COMMENTARY ON A THEORY OF HYPNOSIS BASED ON PRINCIPLES OF CONDITIONING AND INHIBITION
PART II: BENEFITS OF THE THEORY

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Abstract

This is Part II of a commentary which places in the contemporary context, ‘A theory of hypnosis based on principles of conditioning and inhibition (Barrios, 2001). Whereas Part I
includes evidence both in support of the theory and comparisons with other contemporary
theories, Part II presents some of the benefits of the theory which includes: (1) a further
understanding of the hallucinogens, biofeedback, higher-order conditioning, placebos and
religion; (2) development of more effective methods of hypnotic induction; (3) development
of more effective methods for giving post-hypnotic suggestions; (4) and development of
Self-Programmed Control (SPC; Barrios, 1973b, 1985), a positive-oriented behavioural
improvement programme aimed at producing self-actualization, greater self-efficacy, and
higher emotional intelligence. I present the positive results of SPC’s application in the areas
of: education, welfare, industry, medicine, and drug rehabilitation. Copyright © 2007 British
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psychology

Explaining the effects of hallucinogens

One of the benefits of the theory is that it led to a theory of the hallucinogens (Barrios, 1965).
The same principles of inhibition and conditioning – used to explain the behavioural and
therapeutic effect of hypnosis presented in the hypnosis theory including the Stimulus
Dominance Hierarchy concept – were used to explain the behavioural and therapeutic
effects of the hallucinogens. These effects are seen as resulting from the hypersuggestible
state produced by the inhibitory aspects of hallucinogenic drugs in a similar way to how the
hypersuggestible state of hypnosis is produced by the inhibitory set aspect of hypnosis.

Explaining the effectiveness of biofeedback

As pointed out in Part I, the reason biofeedback has proven to be so effective for gaining
control of involuntary behaviour is that in actuality subjects being put through a biofeed-
back procedure are being put through a form of hypnotic induction.

Helping towards a more comprehensive theory of learning

We know that dramatic, all-encompassing changes can take place in hypnotherapy,
sometimes overnight. This often means that all the negative habits, attitudes and
beliefs associated with a patient’s negative behaviour can be transformed even after just one hypnotic session (see pages 23 and 24 of Barrios, 1985, a case of paranoid schizophrenia).

‘Understandably, a learning theorist might hesitate before accepting the possibility that it is a process of conditioning which underlies the dramatic changes produced in hypnotherapy. One-trial conditioning and functional autonomy are not commonly encountered in the laboratory’ (Barrios, 2001: 196). How is this possible and yet explainable in terms of principles of conditioning?

First of all, we would have to establish that, as stated in Hypothesis VI of the theory: ‘Suggestion leads to behaviour change by a form of higher-order conditioning called C-C conditioning.’ This hypothesis is given considerable support by Mowrer’s theoretical formulations on the sentence (a form of suggestion) as a conditioning device (Mowrer, 1960: 141–2, 147).

But we would still have to explain the fact that suggestions are not always readily accepted, that sentence conditioning does not always take place. As pointed out in the theory (Barrios, 2001: 194 and 195):

We will find that the answer to this question will begin to throw some light on the part played by hypnosis in facilitating C-C conditioning. Osgood perhaps best answered this question in his presidential address to the American Psychological Association when discussing Mowrer’s concept of the sentence as a conditioning device. According to Osgood (1963), if the assertion made by the sentence (the suggestion) is incongruent with subject’s previously held beliefs and attitudes (the cognitive environment) or their present perceptions (the sensory environment), it will tend to be suppressed . . . Since incongruent or incompatible beliefs, attitudes, perceptions, etc., tend to suppress the cognitive stimuli to be paired, they thus interfere with the conditioning. Therefore, we hypothesize that anything that would eliminate such interfering stimuli should facilitate C-C conditioning . . . This leads to the part played by hypnosis in the facilitation of conditioning. Hypnosis, it is felt, provides an especially effective means (the inhibitory set) whereby interfering stimuli can be readily inhibited.

And this inhibitory set can be so efficient as to have the conditioning take place in only one trial.

Regarding the functionally autonomous nature of the posthypnotic response:

It is felt that the functionally autonomous nature of the post-hypnotic conditioned response can best be explained if an interference theory explanation of extinction is assumed. This theory states that in order for a response to become extinguished, another incompatible response must become conditioned to the CS. An implication from this interference theory would be that if the CR is stronger than a potentially interfering response, the latter will be the one inhibited. Thus, as long as there is a strong enough CR to begin with, it can keep itself from being extinguished. (Barrios, 2001: 195)

As implied above in pointing out how the strong inhibitory set aspect of hypnosis can lead to strong one trial conditioning, we can see how this strong inhibitory set can also lead to functionally autonomous posthypnotic responses.

The large part played by the inhibitory set in facilitating conditioning and leading to strong conditioned responses is supported by the work of Harry Harlow (1959) and his error-factor theory. He considered much of learning to involve the inhibition of what he referred to as error-producing factors, referred to in the theory as competing stimuli (Barrios, 2001: 195).
Explaining the placebo effect

In discussing the broad implications of the definition of hypnotic induction, it was stated that the theory could also be used to explain ‘the hypnotic effects (placebo effect) of psychotherapists and doctors of medicine’ (Barrios, 2001: 171). The question is how? The section of the theory on prestige helps throw some light on this question:

[T]he statements, commands or suggestions of a person with prestige tend to be questioned less; that is, such a person evokes a greater inhibitory set to begin with. In general, people have previously been conditioned to accept at face value the statements of someone who is an authority in his field. That is, an inhibitory set which inhibits contradictory stimuli has been previously conditioned (in much the same way as in the hypnotic induction process). This is so because what the authority says has usually turned out to be true. (Barrios, 2001: 181)

The placebo when given by a doctor or person of authority works in the same way as hypnotic suggestion, for the person is in a heightened state of belief. For example, when the doctor gives a patient an injection ‘to kill the pain’, he is essentially giving the suggestion ‘this is going to ease your pain’. The actual pain relief occurs even if the injection is an inert saline solution because of two factors associated with suggestion. First, the cognitive stimulus ‘pain relief’ with its associated endorphin (the body’s natural pain killing substance) release into the bloodstream. And second, the inhibitory set of the suggestion is evoked that would inhibit anything that might interfere with the cognitive stimulus, such as any doubts about the doctor’s skills, or doubts about the painkiller’s effectiveness, or even the sensory pain stimulus itself.

As another example, when the doctor gives the patient any medicine or treatment that he says will cure the patient, the cognitive stimulus ‘healing’ is evoked with its attendant immune associated response (e.g. release of t-cells, macrophages, etc.).

The next question that needs to be answered is from whence do the cognitive stimuli ‘pain relief’ or ‘healing’ derive their meaning: i.e. how did the words or thought ‘pain relief’ come to be associated with endorphin secretion or how did the word or thought ‘healing’ come to be associated with the immune response? I would say the answer is: through a process of higher-order classical conditioning. As Pavlov (1960: 407) so aptly put it: ‘Speech, on account of the whole preceding life of the adult, is connected up with all the internal and external stimuli which can reach the cortex, signaling all of them and replacing all of them, and therefore can call forth all those reactions of the organism which are normally determined by the actual stimuli themselves.’

In other words, at some point in a person’s life, the words or thought ‘pain relief’ were associated with the body’s own natural pain relieving endorphin secretion response; and the word or thought ‘healing’ was associated with the body’s own natural healing response while the person was experiencing the same.

There, of course, is another way that a placebo response can occur. This would be more from a form of first-order classical conditioning. For instance, when a person or animal is injected a number of different times with a pain killing medication, the stimuli associated with the injection (e.g. the syringe, the person giving the injection, etc.) are the conditioned stimuli (the CS). The pain relief (the UCR) produced by the actual painkiller, let’s say morphine (the UCS), becomes associated with the CS such that the CS can eventually produce a conditioned response (CR) of pain relief. This CR can then also be looked upon as a placebo – in this case produced via first order conditioning. I believe this is what is behind the conditioning explanation of the placebo response of such

I believe the above two-fold (first-order and higher-order conditioning) explanation may help throw some light on the questions raised in the section on placebos in Kirsch’s 1985 paper on response expectancies. This should help eliminate the apparent clash between the ‘conditioning’ and the ‘response expectancy’ explanation of placebos if we can look upon the terms ‘response expectancy’ and ‘belief’ as being similar as I have previously discussed, and see that conditioning is also a factor in the ‘expectancy’ placebo, although higher-order as opposed to first-order.

One other area that should also be cleared up by the above higher-order conditioning explanation of placebos is the question raised by Kirsch: how can one explain placebos in terms of conditioning when placebos often exhibit functional autonomy? As put by Kirsch:

A second interesting finding of the Montgomery (1995) study is that instead of extinguishing, the placebo effect increased over the course of 10 extinction trials. This is inconsistent with classical conditioning, models of placebo-effects, but is consistent with clinical data indicating that placebo effects can be remarkably persistent. (Kirsch, 1997: p 75)

However, one can see from the previous section ‘Helping towards a more comprehensive theory of learning’, how one can establish some fairly strong functionally autonomous responses via the conditioning power of the belief or response expectancy aspect of placebos.

Providing a natural explanation for faith-based phenomena

In the theory, the statement was made that the theory can also be used to explain ‘hypnotic effects (faith) of ministers and faith healers’ or to put it more broadly, the theory also provides a natural (as opposed to supernatural) explanation for how the power of religious faith (belief) is developed. Understanding how this power can affect human behaviour can help provide natural (as opposed to supernatural) explanations for various religious phenomena.

How the power of religious faith (belief) is developed

In many religions the foundations of belief can be traced to the fulfillment of certain predictions, expectations or prophecies. The following are four key examples of such predicted or suggested outcomes in religion: (1) the fulfillment of religious prophecies; (2) miracles produced through the powers of the religion’s prophet; (3) positive responses to one’s prayers to God; and (4) the positive occurrences in one’s life resulting from following the religion’s guidelines.

This would fit right in with Hypothesis III of the theory that states that belief, or response to a suggestion, is built up if you have a positive response to a previous suggestion.

The following are examples of religious phenomena that the theory helps provide a natural explanation for.

Demons, exorcism and born again transformations

The above section on how hypnosis can lead to one trial conditioning and functionally autonomous responses as a result of the heightened state of belief under hypnosis also
helps to explain the overnight and long lasting changes that can occur as a result of the heightened state of religious belief. As put in the article, ‘Science in support of religion: from the perspective of a behavioral scientist’ (Barrios, 2002: 6):

Looking at belief in this new light can also help us better understand the concept of **exorcising** (blocking out) of demons or the devil (negative programming) within us and the role belief can play . . . This also helps us to more fully understand the far-reaching and in-depth changes that can often be produced (almost instantaneously) by a ‘religious experience’; how it can indeed be possible to be **reborn** or **born again** as a result of such an intense heightened belief experience.

**The phenomenon of free will**

Religious practitioners tell us that of course we have free will; that God gives us a choice in life, gives us the power to choose between good and evil, between happiness and misery.

But then the realists point to all the miserable people in the world and say: ‘Are we to believe that all these people have freely chosen to be miserable?’ Is there free will or not? In order to answer this question, again we need to define our terms.

As presented in **Towards Greater Freedom and Happiness** (Barrios, 1985: 16) free will is defined as the ability to transcend one’s automatic side, one’s subconscious, by means of inner speech or thought . . . by focusing sufficiently on the appropriate thought. The key words here are ‘by focusing sufficiently on the appropriate thought’. Not all people have developed the ability to focus on the appropriate thought when they wish to. Very often, conflicting and opposite thoughts interfere and do not allow the full positive response . . . This is why the belief factor is so important . . . Belief is the key to allowing an individual to tap into his free will potential. Remember, the definition of belief used herein is: concentration on a thought to the exclusion of anything that would contradict that thought’ (Barrios, 2002: 7 & 8).

So we see that the answer to the question ‘does man have free will?’ is that all humans have the **potential** for free will because they have the **potential** to build up belief in their ability to control their automatic behaviour via a form of self-hypnosis over time (as discussed in Part I in the section comparing the theory to Hilgard’s) and this is why we find that people differ from one another in their level of free will.

**The phenomenon of faith healing**

Many studies in recent years have shown that a person’s state of mind and lifestyle can definitely play a key role in determining their state of health. This includes, for example, the effect of stress on diseases such as stroke and heart disease (Friedman and Rosenman, 1974) as well as the effect of the mental state of hopelessness on the immune system and resultant diseases such as cancer (Cousins, 1989; Temoshok and Dreher, 1993). The following excerpts from Barrios (2002: 11–16) help present the case for the power of belief and faith to heal the body:

If we accept the fact that a person’s state of mind and lifestyle *can* play a significant role in affecting the body, then it should be obvious that anything that can play a major role in affecting the mind, such as belief and faith, could be a major factor affecting health and well being.

Evidence of the power of belief to affect the body health wise can be found in many studies on the power of the placebo (see for instance the book *Timeless Healing: The Power and Biology of Belief*, 1996 by Herbert Benson, and the section on placebos in Cousins’ book *Head First*, 1989). . . However, there is something that needs to be made
clear. Although strong belief of being healed can be very effective in producing at least temporary improvement in one’s health (by allowing for a stronger immune response and creating greater peace of mind at least for the moment), in order for this temporary improvement to remain permanent, the belief factor must also be used to help fully absorb the guidance factor [see subsequent section on making posthypnotic suggestion more effective by adding a guidance factor] so that the immuno-suppressive psychological factors can be more likely to be permanently removed (see Barrios, 1985, pp 124, 125 & 154). Thus we can see that one way of differentiating between the concept of belief and the concept of faith is to point out that faith usually means ‘guided’ belief or belief in a certain way of life . . .

One way of determining how much more effective faith is than belief alone in affecting permanent healing would be to do a thorough search of the placebo literature or to do further studies on the placebo to determine whether the positive effects of the placebo (or belief alone) are long lasting if there was no significant lifestyle changes also taking place.

This basic idea that belief alone is not as effective for insuring permanent healing to take place as when the belief is also used to bring about positive lifestyle changes is illustrated when the case of Jolee Marshall is contrasted with some of the other cancer patients I have worked with:

**Jolee Marshall:** After a very strong emotional upheaval Jolee had developed an inoperable cancerous tumor of the intestines and had been given two weeks to live. I worked with her for a period of four hours [with the hypnotic belief-building and imaging techniques section of the self-programmed control-psychoneuroimmunological (SPC-PNI) approach presented in the chapter on cancer in *Towards Greater Freedom & Happiness* (Barrios, 1985)] and left her with a very strong belief that her body’s natural defenses would clear away the tumor. The tumor did disappear (in fact overnight) much to the astonishment of her doctor and Jolee did live cancer-free for one more year. However, upon experiencing another similar emotional upheaval one year after my first and only session with Jolee, the cancer returned and this time Jolee soon succumbed to it . . . Unfortunately at this point in time, although I sensed that belief alone might not be enough, I incorrectly assumed that Jolee on her own would make the necessary lifestyle changes that could have helped her more effectively prevent the second, and this time fatal, emotional upheaval that occurred a year later. This is in sharp contrast to other cancer patients I have worked with where I made sure the complete SPC-PNI approach was followed . . . (Barrios, 2002: 11–13)

See Barrios (2002: 13–15) for the reports on three such dramatic cancer reversals where the more complete approach was followed. It should be pointed out that I am not the only one to report such long lasting recoveries from cancer where a more complete ‘faith healing’ approach is taken. In her book, Temoshok cites numerous cases of successful cancer cures brought about by her and other researchers in the field using this more complete healing approach. See especially the spectacular survival of Irwin whose initial testicular cancer had spread to his lymph nodes, chest and lungs and who had been given three to four months to live with zero chances of survival:

Under hypnosis he was much more open to healing suggestions aimed at opening up blocks in his capacity to love and be loved and to work on achieving his long term life goals. Within six months, he had resolved his love problems and gotten married and was ordained as an Episcopal priest – a lifelong goal. On the very day he was ordained ‘he got the news that his follow-up x-rays showed no more evidence of cancer. His lymph nodes and lungs were completely clear. This seeming miracle occurred six months after his initial diagnosis. . . . Today, thirty three years later, Irwin is alive, well and cancer free. (Temoshok and Dreher, 1993:320, emphasis added)
It should be pointed out that my presentation of the above anecdotal evidence of cancer cures through a form of faith healing is done more as support for rather than definitive proof of the ability to cure cancer by using a mental/spiritual ‘faith healing’ approach. For this definitive proof we will need larger, controlled studies. In such studies, among other things, all the important variables can be studied systematically and under scientifically controlled conditions. For instance, such studies would include accurate and more complete measurements of how strong the belief factor was and how complete were the necessary life changes for each individual case. The latter would I feel help throw light on the question often posed: How do you explain counter anecdotal cases whereby terminally ill patients have tried to pray for their recovery substantially but to no avail? One answer to such a question might be that the degree and length of healing would be directly correlated to the strength of belief and depth of relevant life changes that took place’ (Barrios, 2002: 16).

Developing more effective methods of hypnotic induction

There are a number of ways the theory has helped increase the effectiveness of hypnotic induction both in terms of providing a proper pre-induction talk as well as providing more effective hypnotic induction techniques. The ideas to be discussed were first presented in a paper delivered at the 6th International Congress for Hypnosis on 3 July, 1973 in Upsala Sweden (Barrios, 1973a).

With regards to a proper pre-induction talk, several basic areas that need to be addressed according to the theory are: (1) eliminating misconceptions regarding hypnosis; (2) eliminating the fear of losing control; (3) eliminating fear of the unknown; and (4) minimizing the negative effect of failure.

Misconceptions can be eliminated by defining hypnosis as a state of heightened belief produced by responding positively to a series of suggestions (as per the theory) and not a state of sleep or unconsciousness. In fact, it is recommended that the hypnotic induction be referred to as inducing a state of ‘self-programmed control’ (SPC) and to define SPC as a method for giving an individual greater control over his automatic behaviour. As for eliminating the fear of losing control, one can see that by referring to the induction as a means of developing self-programmed control, you help the individual see that they will in fact be gaining greater control rather than losing control.

Fear of the unknown is eliminated in the pre-induction talk by providing a rational explanation for how this state of greater control is developed as the result of the power of words, the power of thoughts and the power of belief to control automatic responses. The demonstration of salivating to the thought of biting into a sour lemon is one way to help get across this point.

The negative effects of failure are minimized by telling subjects that ‘because of individual differences there may be some suggestions that work very well for some people but not for others, and therefore it should not bother them if they do not respond to a suggestion. In such a case they should just wait for the next one.’

As for providing for more effective hypnotic induction techniques, as suggested by the theory, anything that would ensure a positive response to suggestion would help heighten the belief factor and thus increase the effectiveness of the hypnotic induction. Several ways of doing this are recommended by the theory: the use of easy to respond to suggestions to begin with (see Corollary 5, following Hypothesis III); the use of naturally-occurring response and the use of subtle reinforcement of suggested stimuli or responses (see Corollary 6); and the use of biofeedback devices.
The following are some of the SPC techniques I developed as a result (see Barrios, 1985: 36–42).

One of the techniques developed by following these guidelines was the already mentioned: the pendulum technique. In this technique there is first the biofeedback amplification provided by the length of the pendulum to amplify the minute automatic movements of the hand. First, swinging from left to right is suggested; then swinging in a circle. Then there are a series of other naturally reinforced suggestions starting with the suggestion that the fingers will automatically begin to creep open and as a result the pendulum will soon be dropped. This response occurs naturally as the hand slowly begins to bend at the wrist as suggestions are given that the hand will relax. This is followed by suggestions that the hand and arm will be floating down as the state of relaxation continues to deepen (another natural response).

The concentration spiral technique (Barrios, 2006) also takes advantage of naturally-occurring phenomena. This technique involves having the subjects looking at a spinning spiral. I lead them through a series of suggestions of visual phenomena which I devised by mirroring the subtle visual effects I experienced myself as I visualized the spinning spiral. The following suggestions are given: as your mind becomes more and more concentrated, you will begin to see a fuzziness or waviness in the lines of the spiral; you will see a yellowish fluorescent-like fringe to the black lines; dark rays will appear to spin off the edge of the disk; you will feel as if you are riding backwards on a train in a spiral tunnel looking out the rear window. Throughout, suggestions that the spiral is concentrating the power of the mind continue to be given. Then, to emphasize this point, the suggestion is made that upon looking away from the spiral at the clock on the wall (or some other object like a plant in the room) the clock (or plant) will be magnified and appear to grow larger. This very dramatic effect, unbeknownst to the subject, is a naturally-occurring illusion as a result of looking at the spiral spinning in a clockwise direction. Of course, as per the theory, by having responded positively to the series of previous suggestions, the effect is magnified that much more.

To minimize any feelings of deception for the few that may think of the spiral technique as pure illusion, prior to going through the technique I first point out that everything the subjects are going to see is naturally there but as a result of the concentrating effect of the procedure, everything will be seen that much more clearly and strongly (which is true). I even tell the subjects afterwards that some people do not experience any of these effects (which is also true for those not paying attention).

Other SPC techniques making use of naturally-occurring phenomena are the light bulb, the rapid deep breathing, and the hand levitation techniques. In the light bulb technique, use is made of the after-image produced after staring into a 40-watt light bulb for a short while. In the initial steps the subject is told they will see a yellow coloured balloon after they close their eyes and that it will be changing in colour from yellow to red to magenta to blue (which would be the natural colour changes the after image would go through). Suggestions are also given that the balloon will begin to float up and the head will also begin to float up. The subject is told that the latter will occur with each breath they take in. Unbeknownst to the subject, there is a natural tendency of the head to rise with each breath taken in. (Conversely, there is a natural tendency of the head to sink with each breath let out so one can reinforce suggestions of head sinking in a similar way.) The rapid deep breathing technique (an adaptation of the hyperventilation method discussed by Kroger, 1977: 77–8) takes advantage of such naturally-occurring responses to hyperventilation as tingling, light-headedness, greater awareness of heart beating, etc.
In my adaptation of the hand levitation hypnotic technique, I have the subjects begin by first pressing the hand as flat as possible against the surface, with the fingers spread as far apart as possible. I tell them to push down as hard as they can initially. Thus, when suggestions are given that the hand will start to rise and the fingers will start to come together as the hand relaxes this is what would naturally occur as they stop pushing down and relax, thus reinforcing the suggestions.

These basic principles for increasing the effectiveness of hypnotic inductions derived from the theory have been presented in such a way that one should be able to extrapolate from them and develop other similar naturally reinforced techniques.

More effective methods for giving posthypnotic suggestion

How does the theory lead to ideas for increasing the probability of producing positive behavioural changes via posthypnotic suggestion? The answer to this question comes from Corollary 8 (following Hypothesis IV) of the theory, ‘The more compatible cognitive stimuli associated with the response evoked by the suggestion, the stronger the response to the suggestion’. This basic concept underlies the value of using imagery (visualization) to ensure the suggestion would hold in a variety of situations and guidance to give the suggestion depth.

For example, let’s say a patient was suffering from a deep depression due to a poor self-image and a sense of being a failure in life. Compare the effectiveness of (1) just giving the simple, general, suggestion ‘You will no longer feel depressed’ to (2) giving this general positive suggestion followed by a series of more in-depth suggestions that included proper guidance on how to become more successful in life, more positive about oneself; and then having the patients visualize themselves in a number of different typical situations responding in these more positive ways.

Along the lines of enhancing posthypnotic suggestion with imagery, I have developed five variations of visualization for effectively programming in one’s goals. These include: (1) the simple projection method; (2) the approximation version; (3) the negative positive method; (4) the punishment reward method; and (5) the success technique (see Barrios, 1985: 43–50).

Following along the lines of enhancing posthypnotic suggestion with positive guidance, the second part of the book, Towards Greater Freedom and Happiness (Barrios, 1985: 57–196) offers a wide range of positive guidelines to choose from. This includes positive guidance in the following areas: mental attitudes, emotions, health and education.

The development of self-programmed control and its positive applications

This combining of effective hypnosis (and self-hypnosis) techniques with more effective methods of giving posthypnotic suggestions, including a comprehensive guidance component, led to the development of a general programme for helping people achieve self-actualization, which was christened self-programmed control or SPC.

Although Maslow, in defining self-actualization, had done a magnificent job of outlining the ultimate high goals one should strive for in life (Maslow, 1971), I feel he never really outlined an effective systematic method of achieving these goals. It is one thing to tell a person what he needs to strive for to feel more fulfilled in life; it’s another to get him to change in this direction. I feel the SPC programme provides this missing link to achieving self-actualization.
This section of the paper will further describe the essence of SPC and will present some of the positive results achieved in its application in a number of different areas: education, welfare, industry, medicine, and drug rehabilitation.

**Education**

After my PhD dissertation (Barrios, 1969), I developed a programme to help college students (primarily Mexican American) on scholastic probation avoid dropping out. I used a three pronged approach (see Barrios, 1973b). The first part consisted of the set of self-hypnosis techniques I had developed from the theory (see the techniques mentioned above). Soon after the school administration asked me if I could avoid using the term hypnosis because of all the associated misconceptions. It was at this point that I formulated SPC. SPC came to refer to an entire programme of SPC techniques plus guidance.

The main purpose of the SPC techniques was to help the students develop a greater belief in the power of their minds. This combined with the other two parts of the programme leads to a greater belief in their capabilities. Eight years later, Albert Bandura would coin the term ‘self-efficacy’ for such belief in one’s capabilities. As he at the time so correctly pointed out, without such a belief, people would not even make the effort to help themselves. Or as he put it, ‘It is hypothesized that expectations [belief] of personal efficacy determine whether coping behavior will be initiated, how much effort will be expended, and how long it will be sustained in the face of obstacles and aversive experience’ (Bandura, 1977: 191). In a prior study by Losak (1972), the lack of belief in their capabilities was felt to be the reason why remedial programmes alone were found to be of no help for students at risk of failing.

The second part of the three pronged approach was aimed at helping eliminate any school- or outside-of-school-related stress/anxiety problems that can also often interfere with learning and test-taking capabilities. The SPC techniques played a part here also by helping to programme in an automatic relaxation response in times of stress as well as stress-reducing positive attitudes. In later years the term ‘emotional intelligence’ was coined to describe the importance of learning to deal effectively with anxiety and emotional problems in order to succeed in life (Goleman, 1995).

The third part of the programme, the part especially geared for improving students’ scholastic abilities, was made up of study, problem solving, and test-taking techniques many of which were taken from *Studying Effectively* (Wrenn and Larsen, 1955).

Following from the theory, a basic theme underlying this three pronged approach was to provide as much immediate positive feedback as possible to increase the belief factor that much more. As previously indicated, the SPC techniques had built-in immediate positive feedback as recommended from the theory and this same immediate feedback approached was followed with the other two components of the programme thus further adding to the overall positive belief factor. For instance, the stress control biofeedback card (originally called the ‘Colorimeter’) was used to immediately reinforce the relaxation response. And with regards to the learning skills section, I started with two memory techniques that provided immediate feedback: (a) the ‘numbers’ technique where the students were amazed to see how quickly they could memorize a 23 digit number using grouping and association techniques; and (b) the ‘names’ technique where the students were equally amazed to find out how easy it was to memorize the first names of all the students in the class using association techniques. These techniques in turn whetted the students’ appetites for other even more practical techniques such as the ‘SQ3R’ study technique which itself produced immediate positive results in the quizzes which quickly followed.
Another source of immediate feedback was the progress reports, a form of journal I asked the students to keep. On the first page of the progress report they were to make a list of the goals they wanted to achieve and at the end of each week they were to look back and note down any positive results they had already achieved regarding these goals. At the beginning of each class meeting I would ask for people to stand up and share any successes they had already achieved. This was especially helpful in getting through to those in the group who for whatever reason still found it hard to believe that SPC could produce results. (See pages 200–7 in Barrios, 1985 for examples of these student progress reports.)

Similarities between SPC and Bandura’s self-efficacy
What amazes me is how many similarities there are between the SPC approach to helping these students and Bandura’s overall approach to building self-efficacy. Bandura (1977: 195–200) refers to four basic ways in which self-efficacy can be built: performance accomplishments, vicarious experience, verbal persuasion and physiological states. Let’s look at each of these areas as it relates to some of the methods used in building the belief factor in the SPC programme:

Performance accomplishments: Examples of the use of positive performance accomplishments in the SPC programme to build belief in oneself, to build self-efficacy, include: (1) the use of the stress control biofeedback card to reinforce the effectiveness of relaxation techniques in a stressful/anxious situation; (2) the demonstration of the ‘numbers’ and ‘names’ memory techniques as well as the SQ3R studying techniques to instill belief in one’s learning capabilities.

Vicarious experience: Bandura’s discussion of the use of modelled successful behaviour to build self-efficacy is similar to my having the students get up at the beginning of each SPC session and share their successes with the class. As Bandura puts it ‘Seeing others perform threatening [difficult] activities without adverse consequences can generate expectations in observance that they too will improve if they intensify and persist in their efforts. They persuade themselves that if others can do it, they should be able to achieve at least some improvement in performance’ (Bandura 1977: 199). One difference here is that Bandura is referring to actually seeing the other person perform the threatening or difficult task as what is helpful whereas I am saying that hearing the person relating that he has successfully performed the task is also reinforcing.

Verbal persuasion: SPC is of course to a great extent founded on the potential power of verbal persuasion (in the form of hypnosis). However, although Bandura does acknowledge that suggestion can influence one’s level of efficacy, he tends to downplay it a bit. As Bandura puts it: ‘People are led, through suggestion into believing they can cope successfully with what has overwhelmed them in the past.’ However, Bandura then goes on to say,

Efficacy expectations induced in this manner are also likely to be weaker than those arising from one’s own accomplishments . . . In the face of distressing threats and a long history of failure in coping with them, whatever mastery expectations are induced by suggestion can be readily extinguished by disconfirming experiences . . . Simply informing participants that they will or will not benefit from treatment does not mean that they necessarily believe what they are told, especially when it contradicts their other personal experiences. (Bandura, 1977: 198)

Nowhere in his section on verbal persuasion does Bandura bring in the potential usefulness of hypnosis in making verbal persuasion more effective. But judging from the
following statement of his, it would appear that he should agree that heightening the state of belief (e.g. via an effective hypnotic induction) would most likely make verbal persuasion more effective in building self-efficacy: ‘The impact of verbal persuasion on self-efficacy may vary substantially depending on perceived credibility of the persuaders, their prestige, trustworthiness, expertise, assuredness. The more believable the source of information, the more likely are efficacy expectations to change’ (Bandura 1977: 202).

There is one more important point that Bandura makes regarding the overall effectiveness of verbal persuasion at building self-efficacy: ‘However, to raise by persuasion expectations of personal competence without arranging conditions to facilitate effective performance will more likely lead to failures that discredit the persuaders and further undermine the recipients’ perceived self-efficacy’ (1977: 198). This is of course why the SPC programme for students also included giving them effective study, problem solving and test-taking techniques (with lots of immediate positive feedback) as well as a set of positive guidelines to life (originally supplied via the book Psychocybernetics, Maltz, 1960).

Emotional arousal: Bandura definitely agrees with the need of the students to effectively deal with anxiety and emotional problems if they are to succeed in school. The way he puts it is to say that self-efficacy level will definitely be affected by emotional or anxiety problems. ‘Because high arousal usually debilitates performance, individuals are more likely to expect success when they are not beset by aversive arousal than if they are tense and viscerally agitated’ (Bandura 1977: 198).

Results of the application of SPC in education for reducing dropout
A total of 194 students took part in the study at East Los Angeles Community College (ELAC). There were 105 enrolled in my (SPC) Psychology 22 class (the experimental group) and 89 students taking the regular Psychology 22 class (the control group) where only study skills were taught and by instructors other than myself. The two main dependent variables compared between the two groups were dropout rates and grade points (GPA x units completed) over one and a half year period. During this period the dropout rate for the study skills only (control) group was 56% (not surprising considering Losak’s 1972 finding). The dropout rate for the SPC class (the experimental group) was 16%. As for the grade points, there was an average increase of 3.80 grade points for the experimental group and an actual average 5.45 grade points decrease in the control group (also not surprising to Losak). The total difference of 9.25 grade points between the two groups was statistically significant at the 0.02 level (Barrios, 1973b).

There was also an interesting side benefit to the programme in terms of reduced substance abuse and addictions (reduced habits of excess) amongst the students in the SPC classes. The following results were obtained from an anonymous questionnaire given to a total of 236 students at the end of the class (the above original 105 SPC students plus an additional 131 that took subsequent SPC classes). In those students indicating excess in the following areas these percentages cut down:

<table>
<thead>
<tr>
<th>Substance</th>
<th>Percentage</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food</td>
<td>72% (65 of 90)</td>
<td></td>
</tr>
<tr>
<td>Cigarettes</td>
<td>70% (37 of 53)</td>
<td></td>
</tr>
<tr>
<td>Alcohol</td>
<td>91% (48 of 53)</td>
<td></td>
</tr>
<tr>
<td>TV</td>
<td>82% (84 of 102)</td>
<td></td>
</tr>
<tr>
<td>Gambling</td>
<td>75% (9 of 12)</td>
<td></td>
</tr>
<tr>
<td>Marijuana</td>
<td>69% (22 of 32)</td>
<td></td>
</tr>
<tr>
<td>Pills (‘uppers &amp; downers’)</td>
<td>83% (10 of 12)</td>
<td></td>
</tr>
<tr>
<td>LSD</td>
<td>100% (7 of 7)</td>
<td></td>
</tr>
<tr>
<td>Heroin</td>
<td>100% (1 of 1)</td>
<td></td>
</tr>
</tbody>
</table>
The interesting thing about this curtailment of excesses is that it occurred primarily as a side benefit of the programme. No concentrated attack had been made on curtailing excesses. It is felt to have occurred mainly because of three major changes resulting from the programme: the general increase in the ability to relax; the greater enjoyment of other areas of life; and the greater amount of self control. Most excesses or addictions can usually be traced to a deficit in one or more of these areas.

Corroborating the results achieved at ELAC were those achieved at UCLA in 1972 with 362 freshmen where the SPC programme was introduced as part of an overall programme to help minority students survive at UCLA. Interestingly enough, one of the students benefiting from this 1972 UCLA class, a former high school dropout prior to taking the class, recently became Mayor of Los Angeles and having seen first hand the benefits of the programme has indicated plans to introduce it to the Los Angeles School District as a means of reducing the current high dropout rate of Hispanics and African-Americans in the Los Angeles schools (55%).

Welfare and work incentive programmes
The positive results achieved with incorporating SPC into work incentive programmes to help get people off welfare (see Barrios, 1985: 32, 208, 209) tend to support a hypothesis I have regarding welfare recipients:

Many feel that people on welfare are just plain lazy malingerers and don’t really want to work. I don’t believe this. It’s my theory that these people remain on welfare not because they want to but because their low self-image [low self-efficacy] makes them feel incapable of anything else. (Barrios 1985: 208)

The essence of what the programme can do for these people was captured by the comments of two CETA (Comprehensive Employment and Training Act) instructors who saw the results of what SPC was able to do for their students. First the comments of Maria-Luisa Lopez, CETA instructor in East Los Angeles. She stated that after much searching, she had at last found (in SPC) a means of dealing with the all important attitudes and fears of her students that had continued to plague her ability to get through to them. In her own words:

In the past (prior to SPC exposure) many of our trainees who were sent out on interview by the staff Job Developer would not even show up, or if they did they projected a negative or insecure attitude and were rejected in many instances. Since SPC exposure, all have acquired a more positive, self-confident attitude which has helped them during the interview and subsequently while learning their duties as new employees. Of the 18 trainees I had in my class when I started using SPC, all have found jobs, ten of them completely on their own – something unheard of before as in the past those who had found work found it as a result of the Job Developer’s efforts. Needless to say, I am completely sold on the SPC concept.’ (Barrios, 1985: 32)

And in the words of CETA counsellor Suzanne Bourg in Pasadena California:

After seeing the response of the students and hearing examples of their applications of Dr. Barrios’ concepts and techniques, I feel strongly that this is an important part of job training that has never been previously recognized. CETA can train a person to obtain job skills but if he has no self-confidence, no sense of control over his own destiny, no previous pattern of success, he has great difficulty getting and holding down a job. It is this strategic area of Dr. Barrios’ course which applies so directly to our CETA trainees. (Barrios, 1985: 209)
Industry
One can also see that there could also be a positive use for SPC in industry. Inefficiency and absenteeism would be diminished; work morale would be higher; there would be a definite lessening of friction among personnel; there would be considerably fewer stress problems; absenteeism due to illness would be much less. All these would result in increased productivity. That such results are possible with SPC was borne out in a study done at Rockwell International and reported in the *Journal of Employee Recreation, Health and Education* (Barrios, 1975; see also Barrios, 1985: 209–13).

Medicine
One can also see the possibilities of SPC in the area of medicine. Although no study has been done with the specific purpose of testing the effectiveness of SPC for improving health, one can see from many of the above reports as well as others scattered throughout the book that SPC can be considerably effective with such health problems as: high blood pressure, ulcers, arthritis, asthma, pain, headaches, insomnia, anxiety, depression, smoking, obesity, diabetes, alcoholism, heart disease and cancer.’ (Barrios, 1985: 213)

Drug rehabilitation
As has already been reported, one of the side benefits of the SPC programme for students was considerable reduction in a number of habits of excess or addictions including a number of different drug addictions.

A more direct use of SPC with drug addicts and alcoholics was its application at Bridgeback and the House of Uhuru in the predominately Black area of Los Angeles. Both are rehabilitative centers for hard-core drug and alcoholic offenders many of whom had been sent to prison for drug-related crimes. The type of results achieved are illustrated in the two letters presented on pages 214–16 of Barrios, 1985 and best summarized in the following excerpt from one of them, a letter written to the director of the House of Uhuru by one of the peer-counsellors who had taken part in the pilot SPC study there:

I am writing concerning a programme I feel would be of great interest to you and which I highly recommend for incorporation into the House of Uhuru. First of all Mr. Anderson, allow me to state that this programme, Self-Program Control (SPC), works! It is a truth, in that by means of it one can be in control of his life and destiny. Unhealthy habits, such as over-eating, excessive smoking and drinking, drug taking and abuse and countless others can be minimized and eventually alleviated by applying the techniques acquired and practiced until they become second nature by believing you can do it. I know this is possible because I’ve seen the program work not only with me but with many others as well, thanks to being in the SPC class Dr. Barrios taught here this past semester . . .

Not only have I seen the positive effects of the class on myself and the others taking it, but I have also seen that we ourselves could very easily teach it to others in turn . . .

Conclusions
A significant number of benefits were derived from the theory. These include: (1) a further understanding of the hallucinogens, biofeedback, higher-order conditioning, placebos and religion; (2) development of more effective methods of hypnotic induction; (3) development of more effective methods of giving posthypnotic suggestions; and (4) development of self-programmed control (SPC), a positive-oriented behavioural improve-
ment programme which provides the means for achieving self-actualization (Maslow, 1971). Key factors for achieving this are the greater levels of self-efficacy (Bandura, 1977) and emotional intelligence (Goleman, 1995), achieved. Positive results of SPC’s application in a number of important areas were presented: education; welfare; industry; medicine; and drug rehabilitation. This emphasis on a positive psychological approach to behavioural improvement fits right in with the current Positive Psychology movement (Seligman, 2005).

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