



God Cured My Cancer: Assessing the Efficacy of Religious Healing

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Abstract

While the literature examining the links between religion and health has grown exponentially in the past decade, rather less attention has been given to the topic of religious healing, and more specifically whether it 'works' or not. To date anthropological work in this area has largely focused upon its symbolic aspects arguing that its efficacy is mediated by the manipulation of religious symbols and the experiential changes consequent upon this. After discussing what we mean by efficacy and the differences between healing and curing, I pose the question of biomedical effectiveness- can religious healing result in biomedical cure and what problems arise from the application of scientific and biomedical criteria to religious healing? I illustrate the talk by discussing three healing contexts: Intercessory prayer; Pentecostal healing and healing at the Catholic shrine of Lourdes.

Introduction: The question of efficacy in medical anthropology

The medical anthropological literature is replete with examples of traditional healing and as Waldram (2000) notes, ethnographic narratives often suggest that such practices are effective without discussing what criteria are deployed to assess efficacy. Building upon the distinctions between disease -organ and biochemical pathology- and illness -the social response to disease (Eisenberg 1977, Kleinman 1980 and Young 1982), medical anthropologists differentiate between *curing* – the removal of pathology or the repairing of physiological dysfunction –and *healing*- repair of the affective, psychosocial and spiritual aspects of ill health. However as Waldram (2000) points out, it is erroneous to maintain that biomedicine cures disease and that traditional medicine (and as I shall discuss subsequently religious healing) only heals illness. All medical systems involve both healing and curing. This assumption arises from the emphasis in traditional healing on its ritual and ceremonial aspects and the symbolisations associated with them. This detracts from the possibility that any curing

does in fact occur. Furthermore healing takes account of the social, economic, may extend beyond the individual patient to his or her family and to the wider community or various aspects of the cosmos. Whereas biomedical treatment generally focuses upon the individual patient, by contrast traditional healing focuses upon the collectivity and the social realm. Understandings of efficacy are likely to be embedded in these processes. Healing can still occur while the underlying pathology remains unchanged.

Authors have defined efficacy in diverse ways. For instance Young (1983:1208) speaks of medical efficacy as 'the capacity of a given practice to affect sickness in some desirable way', as 'curing disease... or healing illness'. He differentiates between material proofs tied to the real world, 'scientific proofs' confirmed through applying scientific methods and finally 'symbolic proofs' related to ordering events and providing meaning in individual episodes of sickness. Nichter (1992:226) uses the term 'curative efficacy' to denote 'the extent to which a specific treatment measurably reduces, reverses or prevents a set of physiological parameters in a specific context'. By contrast healing 'involves the perception of qualitative change in the condition of the afflicted/or concerned others. Healing efficacy pertains to the symbolic aspects of treatment and includes placebo responses. For this author healing may or may not entail curing. Non-biomedical traditions may be concerned with 'curative efficacy' ie with physiological change, although it may not be understood in the same way as in biomedicine. He asks whether curing and healing efficacy can be distinguished. In his view efficacy may be differently defined by practitioner and patient and efficacy is something that needs to be negotiated between them both in biomedicine and in traditional healing. Waldram (2000: 613) states:

'Determinations of efficacy, then, are made in different ways by different actors in the sickness episode. Each actor occupies a unique position, with unique and often very personal perceptions, experiences, and motives from which he or she draws as efficacy is negotiated.' In line with this Kirmayer (2004) notes that efficacy of a healing practice may be assessed in different ways in diverse cultural groups and it must be understood in a wider cultural context. Whereas in biomedicine efficacy denotes recovery, improved function and diminished suffering, in other healing systems healing refers to repairing broken relationships with the family, community or cosmos including relationships with higher powers like gods or spirits. Finally even if the 'patient' remains symptomatic other members of the family or wider community are helped or social conflict is reduced.

An illustrative example of differential understanding of sickness and cure is that of the Navaho who commonly attribute cancer to lightening, an aetiological factor which is not accepted by the biomedical community (Csordas 1989). Among this group diseases are classified by aetiology rather than in terms of symptoms. For them cancer has a mythic origin caused by lightening which is outside the parameters of biomedical thought. Lightening is seen as a weapon used by deities as a tool or weapon and in Navaho mythology refers to snakes, arrows and other shooting phenomena. Whereas Navaho medicine is concerned with the removal of causes of disease, biomedicine is more concerned with removing the disease itself. Thus the biomedical concept of cure is dissimilar to the Navaho and Csordas questions whether we can legitimately apply biomedical criteria and standards to Navaho treatments. Among the Navaho the standard 'cure' for lightening is the Shooting Chant.

Anthropologists have frequently deployed biomedical or scientific approximations in traditional cultures (eg Ackernecht 1971, Devereux 1940, Kleinman 1980, Singer and Baer 1995). However there are epistemological differences between biomedicine and various forms of traditional healing and there are issues applying the so called 'culture free' scientific standards to the latter in the belief that these standards are universal for defining cure. While traditional practitioners, influenced by globalisation, may use biomedical language, this does not necessarily reflect their understandings of biomedical concepts. As Waldram (2000:607) asserts: Even the basic concepts of traditional and medicine are fraught with Eurocentrism and English-language biases, and they may be little more than very crude approximations, at best, of complex indigenous thought.'

Religious healing

While the past few decades have seen increasing academic attention given to the complex relationships between religion and health, the topic of religious healing has received relatively less attention. By religious healing I refer to a healing brought about by faith or prayer. Vellenga (2008) notes: 'Religious healing assumes the presence of a supernatural power which can restore the natural order, whereas biomedicine presupposes a natural order that can be studied by natural and biosciences. Csordas and Lewton (1998) in their comprehensive review of religious healing cross culturally note that the question of efficacy is often an afterthought and taken for granted. Few authors take up the question of the efficacy of religious healing as a central concern nor do they address the biological or physiological aspects of therapeutic efficacy. Instead their concern is with the symbolic healing aspects involving the manipulation of signs, the phenomenological aspects of performance and subjective experience, provision of meaning and cognitive order, and the resolution of social conflict or the reordering of social roles. Often psychological mechanisms like trance, dissociation, catharsis and suggestion are uncritically evoked to account for therapeutic efficacy.

There is some agreement among anthropologists that religious healing, shamanism and psychotherapy are all versions of symbolic healing which involves the manipulation of healing symbols (eg Dow 1986, Moerman 1983, Kleinman 1988). In Dow's schema symbolic healing results from four structural processes. First a symbolic bridge must be built between personal experience, cultural meanings and social relations. All forms of symbolic healing originate from a mythic world –a shared model of experiential reality which comprises symbols linking the social system to the self of the sick person. The healer and the patient particularize a segment of this mythic world to heal a patient. Second, the healer attempts to persuade the sick person that their problem relates to some aspect of that mythic world. Third the healer changes the patient's emotions by the use of transitional symbols which are particularized from the general meaning system. Here the participants share mutual expectations about healing of the illness. Finally in the confirmatory stage the healer confirms that the particularized symbolic meaning has been transformed eg that a spirit has now been exorcised. This transformation can have a significant effect upon the way in which the sick person experiences his/her illness and can have important physiological effects.

Csordas (1994) in his study of Catholic Charismatic healing proposes a 'cultural phenomenological theory' of religious healing grounded in embodiment- the immediacy of bodily experience and orientation. The healing involves an imaginal encounter with Jesus as a healing power. For him sensory imagery and performative utterance- both embedded in the Charismatic sense of meaning- transform the self and cultivate a sense of sacred self. In his view the imagery of Jesus in Charismatic healing transforms orientations towards others and towards the self and the self - processes include emotion, self -creation, imagination and memory. The experience of 'being slain in the spirit' where participants fall backwards and are caught by other congregants produces a sense of being overtaken by Divine power. Furthermore the motor, emotional and sensory changes evoked by ritual produce in participants experience of a direct relationship with Jesus who possesses an all- encompassing and omnipotent power which surpasses any human relationship. The sense of bodily self -awareness engendered through ritual engagement is interpreted by ritual participants as the presence of divine power.

But can religious healing bring about physical effects on the body? Kirmayer (2004) notes how healing rituals and other symbolic practices can directly impact physiology, experience, and interpersonal interaction. For him the metaphorical transformation of the quality of experience is at the heart of symbolic healing. Authors have often associated biomedical healing with physiological changes, whereas the effects of symbolic healing are viewed as purely psychological. Kirmayer makes the important point that a distinction between biological and symbolic healing cannot be easily made. Symbolic healing may have physiological effects. Symbolic stimuli and psychological expectations can significantly impact physiology and all interventions will have effects dependent upon the meaning for the patient receiving it. Finally Moerman (2012) relates symbolic healing to meaning responses –for him a positive response to meaningful experiences facilitates human healing. He reframes the placebo response as a meaning response “the physiological or psychological effects of *meaning* in the treatment of illness” ([Moerman, 2002](#), p. 14).

Is there evidence that religious healing has biological or physiological efficacy? In this paper I focus on Christian healing in three contexts: intercessory prayer; Pentecostal healing and Catholic healing at the pilgrimage site of Lourdes.

Biomedical aspects of healing: The Clinical trial as Western-centric

The clinical trial is held in biomedicine to be the gold standard for evaluating efficacy. This involves the random allocation of patients to treatment and control groups, the double blinding of both patients and researchers and the use of statistical methods to look for significant differences. Human experience is generally ignored. Such research studies look for indicators of efficacy which are different from those that are sought by patients and healers in traditional medicine. Furthermore the healing process is decontextualized and taken out of its cultural context. As Good (1994: 23) argues: "grounding cross-cultural analysis on practices current in contemporary biomedicine may produce findings more apparent than real". Furthermore subjecting traditional healing to clinical trials might abolish the placebo effect which as many have argued (eg Laderman and Roseman 1996, Moerman 1983, Dow 1986) plays a significant role in the efficacy of traditional treatments. Kaptchuk (2002, p. 817). bemoans the fact that

dismissing placebo effects “diminishes our knowledge of important dimensions of health care” As we shall discuss below there are significant scientific and theological issues in the application of clinical trials to religious healing, particularly prayer (Andrade and Radhakrishnan 2009).

The use of clinical trials and the deployment of scientific methods generally to assess claims of religious healing relates to the wider question of the limits of science and the ways in which scientists draw the boundaries of what phenomena scientific methods can and cannot investigate (Lamont and Monar 2002). Do science and religion differ in terms of what they define as evidence? What are the strengths and weaknesses of the scientific method for studying religion? As will be discussed, there is controversy among scientists pertaining to the role of clinical trials in intercessory prayer. Finally if controlled trials were to demonstrate positive effects of intercessory prayer on health what are the implications for the authority of religion?

Intercessory prayer

The study of intercessory prayer has captured much academic attention in the past two decades or so. In a typical study one group of medically ill patients receives prayer and the outcomes are compared with another group who do not. Recipients are randomised to one or another group. The majority of studies find no significant measurable difference in the improvement in health status of individuals who have been prayed for, versus those people who have not been prayed for (Masters et al. 2006). In fact some studies demonstrate worse outcomes in the prayed for groups (Byrd 1988, Benson 2006). A meta-analysis found "no discernible effect" (Masters, Spielman and Goodson 2006). A systematic review of intercessory prayer stated that, while 7 of 17 studies demonstrated "small, but significant, effect sizes", the most methodologically rigorous studies did not produce any significant findings (Hodge 2007) .

Gunther Brown (2012) argues that we need to incorporate theological ideas into scientific studies of religious phenomena in order to enhance construct validity and ecological validity. While scientific empirical methods can legitimately be deployed to examine religious healing, they cannot comment on the interpretations of religion. While it is possible to demonstrate changes in organ pathology before and after prayer, the actual cause and effect is beyond the remit of ordinary clinical research methods; science cannot comment on the supernatural which by definition is beyond the boundaries of empirical science. Gunther Brown asserts: “To ask the question of whether science can prove or disprove the healing power of prayer points toward the unparalleled cultural authority of ‘science’ in the modern Western world.” (p276)

The study of intercessory prayer has its supporters and its opponents. Detractors derive from both the scientific community and from the religious community. Richard Sloan and Rajasekhar Ramakrishnan (2006) assert, “Most of the scientific community has objected to giving serious consideration to such research, but we live in an era of growing irrationalism.” These authors aver that the methodology of studies on religion and prayer is highly problematic and further assert that such studies should conform to the high standards of science. They especially point out the fact that investigators cannot control and measure the exposure to prayer and specific outcome variables

cannot be identified and to this extent such studies can never be conclusive.

Gunther- Brown (2012) details the potential sources of bias in healing prayer studies. It is near impossible to achieve pure control groups in a prayer experiment, since patients assigned to the control group may pray for themselves, or their friends and relatives may pray for them. *Placebo effects*— *psychosomatic* improvements which result from the fact that subjects believe they are receiving a therapeutic intervention, can never be completely eliminated regardless of whether or not that intervention has any intrinsic therapeutic value. *Empathy effects* arise from the concern and attention shown by a medical or religious healer. *Hawthorne effects* refer to short-term improvements arising from the motivation evoked by the attention paid to subjects during a study, regardless of the nature of the experimental intervention. Sloan and Ramakrishnan (2006) bemoan the fact that in IP trials there is limited control of the exposure of the active agent. They note that in typical RCTs it is the investigator has control over the exposure to the active agent.

There are issues in defining the quantitative aspects of prayer. What constitutes prayer 'dose' –is it the length of the prayer, the underlying enthusiasm? What is the influence of their moral attributes like kindness, altruism? What about their levels of belief? How do qualities of the person praying influence outcome? Is it ever possible to equate prayer in different faith conditions- eg is Muslim prayer the same as Christian prayer? It is impossible to measure all the variables involved in the prayer process.

Members of religious communities often oppose the study of intercessory prayer labelling it as blasphemous or even sinful. Their primary bone of contention pertains to subjecting God to empirical testing. There are problems from a theological perspective? Can God be coerced into answering prayers? Why would a benign, all loving God favour one group rather than another? Is it unethical for a Christian to pray for one group and not another, both of whom are suffering. Andrade and Radakrishnan (2009) pose two significant questions pertaining to God's role in healing: 'If research on intercessory prayer is positive, does it suggest to us ways and means by which we can manipulate God or make his behavior statistically predictable?' And 'Why would any divine entity be willing to submit to experiments that attempt to validate his existence and constrain his responses?'

Having examined the issues involved in assessing biomedical efficacy of intercessory prayer I now move onto Pentecostal healing.

Pentecostal Healing

Candy Gunther Brown (2012) has provided an excellent discussion of Pentecostal Healing and the discussion below is informed by her work. From its inception Pentecostalism underscores the healing power of the Holy Spirit both for physical and for psychological problems and healing is therefore central to the movement and is responsible its wide appeal. From its inception Pentecostalism drew upon the power of the Holy Spirit for physical, mental ('inner healing' of emotions and relationships) and social healing. Often discernment is deployed to establish the role of evil spirits causing illness which, if present, may give rise to an exorcism. Finally the expression

of an individual's testimony- a description of their life pre salvation- is considered as a potent emotional healing strategy.

In the Pentecostal Movement healing always 'works' as a spiritual experience through bringing subjects closer to God. While physical and social- emotional healing are hoped for, they are secondary aspects. The removal of perceived barriers to divine intimacy including personal sin and demonic influence, as Poloma (1998) notes, constitutes 'spiritual healing' for them.

Is there evidence that Pentecostal healing is effective in the biomedical sense? Pentecostals are ambivalent about subjecting their healing practices to biomedical scrutiny. Sometimes doctors are enlisted as an apologetic strategy to demonstrate healing authenticity. In other cases Pentecostals are wary of biomedical assessment, arguing it indicates lack of faith and is possibly dangerous for it. Some early twentieth Century Pentecostals have eschewed the use of medical cures arguing that biomedicine can interfere with faith, even to the extent of equating medicine with unbelief and maintaining that medical assessments will disconfirm 'miraculous' healing rather than corroborate them. Others have deployed medical technology like X rays to support their assertions that prayer is superior to medicine.

Arguing that medical documentation in these contexts is often sketchy and ambiguous she states: "medical documentation ... cannot prove—though in certain cases it may disprove—that prayer heals anybody" (p. 153). She examines how Pentecostal Christians perceive healing and asserts that: "*perceived* divine healing experiences have the potential to exert lasting effects—not only on the person claiming healing but also on family members, friends, and even on individuals with whom network connections are strikingly weak, indirect or transitory" (p. 274). For her interactions with the Divine result in emotional changes that themselves impact mental and physical health. In her view healing works as a spiritual experience –becoming closer to God and physical and psychological healing are secondary. As John Wimber (1987:66), a charismatic pastor and a founder of the Vineyard Movement, asserts:

'The healing of our spirit, in which our relationship with God is renewed and restored, is the most fundamental area of healing. Without doubt the healing of our spirit is the lynchpin around which all other areas of healing revolve.'

In another review of the area Gunther Brown (2015) points out that little has been published relating to biomedical support for healing in Pentecostal groups (see Keener 2011:1-2). She makes the important point that those who pray are more concerned with receiving healing than with the need to document their recovery. After it takes a lot of effort to follow up individuals who have been healed and it detracts from the actual task of healing. Furthermore even if prayer does result in healing, patients generally do not feel the need to return to doctors to prove it. Yet even so, testimonies of successful healing are commonplace among Pentecostals. But, as she notes, it is high profile Pentecostal groups who circulate the most successful healing narratives who are the most reluctant to follow up their followers from a biomedical perspective.

Compared to the Catholic Church which is keen to demonstrate biomedical healing efficacy, in contrast Reformation era Protestants are suspicious of such healing claims even in the presence of supportive medical evidence. In some instances celebrated

healers like Oral Roberts and Kathryn Kuhlman have deployed the use of medical records to document changes in health status. Kathryn Kuhlman insisted on the use of medical documentation to corroborate her healings. Carefully selected healing testimonies were compiled by her into a number of books including *Nothing is Impossible for God* (1974). Cases ranged from metastatic cancer, disappearance of goitres, recovery of blindness and the reappearance of decayed bones.

As in Catholic healing at Lourdes, she deployed criteria from the Lourdes Medical Bureau to confirm a healing as 'miraculous'. First the illness had to originate from an organic or structural problem. Second healing of the disease must occur too rapidly for psychosomatic processes to account for it. Third it was necessary for the patient's primary physician to verify the healing. Fourth, the healing could not be accounted for by remission of the disease. But as Gunther Brown (2015) rightly points out medical evidence can never prove the permanence of cure and furthermore, absence of medical evidence does not demonstrate the absence of healing. Medical documentation is often incomplete making it impossible to be certain that biomedical healing has definitely occurred. The most the documentation can show is that a medical expert diagnosed the patient with a disease, no medical interventions expected to cure the disease were administered, this expert can no longer detect signs of that disease, the recovery is deemed sufficiently rare in practice, and finally there is no evident medical explanation for the 'cure'.

In a similar way to Kuhlman, Benny Hinn, the Canadian American televangelist, published *Lord, I need a Miracle* (1993) with a forward written by Donald Colbert who confirmed that he had personally read the medical files for each patient. Despite recent advances in medical technology including imaging, recently Pentecostals have not been keen to use medical documentation to confirm their healings. Instead they deploy postmodern criteria of healing- sensory changes like visions, skin sensations, feelings of heat or diminution of pain as 'evidence'.

Healings at Lourdes

A number of authors have examined narratives of healing among Roman Catholics (eg Duffin 2008 on Vatican sources on 1400 miracles from six continents and spanning four centuries; Harris 1999 on healings at Lourdes). Here I focus specifically on alleged cures at Lourdes in France.

Following miraculous sightings of the Virgin by the peasant girl, Bernadette Soubirous in 1858, Lourdes in the foothills of the Pyrenees rose to prominence as a healing sanctuary and today is a major Catholic site of pilgrimage hosting about six million visitors yearly. It is a place of healing ritual and the spring water from the grotto there is held to have health related benefits. Francois, Sternberg and Fee (2014) point out that:

'Significant mental factors are present in Lourdes: anticipation and hope, belief and confidence, fervor and awe, meditation and exaltation, and these are compounded by the spiritual atmosphere of the place, ritual gestures, hymns, and prayers. The reactivity and sensitivity of patients to these mental states may well be determinants of the cures and are likely to explain why the cures seem to occur at random and vary in timing, place, modes, and ways.'

From its inception the Lourdes sanctuary was subject to intense medical scrutiny and the Lourdes Medical Bureau functions to transfer medical investigations of alleged cures to the International Medical Committee of Lourdes. It is estimated that about thirty five claims of miraculous healing yearly are taken to the Lourdes Medical Bureau. Of these, three to five are subject to more intense medical investigation through examination of the patient, case notes, and test results including X rays and CT/MRI scans. If a decision is made to further investigate the data is sent to the International Lourdes Medical Committee comprising around twenty experts in different medical specialties. One expert is allocated to more fully examine the case including detailed reading of the literature pertaining to this specific disease. Stringent criteria are required for define a 'cure' as medically inexplicable:

- The original pathological diagnosis must be confirmed beyond any doubt
- The patient is viewed as "incurable" with current medical treatments
- The cure must be associated with the visit to Lourdes, either while the patient is in Lourdes itself or else within the vicinity of the shrine.
- The patient's cure should occur immediately and rapid resolution of symptoms and signs of the illness should take place.
- There should be no residual impairment or deficit remaining ie the cure must be complete
- There should be no signs of recurrence of the illness over time ie the cure is permanent.

However, only the Church itself can decide whether or not a cure is 'miraculous'. This decision is outside the remit of medical authorities. If the cure is thought to be medically inexplicable the case is referred to the Bishop of the Diocese where the cured patient resides and together with the Vatican both pronounce that the cure was indeed miraculous.

Sixty-seven Lourdes cures have been officially recognized as miraculous by the Roman Catholic Church including: seven in 1862, thirty-three in 1907–13, twenty-two in 1946–65, and five in 1976–2005. While the types of diseases allegedly cured a Lourdes are quite diverse tuberculosis and neurological conditions appear most frequently. Other cures include partial blindness, total blindness with meningitis, throat cancer, renal failure, angina and edema, damaged heart valves, and cure of intestinal fistulas and abscesses. In recent decades the number of reported miraculous cures has considerably declined. However in July 2008 a French nun who suffered with sciatica for decades, was wheelchair bound, and taking morphine, made a sudden recovery after returning home from Lourdes. She was pain free, could walk and was able to stop her analgesia. She reputedly said: "Then I heard a voice saying 'Remove the apparatus'. What happened? I don't know. I don't know. In February 2018 this healing was officially declared a miracle by the Catholic Church. The question arises however whether these alleged cures were divine in origin or resulted from some poorly understood psychosomatic process. They argue that if we do not understand how the healing came about, it cannot automatically be attributed to some divine intervention.

Discussion

This paper has focused upon healing in three Christian contexts: Intercessory prayer,

Pentecostal healing and at the healing shrine of Lourdes. Christianity has had a longstanding concern with the health and healing of the mind, bod and spirit. In terms of healing we might argue that all forms of Christian healing provide symbolic resources for repairing the relationship between Man and God and bringing them into a more intimate relationship. This aspect is beyond the remit of science. In terms of illness religious healing can bring about experiential changes and affect the illness experience. But what about cure from the biomedical sense? Furthermore while clear phenomenological changes have been documented as a result of healing (eg Csordas 1994), these changes may indirectly impact physiological states, for instance the immunological system, even if the underlying disease is not eliminated.

Despite the time and money invested into intercessory prayer research overall there does not appear to be any benefit from the biomedical point of view. More so it is almost impossible to use double blind controlled trials in this area given the fact we can never be certain who is actually praying for the patient. Investigators cannot control and measure the exposure to prayer and specific outcome variables cannot be identified.

Authors writing on Pentecostal healing underscore the ambivalence of member of these congregations to biomedical assessment with some pointing out that biomedicine can undermine faith. When biomedical documentation is deployed, often as an apologetic strategy, it is often sketchy and ambiguous and impossible to argue from this that a biomedical cure has in fact come about. Finally it is important to note that Pentecostals are far more concerned with receiving healing than documenting it and persuading others that it has in fact occurred.

It is perhaps Catholic healing at Lourdes which has attracted the most rigorous biomedical assessment and deployed stringent criteria for assessing that biomedical cure has occurred. However even if this is the case it does not necessarily implicate some divine action. It may mean some hitherto now unknown force is responsible for this.

What is often ignored is that religious healing at the least has a strong placebo effect. Biomedicine generally ignores the placebo effect (Kaptchuk 2002). It is not only the religious intervention which might have some psychological effect-eg prayer or laying on of hands, but also the socio cultural context in which it occurs ie among the religious congregation and in a church and involving a specific relationship between the healer and the patient. Activities within the prayer service like singing may heighten this placebo effect. As Csordas (2017) rightly argues, a placebo is never purely inert and has both psychological and physiological actions. In this respect Kohls et al (2011) argue that spiritual experiences may predict their placebo response and bring about self -healing. These authors assert:

‘although there is consensus within the philosophy and psychology of religion that spiritual experiences—like all other types of experiences—are largely dependent on social, cultural or religious context , it is also important to recognize these experiences as psychophysiological events that involve, and are mediated by, peripheral and central neural (and neuroendocrine and/or neuroimmunological) substrates. ‘

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