meaningful explanation and utility for the phenomena more than a lack of evidence. For example, he quoted Maeterlinck (1914) describing the "strange, inconsistent, whimsical, and disconcerting" character of the phenomena that seem to be "without rhyme or reason, and keep to the providence of supernaturally vain and puerile recreations" (Inglis, 1992, p. 437). Historically, some of the most common spirit entities in shamanism were thought to be tricksters whose role was "to show how egocentric, selfish behavior resulted in humiliation and bad outcomes, or how the spirit world could play unpredictable tricks on people and thus prevent them from becoming too self-confident or haughty" (Hayden, 2003, p. 119). Hansen (2001) argued that paranormal phenomena in general are best characterized as an irrational, disruptive trickster.

Inconsistent with Statistical Research Methods

These results suggest that the desired outcomes in experiments become actively avoided and are not just a signal in noise as assumed for statistical research. A signal in noise would be expected to produce results approaching chance, not avoidance of the desired outcome or unintended internal effects in the absence of primary, intended effects. A signal in noise would be expected to produce improved experimental results over time if relevant variables were controlled, or relatively uniform results if no progress was made in understanding the phenomenon. The declines in parapsychology are not consistent with this expectation. Statistical signal enhancement methods can be used to develop useful applications for a signal in noise, but attempts to develop useful applications of psi have not been successful.

Perhaps most important, a signal in noise produces more reliable results with larger sample sizes as assumed by statistical theory. Meta-analyses consistently show that psi experiments do not have this property (Kennedy, 2003b, 2004). The failure to obtain

more reliable results with larger sample sizes undermines the use of normal statistical methods, including meta-analyses.

Traditional Explanation for Evasive Psi

The usual explanations in parapsychology for the evasive properties of psi involve psychoanalytic speculations about unconscious, instinctive fear of psi and suppression of psi to prevent information overload.

However, the widespread interest in psi and extensive efforts of some people to cultivate psi abilities are not consistent with these speculations about fear of psi. It may be true that some people fear psi, but there is very strong evidence that many others do not and, in fact, some people strongly desire to develop useful psi abilities. Similarly, the speculations about information overload overlook the fact that instances of striking psi occur without information overload. These speculations do not explain why instances of striking psi do not occur more frequently and with greater control.

The speculations about fear and information overload, combined with the unreliable, un-useful nature of psi effects, imply that psi has more adverse effects than benefits. Experimental parapsychology assumes that psi is a widespread human ability; however, psi would not be expected to evolve as a human ability if it caused substantial adverse effects and little benefits. The instinctive propensity to fear snakes (Tallis, 2002, pp. 135-138) provides a useful comparison. Such instinctive fears make sense for reacting to external threats like snakes, but do not offer a rationale for the evolution of an ability that appears to have negligible material benefit and serious adverse effects that need to be suppressed. The arguments about unconscious fear of psi imply that the source of psi is external to people rather than psi being a human ability.

Attempts to understand psi must recognize both the striking results in some cases and the capricious, evasive properties overall. Most models of psi have focused on either the striking cases or the evasive properties, without integrating or explaining the overall observed characteristics of psi.

What Does Psi Do?

Research on the effects of psi experiences has found that the primary effect is to alter the person's worldview and increase his or her sense of spirituality, connectedness, and meaning in life (Kennedy & Kanthamani, 1995; McClenon, 1994, 2002b; Palmer, 1979; Palmer & Braud, 2002; White, 1997a). In a survey of people with psychic or transcendent experiences, 72% agreed with the statement "As a result of my paranormal or transcendent experience, I believe my life is guided or watched over by a higher force or being" (Kennedy & Kanthamani, 1995). White (1997a, 1997b) has devoted the

greatest effort to collecting and summarizing the effects of psychic and other exceptional experiences, and describing the transformative aftereffects.

Paranormal experiences are frequently reported in surveys of mystical experiences and are generally found to be a component of a single mystical experience factor (Hood, Spilka, Hunsberger, & Gorsuch, 1996, p. 248; Thalbourne & Delin, 1994).

The relatively few spontaneous psi cases that appear to have direct benefits related to motivation may actually serve as vehicles for this transformative aspect of psi. For example, I previously described a personal experience that in retrospect appeared to have been contrived to be a dramatic exceptional experience (Kennedy, 2000). The apparent psi experience had a significant practical benefit, but the benefit could have been achieved much more easily in a less dramatic and less conspicuously paranormal manner. However, that would have had little impact on my worldview. Similarly, spontaneous psi experiences of awareness of a traumatic event happening to a loved one affects the recipient's worldview pertaining to the event, but rarely allows the event to be avoided as would be expected if psi were guided by the motivations and needs of the people involved.

Throughout eastern and western spiritual writings, paranormal miracles are reported and interpreted as evidence for a nonphysical, transcendent level of reality (McClenon, 1994; Woodward, 2000). Paranormal phenomena and interpretations have been frequently described for eastern spiritual teachers or masters (e.g., McClenon, 1994; Rama, 1978; Yogananda, 1946). In Christianity, various paranormal effects were specifically described as having a decisive role in convincing people that Jesus was a great or unique spiritual teacher. The occurrence of miracles in later centuries had a key role in the proliferation of Christianity (McClenon, 1994; Woodward, 2000). McClenon (1994) argued that the formation and initial growth of religious groups has hinged on demonstrations of paranormal effects that were more impressive than those by competing religious groups.

These findings suggest that the primary purpose of psi experiences may be transformative. Spontaneous experiences may be intended to be noticed as exceptional experiences that expand a person's sense of connectedness, meaning in life, and spirituality. Belief in paranormal phenomena is associated with spirituality, particularly for people with the strongest beliefs (Kennedy, 2003c).

The instances of striking psi draw attention away from the material world and the capricious, actively evasive characteristics of psi prevent using psi for material self-interest. Both aspects of psi are important for promoting spiritual awareness.

Enhanced consciousness appears to be the self-evident result of biological evolution, the ultimate goal of spirituality, and the primary effect of paranormal experiences.

Common Source for Psi and Mystical Experiences

Psi and mystical experiences have several characteristics in common that strongly suggest they derive from the same source.

Personality

Psi and mystical experiences are associated with the same personality characteristics. Absorption and fantasy proneness are strongly associated with both paranormal and mystical experiences (summarized in Kennedy, Kanthamani, & Palmer, 1994; Thalbourne, 1998; Lange, Thalbourne, Houran, & Storm, 2000). The Myers-Briggs intuitive (N) and feeling (F) personality types are also associated with belief in psi (Arcangel, 1997; Gow, Lurie, Coppia, Popper, Powell, & Basterfield, 2001; Lester, Thinschmidt, & Trautman, 1987; Murphy & Lester, 1976). Keirsey (1998) stated that people with an NF personality type are mystical in outlook and often explore occultism, parapsychology, and esoteric metaphysical systems. (The Appendix provides a short overview of the Myers-Briggs personality model.) As noted above, the occurrence of psi and transcendent experiences are correlated with each other and are found to be part of one factor (Hood, Spilka, Hunsberger, & Gorsuch, 1996, p. 248; Thalbourne & Delin, 1994).

Unconscious

Psi and mystical experiences are both thought to arise from an unconscious or higher part of the mind and to be facilitated by efforts to still the conscious mind and reduce superficial unconscious activity. Both types of experience are viewed as a link or doorway to a higher realm of interconnectedness. In fact, the primary difference is that psi experiences provide information about the material world whereas mystical experiences provide information about the higher realm of interconnectedness itself. William James (1902/1982) noted that the knowledge revealed in mystical experiences may pertain to sensory events (e.g., precognition or clairvoyance) or to metaphysics.

Lack of control

Both psi and mystical experiences are spontaneous and normally outside of direct conscious control. At best, one can create conditions that set the stage for the experiences. Claims for direct, sustained, consistent control of mystical or transcendent experiences are very rare and very controversial (Kornfield, 2000). Likewise, claims for sustained, consistent control of psi involve misinterpretation and/or deception in the great majority, and perhaps all, of such cases. This is true for shamans, mediums, psychics, and experimental researchers (Hansen, 2001; Markwick, 1978; McClenon, 1994; Rhine, 1975).

After-Effects

The primary effects of both mystical and psi experiences are increased sense of meaning in life, interconnectedness, and spirituality. Mystical experiences and paranormal miracles have both had major roles in most spiritual traditions.

Inconsistent with biological evolution

According to the prevailing scientific perspective, humans have emerged through biological evolution, which is driven by self-serving enhancement of reproductive and associated material success. However, transcendent and psi experiences both have characteristics that seem inconsistent with the properties of biological evolution. The pursuit of transcendence in the form of monastery traditions inhibits reproductive success and has the specific goal of eliminating the motivations for material self-interest, success, and status. These conditions are in direct opposition to the assumed driving forces of biological evolution and would not be expected to emerge from evolution. Similarly, the capricious, actively evasive nature of psi prevents its use for material self-interest and would not be expected to emerge from biological evolution.

The inconsistency with biological evolution may be evidence for a spiritual realm that is distinct from the material world of biological evolution. The only person I have known who appeared to have sustained, consistent psi ability viewed her psychic gifts entirely as God acting through her to help people on their spiritual paths (Kennedy, 2000). She did not believe that she directly controlled psi or that she should or could use psi for material self-interest.

For those who believe in an active spiritual realm, contact with that realm is a paranormal process. From that perspective, paranormal phenomena and spirituality are inextricably interlinked.

Cautions

People appear to have strong motivations to believe in psi for self-serving reasons and this greatly complicates research. These motivations appear to cause many people to misinterpret normal experiences as paranormal. Broughton (1991, p. 10) noted that surveys typically find that over half of the population report having had a psi experience, but closer examination of the cases suggests that only about 10% to 15% of the population have had experiences that appear to be possible psi. This estimate is consistent with early surveys (Rhine, 1934/1973, p. 17) and with later studies (Haight, 1979; Schmiedler, 1964). Apparently, at least 70% to 80% of the people reporting psychic experiences are likely misinterpreting the experiences.

Understanding the motivations for incorrect beliefs about psi is important for parapsychology, and for psychology in general. Two of the more conspicuous motivations are discussed below.

Need for Efficacy

Baumeister (1991) described the need for efficacy, or to control the environment and to have an impact on the world. The drive to impress one's self on the world manifests in various forms, including creating technology, building construction projects, climbing or conquering mountains "because they are there," writing books, and creating various forms of entertainment. Conflicts with other people are another way of impressing themselves on the world. This includes various forms of competition in sports, business, and politics, as well as war, gangs, and sometimes crime. The development of computer viruses is some of the clearest evidence for this drive and demonstrates that this drive sometimes is stronger than ethical motivations. This drive tends to be stronger in males than in females.

Attempts to obtain instrumental control over psi for personal benefit are a basic premise of occultism, new age beliefs, experimental parapsychology, and commercial psychics and fortunetellers. These belief systems basically view psi as a magical power that can be controlled to fulfill a person's wants or to provide information about the future.

Belief in instrumental control of psi occurs in spite of the pervasive evidence that psi is capricious and defies reliable manifestations. Several authors have proposed that belief in psi is motivated by a need for an illusion of control of uncertain events (see Irwin, 1993; 2000).

Need for Superiority

Humans have an innate motivation to have self worth, which often manifests as a need to feel superior (Baumeister, 1991). Judging oneself as better off than others is a significant factor in human happiness, and comparing oneself to less fortunate persons is a standard technique for coping with unfortunate events (Baumeister, 1991; Myers, 1992). Membership in elite social groups also provides feelings of superiority.

Human males in particular tend to have an innate drive to compete for power and status (Campbell, 2002; Geary, 1998). Of course, there is variability in these tendencies. Some men have this drive to a lesser degree and some women have it to a high degree. Men tend to overlay dominance and superiority on hierarchical systems. This is particularly conspicuous in military and corporate organizations, and government bureaucracies. The organizations are often in conflict or competition with other organizations and even the lower level members feel superior to those outside the organization.

Religion can provide a sense of self-worth and superiority, particularly for those who cannot achieve it in a more material form. For example, the religions of slaves have commonly included belief in meritorious rewards in an afterlife and punishment of oppressors (Baumeister, 1991). Members of fundamentalist religions believe they have a special relationship with God that makes them superior to others. Unfortunately, this sense of superiority has a long history of hostility and violence toward those who are viewed as being inferior and deserving of punishment (Baumeister, 1991). Fundamentalism places emphasis on religious authority and dominance rather than on internal transcendent experiences. Altemeyer (1996) argued that fundamentalism is a religious manifestation of the authoritarian personality.

More subjective forms of spirituality can also provide a means for establishing a hierarchy of superiority. Characteristics and criteria for determining who is more spiritually advanced are often proposed. These characteristics often reflect the temperaments and values associated with different personality types. The particular personality type of the person developing the criteria is set as the highest state. The claim to be among a small minority of highly evolved people and that everyone should strive to be like him or her is a common symptom of the drive to achieve a sense of superiority. Of course, the sense of superiority can also occur with staunch skeptics and atheists.

Psi experiences are sometimes presented as associated with an advanced state of consciousness or spiritual development (Grosso, 1992; Murphy, 1992; Ring, 1984; Thalbourne, in press). Traditional yoga writings similarly proposed that paranormal abilities are associated with developing spirituality (Prabhavananda & Isherwood, 1981).

Mystical or transcendent experiences are widely interpreted as evidence of high spirituality and are sought through practices such as meditation (Kornfield, 2000). As noted above, psi experiences are frequently reported as a form of mystical experience. The occurrence of these experiences is taken as a sign of spiritual superiority by some people (usually males). For example, Gopi Krishna (1974) claimed that his kundalini experiences (which resembled a mental health breakdown) made him a highly evolved "genius" and gave him psychic powers. However, that appears to be a self-evaluation with no objective or tangible evidence to support his high opinion of himself.

It is now widely recognized that the occurrence of transcendent experiences does not necessarily indicate ethical behavior, compassion, wisdom, integration, or other characteristics normally associated with spirituality (Kornfield, 2000; Zweig, 2003). In fact, the sense of superiority from such experiences may promote self-serving abuse of power.

The most conspicuous evidence for this point comes from the numerous cases of spiritual leaders who claim many transcendent experiences, but have a lavish lifestyle and use their position of authority for sexual activity with people they are supposedly spiritually guiding. This has happened much more widely than is generally acknowledged in both eastern and western spiritual organizations (Gonsiorek, 1995;

Kornfield, 2000; Neimark, 1998; Roemischer, 2004; Zweig, 2003). Such behavior appears to have occurred in the majority of prominent yoga and meditation organizations in the U.S. The sexual exploitation has resulted in numerous lawsuits, but even when consensual, it still appears to be an abuse of authority and trust. In an important discussion of the realities of spiritual pursuits, Kornfield (2000) described the common error of mistaking charisma for wisdom.

In short, some people build superiority hierarchies in the material world and some build them in their minds. Unfortunately, psi and mystical experiences appear to sometimes be pursued or claimed in an effort to achieve a sense of superiority.

Personality and Skepticism

The evidence that belief in psi is associated with certain personality types implies that skepticism may be associated with other personalities. Although there has been virtually no research focusing on the personalities of skeptics of paranormal phenomena, it is a safe bet that the Myers-Briggs S (sensing), T (thinking), and J (judging) dispositions predominate. This is implied in the evidence that NF is associated with psi beliefs. Keirsey (1998) describes the SJ dispositions as materialistic, distrusting of fantasy and abstract ideas, and tending to feel a duty to maintain traditional authority and to enforce rules of right and wrong. Skeptics tend to place great value on rational thinking and control (Kennedy, 2003c), which is consistent with the T disposition. Gow, et al. (2001) found that paranormal beliefs were negatively correlated with S and T personality factors, but not significantly with J.

People with an STJ disposition tend to rise to positions of leadership and authority (Keirsey, 1998; Kroeger, Thuesen, & Rutledge, 2002). Kroeger, Thuesen, and Rutledge (2002) administered the Myers-Briggs personality test to over 20,000 people in all levels of a wide variety of corporate, government, and military organizations. Across these diverse organizations, they found that 60% of 2,245 people in top executive positions had STJ personalities. On the other hand, only about 1% were the opposite personality types (NFP), which are more prone to interest in mystical and psychic experiences.

This personality bias in the upper echelons of power and status may be a major factor in the institutional skepticism and resistance to psi that was described by Hansen (2001). For example, the strong skepticism of high status scientists has been documented (McClenon, 1982).

Fudjack and Dinkelaker (1994) question whether the masculine "extraverted/rational-empirical/pragmatic/materialist" bias that predominates in western culture is healthy for organizations or for society. Research with twins indicates that these personality dispositions have significant genetic components (Bouchard & Hur, 1998; Tellegen et al., 1988).

Baumeister (1991) pointed out that the emphasis on rationality and science provides an enhanced sense of control and efficacy, but less purpose, values, and self-worth, which are important for meaning in life and were traditionally provided by religion. Schumaker (2001) argued that the declining meaning, purpose, values, and spirituality in modern society are contrary to human nature and are causing mental health and ecological crises. In discussing the evolution of consciousness, Donald (2001) commented "above all, our drive for publicly expressed cultural rationality and clarity is itself deeply irrational and unclear in its ultimate destination" (p. 290).

Skepticism may also be related to the need for superiority. The hostility of extreme skeptics toward those who believe in paranormal phenomena appears to be a manifestation of the drive for dominance and superiority, and has noteworthy similarities with religious fundamentalism (Kennedy, 2003c).

Conclusions

The human needs for superiority and efficacy appear to contaminate both science and spirituality. These motivations can prevent proponents of science from being objective and rational, and prevent proponents of spirituality from being compassionate and ethical.

Experimental parapsychology is largely driven by a motivation and implicit bias for efficacy and control. This bias has not produced significant scientific progress. When the phenomena are examined without this bias, the relationship with transcendence emerges as the central organizing factor. The primary function of psi appears to be spiritual transformation or growth. Reliable use of psi for material self-interest has not occurred and, at this point, does not seem likely.

The evidence that most cases interpreted as psi are not actually psi, combined with the motivations to believe in psi to achieve feelings of efficacy and superiority make it difficult to identify actual instances of psi. The slowness in acknowledging the capricious, evasive property of psi even though that has been the dominant characteristic of psychical research for over a century typifies the challenges.

It is not surprising that those who are by disposition materialistic, pragmatic, rational, and wanting closure find the evidence for psi to not be remotely convincing. At this point, they consider psi research to be a well-established waste of time and effort.

At the same time, people with dispositions more inwardly focused continue to have experiences that they describe as providing absolutely certain knowledge that there is a spiritual realm (James, 1902/1982; Miller & C'de Baca, 2001; Ring, 1984). These people find substantial commonalities among their experiences and the after-effects. The fact that others with more externally focused, materialistic dispositions do not have such experiences and are skeptical is irrelevant to the interpretation of their experiences. They feel that they are dealing with direct experience and knowledge, not philosophical theories, rationalizations, or speculations. As William James (1902/1982) noted, there is no point in trying to convince them that their experiences are not real.

For many people the motivation for spiritual beliefs and experiences appears to be much stronger and more focused than would be expected from misplaced motivations for efficacy and superiority. This motivation also does not promote reproductive and material success as would be expected if it emerged through biological evolution. Setting aside scientific parsimony, the most straightforward explanation may be a deep recognition that there is a spiritual realm that is the ultimate goal of life and that may supersede the drives for reproductive and material success.

I believe that science can do much to sort out the various motivations and to create better understanding among people with different dispositions. There seems to be a natural tendency for people to assume that everyone has or should have the same basic motivations and values as they have. This assumption is a major source of conflicts. Research on personality and individual differences clearly shows that this assumption is not correct.

A good starting point would be to identify and measure the personality factors associated with (a) experiences that could be actual psi, (b) experiences that appear to be misinterpreted as psi, and (c) skepticism about psi. Personality models and measures that deal with all relevant factors need to be developed, including motivations for transcendence as well as efficacy and superiority. The need for superiority, in particular, has been under appreciated in research— perhaps because many scientists prefer to overlook that aspect of their own personality.

Cross-cultural comparisons may be particularly valuable for identifying the limitations resulting from the masculine extraverted/rational-empirical/pragmatic/materialist bias that predominates in western culture. Understanding the diversity of personalities and motivations is a prerequisite for addressing questions about when and if psi actually occurs.

Spontaneous psi is associated with spirituality. The tangible lesson from the capricious, evasive nature of experimental psi is that the human motivations for self-serving efficacy and superiority are not applicable in this domain. One of the best strategies for research may be to investigate the relationship between psi and spirituality-related factors such as humility and gratitude. In addition, further exploration of the relationship between spirituality and psi may find that the most appropriate model is to view the source of psi as largely external to living persons.

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Appendix

Overview of the Myers-Briggs Personality Model

The Myers-Briggs personality model (Myers & Myers, 1995) was developed for practical use in occupational settings and interpersonal relationships, and has been widely used in those contexts for several decades. It is based on the writings of Carl Jung.

The model utilizes 16 personality categories based on the combinations of four factors. The summary below was taken from Keirsey (1998), whose concepts are largely the same as the original Myers-Briggs model, but more clearly separate the E/I and S/N factors that conceptually overlap in the original Myers-Briggs model.

Extraverted/introverted (E/I) indicates whether a person feels energized (E) or drained (I) from being with a group of people;

Sensing/intuitive (S/N) indicates whether a person focuses their awareness and attention more on the external, material world and prefers concrete, observable facts (S) or focuses internally on the self and imagination, and prefers abstract ideas (N);

Thinking/feeling (T/F) indicates whether a person tends to value rational thinking and self-control (T) or emotional expression (F);

Judging/perceiving (J/P) indicates whether a person prefers setting and achieving goals and having a sense of closure (J) or spontaneously exploring open-ended possibilities and keeping options open (P).

For example, ESTJ is one personality type and INFP is the most different personality type.

The primary sex difference in personality types is for the T/F factor. About two-thirds of males are T (thinking) and about two-thirds of females are F (feeling) for U.S. data (Macdaid, McCaulley, & Kainz, 1986).

The Myers-Briggs model describes all personality types as being valuable in some circumstances. Presumably, the different personality types have been maintained throughout evolution because they had adaptive value, or at least did not inhibit reproductive success.

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