

## Positive Emotions and the Success of Alcoholics Anonymous

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*Alcoholics Anonymous (AA) works because it discovered the use of positive emotions as a therapeutic tool 50 years before academic psychology discovered positive psychology. First, AA's emphasis on admitting dependence on and attachment to others, leads to the positive emotion of love and second, the recognition that to keep it you have to give it away, leading to the positive emotion of joy. The first three Steps of AA involve turning oneself over to a trusted other as long as it is not "me" (AA has always been clear that the definition of "God" was the alcoholic's choice) is to allow oneself to feel loved. The second component of AA is guiding new members toward joy via the last two Steps of AA. The 12th step, of course, is "As the result of these Steps: we tried to carry this message to alcoholics, and to practice these principles (positive emotions) in all our affairs." Secure attachment (a.k.a. love), as extrapolated from brain-imaging studies of mother-child attachment, is like addiction associated with reduction in amygdala firing and increases in nucleus accumbens activity. Imaging researchers have found that the joy of giving to your favorite charity, like taking cocaine, stimulates the nucleus accumbens. In short, like methadone in opiate addiction, the positive emotions induced by AA provide a safe, nonpharmacological substitute for alcohol.*

**KEYWORDS** *Alcoholics Anonymous, The Twelve Steps, positive emotion, limbic system, joy, relapse prevention*

The reason that Alcoholics Anonymous (AA) succeeds where medical treatment methods fail is that AA involves the subcortical brain (a.k.a. the "heart")

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and modern medicine does not. There are two principles through which AA uses its 12 Steps to affect the subcortical brain: first, its emphasis on admitting powerlessness that leads to increased receptivity of the positive emotion of love; and second, the recognition that to keep it you have to give it away, leading to the positive emotion of joy. Both principles are counterintuitive and militate against the world of cognitive enlightenment that has taken over modern rational medicine since the 18th century. However, long-term studies teach us that if the follow up lasts longer than 3 years, acamprosate, naltrexone, extensive psycho- or cognitive-behavioral therapy and 28-day detoxification programs all usually fail to produce long-term abstinence. As with control of diabetes, lasting abstinence will not be achieved by “cure” but only through relapse prevention. The only outcome that makes a lasting difference in the devastating disease called alcoholism is lifelong abstinence. This is what AA strives for, and through its limbic inculcation of love and joy, often eventually succeeds in effecting.

I believe that AA provides a concrete example of spirituality being made safe for human consumption. No, I am not an alcoholic. I am not a member of AA. But for 35 years as a family member, a clinician, a Class A Trustee, and a research scientist I have marveled how alcoholics, by giving empathic comfort to others, and by focusing daily “on a power greater than themselves” and upon the positive emotions in general, remain abstinent.

The importance of the limbic system to addiction has only been appreciated in the 21st century with the advent of brain imaging (and the research of investigators like Jake Panksepp, 1997; Antonio Damasio, 2003; and Barbara Fredrickson, 2001, 2013, on the positive emotions). AA is not hoke, cult, or faith healing, but rather AA effects positive emotions via the limbic system. Instead of following modern methods, 50 years ago Bill W. devised a means of enhancing positive emotions, a means that AA would call the “language of the heart,” and that I would call the induction of positive emotions.

Let me begin with what I believe to be the first limbic positive emotion related to recovery in AA: receptivity to unconditional love. One reason for the failure of professional therapy to alter the natural history of alcoholism is that the hold that drug addiction has on human beings does not rest in our neocortex. The hold of addiction on our minds lies in what has been called our reptile brain (MacLean, 1990). The hold comes from cellular changes in midbrain nuclei like the nucleus accumbens and the superior tegmentum (Biegan & Volker, 1995; Volker, Fowler, Wang, & Swanson, 2007). Eventually, these changes move abstinence beyond the reach of willpower, beyond the reach of conditioning, and beyond the reach of psychoanalytic insight. Lacking developed neocortices, alligators do not come when they are called; like addicts, however, they come when they are hungry. Behaving like “reptiles,” alcoholics not only engender great shame but also do not endear themselves to others. A solution to this dilemma is desperately needed.

The limbic brain evolved with the evolution of mammals to socialize the not very altruistic reptile brain. The first three Steps of AA designed (inadvertently or not) to reach the limbic brain are: we admitted we were powerless over alcohol, our lives had become unmanageable, we came to believe that a Power greater than ourselves could restore us to sanity and made a decision to turn our will and our lives over to the care of God as we understood Him. To be willing to turn oneself over to God, to a home group, or to a trusted other, as long as if it were not “me,” is to allow oneself to feel loved. (AA has always been clear that the definition of *God* was the alcoholic’s choice, but it has also been clear that one’s higher power is there to cherish, not punish you.) The difficulty is that to feel loved is to give up control—the very process that makes love so dangerous to us all. Because the first three Steps ask alcoholics to make themselves extremely vulnerable, following these Steps often takes months to years. As all young adults know, commitment to serious love can take decades. Put differently, allowing oneself to be loved/cared for unconditionally is downright daunting—except, perhaps for kittens and small children. Like the first date, the first AA meeting rarely leads to lasting commitment. Lasting engagement may be a decade away. Thus, Project MATCH (1999) has still not lasted long enough to give 12-Step programs a fair trial.

Physiologically, during the leap of faith required by the first three Steps, oxytocin and parasympathetic nervous system arousal replaces the sympathetic system’s overstimulation—the chronic fear—that plagues every alcoholic and many nonalcoholics agonizing over whether to get engaged. The effect of positive emotion on the autonomic (visceral) nervous system also has much in common with the relaxation response through meditation popularized by Herbert Benson (1996). In contrast to the metabolic and cardiac arousal that the fight-or-flight response of negative emotion induces in our sympathetic autonomic nervous system, positive emotion via our parasympathetic nervous system reduces basal metabolism, blood pressure, heart rate, respiratory rate, and muscle tension. Functional magnetic resonance imaging (fMRI) studies of Kundalini yoga meditation by Newberg and Waldman (2006) at the University of Pennsylvania Medical School have documented such increased parasympathetic activity producing first relaxation followed by a profound sense of quiescence. Over time, putting yourself in the loving care of a welcoming AA group has much the same effect.

AA also asks that we replace our resentments with “an attitude of gratitude” (another positive emotion) and that we “should fake it until we make it.” As a psychoanalyst I am horrified by such a “Hallmark” precept. I am tempted to think that psychiatrists who believe in such an approach should have their heads examined. However, long-term follow-up suggests that it is not AA philosophy that needs therapy. AA works better than any other known treatment (Timko, Moos, Finney, & Lesar, 2000). In my own 70-year longitudinal study of alcoholics, 2500 hours of psycho/chemotherapy

to 50 alcoholics produced a single case of sustained abstinence. In contrast, sticking with AA for 30+ meetings with its “attitude of gratitude” eventually produced sustained abstinence in perhaps three fourths (Vaillant, 2003, 2012). Gratitude is the acknowledgement of goodness in one’s life and recognizing that the source of this goodness lies at least partially outside of the self. A criticism of AA is that learning to turn resentments into gratitude is in part conforming to group pressure. But for many of us so is keeping fit.

Unfortunately, the disease of alcoholism makes it very difficult for anybody but a fellow suffering, but now sober in AA, alcoholic to love them. Thus, it is pure magic for the arrogant, resentful, narcissistic, alcoholic to step into a room where everybody had once smelled like them, been as arrogant as them, and even more resentful. Suddenly, alcoholics are loved, not because their priest, their detox counselor, or the Salvation Army lass feels sorry for them, but because the group NEEDS new alcoholics and feels EMPATHY for them, two of the basic components of unconditional love. Anyone who does not feel grateful for unconditional love needs his or her head examined.

The second component of AA is joy; and the last two Steps of AA facilitate the experience of joy. Positive emotions, like joy, were not discussed academically until the 21st century, but they appear in St. Paul’s “Fruits of the Spirit” in his *Letter to the Galatians* c. 50–60 AD and later emphasized in AA’s 11 Step Prayer, incorrectly attributed to St. Francis of Assisi, but actually written by a French priest about 1912. (Because the original was written in French, for purposes of emphasis my translation below differs slightly from AA’s fleshed out version of the Steps in *Twelve Steps and Twelve Traditions*; Alcoholics Anonymous, 1953, p. 99.)

Lord, make me an instrument of your peace  
 Where there is hatred, let me sow **love**.  
 Where there is injury, let me sow **forgiveness**; . . .  
 Where there is doubt, let me sow **faith**;  
 Where there is despair, let me give **hope**. . . .  
 Where there is sadness, let me give **joy**;  
 O Master, grant that I may not so much to seek  
 compassion but to give **compassion** . . .

The 12th step, of course, is “As the result of these Steps: we tried to carry this message to alcoholics, and to practice these principles (love, forgiveness, faith, hope, joy, and compassion) in all our affairs” (Alcoholics Anonymous, 1953, p. 106).

Every alcoholic wants to be happy. Happiness, when you come right down to it, is drive reduction. That is one reason why alcoholics drink—guilt vanishes, inhibition falls away, muscles relax, laughter fills the room, happy

unprotected fornication and punching jerks out occurs without inhibition or anxiety. But, alas, such happiness is not all that pop psychology promises; you get arrested for happily punching out jerks. In addition, happiness has no sticking power; for happiness is all about me.

Joy, love, and addiction share similar terminal neural pathways. Dopaminergic brain tracts can be shown to underlie addictive behavior in mammals and reptiles (Biegan & Volkow, 1995). Alcohol stimulates dopamine release in the previously mentioned nucleus accumbens, a core region of the brain reward system. Alcohol also decreases amygdala excitation and, thus, decreases limbic fear—and better yet—cortical guilt. Experimental evidence suggests that secure attachment (a.k.a. love) as extrapolated from brain imaging studies of mother–child attachment is also associated with reduction in amygdala firing and increases in nucleus accumbens activity (Fisher, Aron, & Brown, 2005). Oxytocin release, another accompaniment of loving attachment, inhibits tolerance to (and thereby dependence on) alcohol (Heinrichs, Baumgartner, Kirschbaum, & Ehlert, 2003).

Unlike addiction, however, joy is all about connection to the other. Moms and babies feel joy playing peek-a-boo with each other. Joy is what we all feel when we give to a charity by choice and what recovering alcoholics feel when they share their strength, hope, and experience with “a still-suffering alcoholic.” Imaging researchers have found that giving to your favorite charity, like taking cocaine, stimulates the nucleus accumbens (Moll et al., 2006).

AA’s “language of the heart” is still a novelty to most academics. In 1940 when the Big Book advocating the “language of the heart” had been published for a year, the word *empathy* was still not included in the multivolume *Oxford English Dictionary*. Similarly, the Positive Affect, Negative Affect Scale (PANAS), arguably the most respected scale that modern social science has to assess positive emotions, never mentions joy—or love, hope, or compassion for that matter. Many consider joy, like love, dangerous; they fear if you experience too much joy, “the ax is gonna fall.” In short, if for no other reason than AA’s prescient acceptance of the positive emotions 50 years before Seligman’s (2011) positive psychology, the 12 Steps were rocket science.

Joy is not just happiness. Joy is reunion. The returning human face, like the returning sun, is an innate releaser of joy. Happiness and excitement are for anniversaries, like Bastille Day, the glorious Fourth, and a “surprise!” birthday party. It lasts but for a day. Joy is how our parents felt on the day that we were born, for joy lingers. Unlike happiness, joy is not all about me. We feel joy when we learn that the operation on our dying child was a miraculous success. We cry from joy; we giggle from happiness. I believe that any program to combat addiction that focuses on joy is on the right track.

Excitement, sexual ecstasy, cocaine, and happiness all speed up the heart; joy and cuddling slow the heart. Both eros and reunion are equally

sweet, but a reunion soothes us; flirtation excites us. Stimulate the primitive lateral hypothalamus and you produce excitement and arousal of the sympathetic nervous system. Stimulate the limbic septum and the parasympathetic system is aroused and the organism is calmed. Mammals will work to stimulate both areas. But remember, happiness is drive reduction. Joy is connection.

Unlike coitus, getting wasted, and other forms of drive reduction, joy does not have a refractory period. After all, a just-fed, clean-diapered, and well-slept infant can smile at her mother with contagious joy and that smile can make the mother smile and feel joy in return. The human smiling response is hard-wired. Connection, reunion, community, and joy are how selfish genes unselfishly share. It's win-win all the way around. In condemning spiritual practices, Freud and Marx failed to understand that addiction is what you do if you are without community—religious or otherwise. Alcohol is the lonely human's religion. Ironically, Freud and Marx failed to understand that joy, the soothing process inherent in spiritual communion, is a major source of the very community building that they both held dear. Incorrectly referred to as a self-help group, what goes on in AA is more akin to an old-fashioned barn raising; AA it is finding joy through helping others. The 12th Step visit, like Martin Seligman's (2011) gratitude visit, produces lasting alleviation of depression.

Barbara Fredrickson (2001) pointed out that the positive emotions allow the individual to "broaden and build." C. S. Lewis (1966) pointed out that addictive pleasure and joy are very different from each other. They have but one thing in common: "the fact that anyone who has experienced it will want it again" (Lewis, 1966). Joy is not a substitute for sex; but sex is very often a substitute for joy. More important, joy and pleasure differ because joy, like love, as the first three Steps imply, is never within our own power to induce, whereas addictive pleasure always is. We can only be tickled or make love in relationship; but we can masturbate or consume alcohol any time we choose.

In the late 1930s AA borrowed the 12 Steps from Frank Buchman's Moral Rearmament movement. Seventy-five years later, few younger than age 40 have even heard of Moral Rearmament (MRA). In contrast, AA is still growing strong with two million members—and many others have failed to "keep on coming back" because they become stably abstinent. The Big Book has sold 30 million copies—not just two million for the individuals currently attending AA. What was the difference between MRA and AA? First, Frank Buchman loved the limelight; so did Bill Wilson, but by an act of will, and maybe Dr. Bob's and Lois Wilson's nagging, Wilson insisted on anonymity for all members including himself. Second, thanks, in part, to the wisdom of philanthropist, John D. Rockefeller Jr., Bill Wilson was convinced that AA should not solicit money from rich members, as Frank Buchman did, but stay self-supporting and poor. Nobody but a member can leave money to

AA in his or her will and then can leave only a maximum of \$2000. But at each meeting all but the most impoverished AA member is expected to put “a dollar in the basket.”

Finally, in the 11th Step prayer, AA suggests that emphasizing the human capacity for positive emotions is what makes us spiritual, and that to focus on the positive emotions is the best and safest route to spirituality that we are likely to find. AA members strive for spiritual growth for themselves. MRA and too often Christianity in general, and certainly the Catholic Inquisition and colonial missionaries in particular, tried to develop spirituality in others. In AA the definition of a “pigeon”—a still-suffering alcoholic who has just acknowledged his powerlessness to his sponsor (usually a long-term member of AA)—is a person “who came along just in time to keep his sponsor sober.” This is an attitude of gratitude and humility rarely found in psychiatrists, missionaries, or Scientologists. The reason that AA, not without much inner struggle, abjures money, centralized power, and self-aggrandizement was precisely to preserve the spirituality (a.k.a. the positive emotions) of AA. That is why, I believe, after eight decades AA is still flourishing.

What differentiates AA from universities, religions, and, of course, cults, is that AA, by experimentation during its first few years and perhaps guided by the outcomes of the alcoholics whom it was trying to heal, evolved along the lines of biological spirituality, not superstitious religion or institutional greed. The fact that being hugged with joy, love, and altruism is soothing is scientifically true. In contrast, the pursuit of money, like the pursuit of booze, has been proved, at least by folk wisdom, to be the “root of all evil.”

Identical twins raised in different families are congruent for spirituality. Adopted unrelated sibs raised in the same family are congruent for religion (Bouchard et al., 1999; Eaves et al., 1999). In short, spirituality is biologically driven, no doubt for Darwinian reasons and leads to survival; religion is cultural and, alas, too often leads to unnecessary homicide.

How do I prove that AA is not the cult that many thoughtful academics believed it to be? By long-term follow-up. After 20 years, Scientology was put on the cover of *TIME* with the title “The Cult of Greed.” After 20 years, AA received the Lasker Award—America’s only “Nobel Prize” for medical science; but Bill Wilson, to maintain the tradition of anonymity, refused to grace the cover of *TIME* (Alcoholics Anonymous, 2001).

How do I prove that AA is not a “religion” as many believe it to be? Again, by long-term follow-up. It is hard to belong to two religions at the same time. However, devout religious convictions do not prevent AA membership. Over the last 20 years, AA membership has increased tenfold in Hindu India, in Buddhist Japan, and in Catholic Spain. AA membership has risen exponentially in atheistic Russia (Vaillant, 1995).

Indeed, the spiritual foundation of AA evolved from the intellectual experience of three men deeply mistrustful of all organized religions. These three men, William James with his *Varieties of Religious Experience*, Carl

Jung with his prescription “*Spiritus contra spiritu*,” and Dr. Robert Smith, cofounder of AA, were also each devout students of what was truly healing among all religions. Thus, the editors of the 12 Steps consciously tried to balance their language so that neither atheists, nor those deeply believing in God would be turned away.

Another difference between AA and many “healing” cults is that the spirituality of AA does not compete with medical science. Despite popular mythology, AA literature is very clear that it is “wrong to deprive any alcoholic of medication which can alleviate or control other disabling physical and/or emotional problems” and that “no AA member plays doctor” (Alcoholics Anonymous, 1984).

From the beginning, AA has made no clear distinction between God and “the fellowship of AA.” There has always been a tacit, if not explicit, permission to replace the concept of God with Jung’s other antidote for alcoholism, the “protective wall of human community” (Kurtz, 1977)—by definition a power greater than ourselves. Rather than demand that its members believe in God, AA asks each member to reflect: Can I admit that the universe is not just about me?

Another major difference between religions and AA is their governing structure. Charismatic leaders with infallible powers and an autocratic governing structure characterize cults and many religions. In AA, “Our leaders are trusted servants; they do not govern.” Most of the service positions in AA are unpaid, and all jobs are frequently “rotated” so that the consolidation of power cannot occur. At AA meetings shyers, newer members are often asked to replace charismatic speakers. Just as the American founding fathers gave as many senators to Delaware and Rhode Island as to the more populated states of New York and Virginia; just so AA in its organizational deliberations pays particular attention to minority opinions.

A criticism of AA and monotheistic religions is that in contrast to spiritual programs like Buddhism, AA tacitly encourages dependence. Many observers worry that AA members become as needy of their 8 pm meetings as they once were of alcohol itself. However, the dependence engendered by AA differs from the dependence engendered by cults. Dependence can weaken us or strengthen us. We are weakened by dependence on cigarettes, slot machines, and dictators. We are strengthened by dependence on exercise, vitamins, and our families. A common nickname for an AA member’s home group is “family.”

Finally, the effectiveness of AA depends upon cognitive, not just limbic/spiritual techniques. In their reviews of the literature on remission from addiction to alcohol, tobacco, food, and opiates, Stall and Biernacki (1986) and Brownell, Marlatt, Lichtenstein, and Wilson (1986) identified four behavioral techniques that are conscious and can also lead to stable remission without recourse to AA’s limbic language of the heart and the drinking bad coffee and sitting on hard rented church basement chairs that go with AA attendance.



First, in their search for drive reduction, addicts of all stripes prevent relapse to a specific substance by finding competing reinforcers (hypothetically to stimulate the tegmentum and nucleus accumbens). Some addicts find more than one. Some relatively dangerous substitute addictions are benzodiazepines, three-pack cigarette smoking, and gambling. Some more benign ways of stimulating the nucleus accumbens are charitable gifts, puppies, and helping others to stay sober.

Second, many addicts achieve relapse prevention through cognitive/behavioral modification. By that I mean the presence of events independent of willpower that systematically keep in mind the consequences of substance abuse. For physicians this is often probation with compulsory urine testing or for many alcoholics in my study it was the conscious presence of painful medical consequences as a result of alcoholism that, like frequent attendance at AA meetings, “keep the memory green.”

A third common method of relapse prevention is to get involved in an inspirational group that facilitates identification with sober individuals. Parenthetically, remember that AA groups have the highest percentage of teetotalers of any group in the world except perhaps some mosques.

Fourth, new love relationships are important to recovery. It seems important for ex-addicts to bond with people whom they have not hurt in the past and to whom they are not deeply emotionally in debt. It helps addicts to bond with people to whom they can offer compassionate help—often people more needy than themselves (Vaillant, 1995). Thus, alcoholics often overcome relapse by forming close, if sometimes codependent, relationships with nonfamily, but compatible former barflies most easily found in AA meetings.

In conclusion, more than a half century ago AA began to focus on the positive emotions, then, unrecognized by academic psychology. These positive emotions (joy, awe, hope, love, trust, forgiveness, compassion, and especially gratitude) are fostered in every AA group meeting room and yet still are all too often ignored by the psychiatric establishment. In addition, AA, if admittedly inadvertently, took advantage of cognitive behavioral techniques that only received concerted psychiatric attention decades later. For example, Alan Marlatt's (1985) more contemporary work and Stall and Biernacki's (1986) cognitive behavioral methods all echo the four principles, outlined above, present in AA. In my own work with heroin addicts I had found these four factors associated with abstinence (Vaillant, 1988) long before I began my research on the natural history of alcoholism.

Because it is doubtful that our prehistoric ancestors fermented grapes or shot dope, the limbic brain circuitry underlying addiction may have evolved originally to facilitate human attachment, social cohesion, and spiritual community so necessary to survival over the past two million years. Brain opiates are released during the attachment behaviors of social grooming and during the social bonding of mother rat–pup reunions (Bartels & Zeki, 2004). Thus,

Thomas Insel, current director of the National Institute of Mental Health, suggests, “It is also possible that neural mechanisms that we associate with drug abuse and addiction might have evolved for social recognition, reward and euphoria—critical elements in the process of attachment” (Insel & Young, 2002, p. 129). AA succeeds because it returns the limbic brain, hijacked by alcohol, to return to the purposes for which evolution designed it.

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