Alcoholics Anonymous (AA) dates back to 1935 when Bill W, a layman, experienced a spiritual reawakening that led him on a path toward recovery from alcoholism. Since that time, countless people with addictions have attributed similar relief to this movement. AA is called a spiritual fellowship by its members, but we are only now beginning to understand the mechanisms that underlie this aspect of recovery.

The validation of spirituality, a seemingly enigmatic term, must ultimately be based on psychological and physiological findings. An initial aspect of this task lies in defining spirituality in empirical terms, which was succinctly done by Puchalski and colleagues (1) as “that which gives people meaning and purpose in life.” They amplified this definition by pointing out that spirituality can be achieved “through participation in a religion, but can be much broader than that, such as belief in God, family, naturalism, rationalism, humanism, and the arts.”

The use of this term with this connotation is of surprisingly recent origin. Anthropologists have typically applied the word “spiritual” to much more concrete aspects of religious and shamanic practice. Its current usage can be understood to have derived from a number of sources, some of which are particular to recent trends in American culture over the past half century. Acceptance of an ecumenical religious orientation has led to an appreciation that the formalities of ritual practice may be less important than the values that many religious denominations hold in common. Acceptance of the cultural basis of practices—like meditation, with its relationship to Asian philosophies, and complementary medicine—has added another dimension to this concept. The emergence of AA itself as a potent vehicle for personal transformation has also been influential, as it has brought the term spirituality to the attention of both the general public and mental health professionals. All these have led to acceptance by the general public of the various spiritually oriented philosophies and practice for recovery from illness that have emerged outside of the domain of established biomedicine.

Most psychiatric modalities are associated with a singular mechanism: psychopharmacology with physiology, cognitive-behavioral techniques with behaviorist psychology, or psychodynamic therapy with intrapsychic and interpersonal conflict. However, spirituality has been termed a latent construct: like the concept of personality, it cannot be understood or observed from a single perspective but rather it is inferred from multiple component dimensions. As such, we can examine here its multiple, empirically grounded components: psychology, physiology, and clinical psychiatry.

Components of spirituality

Psychology

A psychological model of spiritual renewal was framed as early as the turn of the last century by William James, who gave illustrations of its effectiveness as a euphoriant and vehicle for change in his book The Varieties of Religious Experience (2). I recently reviewed how experiences of spiritual renewal produce measured improvements in psychopathology among members of zealous religious sects and born-again evangelicals (3). These improvements were reflected in quantitative changes on psychometric measures and frequency of drug use. They were found to be lasting and transformative of affective status, social adaptation, and occupational activity.

The placebo response sheds light on the value of belief in a transcendent entity, be it a pill or a traditional healer; and this response comes about in the absence of physiological intervention. For example, the prevalence of response to placebo antidepressants in study populations is more than half that among persons who respond to the active drug (4), and imaging studies have delineated innate physiological changes that are corre-
lates of the placebo response (5). Although there is a clear distinction between a placebo and a spiritual commitment, the former suggests the value of pursuing further research on the latter phenomenon.

Such findings underline the fact that a domain of psychological function exists that can operate outside currently prevalent professional psychosocial and pharmacologic clinical practice. Given this fact, it is reasonable to point out that our current psychiatric interventions may not fully utilize the transformative nature of spiritually oriented belief as an effective modality that can be employed for its clinical utility. Instead, spiritual renewal has come to be seen as separate from mainstream care, typically under the rubric of alternative and complementary medicine. It is these latter techniques that many ill people turn to in the face of technology-based medicine.

**Physiology**

Physiological research suggests that spirituality may be relevant to the healing of psychiatric disorders. Individuals who score higher on personality traits related to spiritual transcendence have been found to have characteristic activity in certain serotonergic brain sites (6), suggestive of individual physiological variations in response to spiritually oriented care. The close relationship between symbolic thought and dream symbolism is characterized by the activation of certain brain centers and the concomitant deactivation of others (7), which suggests an association between spiritual metaphor and neural function.

Response to the social context of spiritual conversion may also be correlated in neurophysiological function. A person in a social setting in which a spiritually oriented perspective is presented with intensity may be drawn in and adopt that perspective. Correlates of such social compliance in thinking have been found to be associated with functional changes in an occipital-parietal network (8). The many studies on physiological correlates of meditation, which is rooted in spiritually oriented subcultures, can be cited as well. Electroencephalographic changes, for example, have been observed among long-term Buddhist meditators, even after the act of meditation is completed (9).

**Addiction psychiatry**

The experience of Bill W at the inception of AA, in which he was "caught up in an ecstasy which there are no words to describe," cannot be easily researched. And framing the methods for studying the role of AA-based recovery is difficult on other counts as well. Twelve-step fellowships require anonymity of their members and are oriented toward the primacy of members' needs beyond any research objectives that investigators might propose. Because of this requirement, most outcome studies on recovery through AA have been tied to follow-up on patients engaged in professionally based treatment who also attend AA meetings.

Uncontrolled assessments of the Twelve-Step "Minnesota Model" for long-term residential rehabilitation in a professionally directed setting have shown promising results, but one major study related to AA-based recovery stands out because it entailed randomization and experimental controls. A large-scale evaluation by the National Institute on Alcohol Abuse and Alcoholism, Project MATCH (Matching Alcoholism Treatments to Client Heterogeneity), was carried out with careful long-term follow-up. It revealed that Twelve-Step Facilitation, a professionally grounded modality designed to promote AA attendance, was at least as effective as motivational and cognitive techniques (both of which were developed from empirically grounded research models), and it was more effective than these techniques in achieving long-term abstinence (10). Twelve-Step Facilitation is a professionally based intervention, and AA is a peer-led lay fellowship. Nonetheless, this outcome suggests the importance of further controlled research on participation in 12-step programs.

Professional treatment of substance-impaired physicians also offers an insight into AAs' clinical value, because long-term abstinence has important public health implications for this population. One sample of physicians who had previously abused substances and had been abstinence for an average of two years, previously in AA-based professional treatment, reported 12-step membership to be the principal reason for their long-term abstinence and recovery (11). Also, in a sample of 101 physicians selected at random among those monitored by a committee on physicians' health, we found that 97 percent who had previously been in a 12-step program continued with the program during the monitoring period (unpublished data, Galanter M, 2006).

Research on the role of spirituality in the recovery process independent of professional management has been modeled empirically, and the association between AA involvement and improved outcome has been demonstrated (12). In any case, there is no doubt that membership in AA, typically seen to be associated with its spiritual grounding, has now been undertaken by millions of people with addictions who credit the program for their addiction recovery.

The 12-step experience creates a sense of communality, as distinguished from the conventional institutional context, and this solidarity is an important aspect of the program's spiritual nature. The fellowship's orientation to mutual support creates a shared sense of renewal that validates the behavioral requirement of recovery—namely, maintaining abstinence. For addicts as a group, the orientation to mutual support has also sustained the integrity and structure of AA as a movement. Substance-impaired physicians, for example, have established a supportive network through AA-related Caduceus groups and the organization International Doctors in AA. The clinical benefit of AAs's mutual support has been demonstrated in controlled studies on enhanced outcome in addiction treatment programs (13), on decreased need for professional staffing in alcohol outpatient rehabilitation (14), and on addiction treatment with general psychiatric care for persons with dual diagnoses (15).

**Conclusions**

Broadly speaking, the role of spirituality in recovery from substance use disorders relates to the promotion of individuals' achieving a meaningful...
References

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