

# PSYCHOLOGICAL MODEL FOR SMOKING BEHAVIOR

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**W**HY do human beings smoke at all? Do they smoke for different reasons? What can we do about different kinds of smoking? These are the questions which I will try to answer.

First, why do human beings smoke at all? The question has at present no certain answer. Man is not the only animal who sucks excessively. David Levy\* believed there was an oral activity drive which was partially independent of the hunger drive. Excessive sucking he interpreted as an attempt to satisfy this oral drive which had been incompletely satisfied due to eating to satiety too quickly. In a beautiful series of experiments he demonstrated that puppies who were fed from bottles with large-hole nipples sucked on the finger of the experimenter or on each other after their meal. Another group of puppies, fed from bottles with small-hole nipples which required the puppies to suck harder and for a longer period of time to get the same amount of milk, did not suck on the experimenter's finger as much or as often when it was offered. By thus varying the amount of sucking for different puppies ingesting the same meal, he was able to provide support for his hypothesis that there was a biological drive for mouth activity partially independent of the hunger drive. Studies since then have been inconclusive. Some investigators have reported similar findings while others have reported exactly opposite results—that the longer the child feeds and sucks the more likely he is to develop excessive sucking behavior. Quite apart from this conflict-

ing evidence there is a more serious problem with this hypothesis of an innate biological drive for oral activity. This is its tendency to become insatiable. If this were a drive like hunger then it ought to be satiable. If you skip breakfast and lunch, you seek and get your calories the next meal and do not have endless, insatiable, residual hunger. Clearly the oral sucking mechanism is not like hunger, because it *can* get excessive, as in the continual thumb sucking of the child and in the chain smoking of the adult.

## Understanding of Smoking Behavior

The key to the understanding of smoking behavior is to be found in the management of affect. By the term affect the psychologist refers to human feelings or emotions. I have proposed that these are the primary motives of the human being—and that the affects are innate, inherited biological mechanisms. There are eight primary affects, three of which are positive and five of which are negative in tone. The positive affects are excitement, enjoyment, and surprise. The negative affects are distress, anger, fear, shame, and contempt. These are innate in the sense that no one has to learn to smile in enjoyment or to cry in distress. However, the stimuli which activate each affect may be *either* innate or learned. A baby does not learn the birth cry. It is an innate response to the excessive stimulation attendant upon being born. Also innate is his crying when he is hungry or tired or exposed to too loud sounds. None of these are learned responses. But eventually he *can and will learn* to

\* Levy, D. M. Experiments on the Sucking Reflex and Social Behavior in Dogs. *Am. J. Orthopsychiat.* 4:203-224, 1934.

cry about many things about which he was initially unconcerned. He may learn to cry in sympathy when others are in distress, and cry—but he may also learn to respond with contempt in response to the distress cry of others. There is nothing under the sun which some human beings have not learned to enjoy, to fear, to be ashamed of, or to respond to with excitement or contempt or anger.

Any object, or any behavior which is for example capable of stopping a child or an adult from crying in distress or capable of making him smile in enjoyment can thereby exert a profound influence. Human beings are innately motivated to maximize their positive affects and to minimize their negative affects.

Any sucking or smoking behavior can reduce negative affects and evoke positive affects. It can do this *both* innately as well as on the basis of later learning.

### Effects of Sucking Response

Consider first the innate effects of the sucking response. The newborn infant will respond innately with the cry of distress to a wide variety of stimuli which produce an overly intense level of neural firing. Hunger, excessive cold, excessive heat, too loud sounds, fatigue, pain—any of these can innately trigger the distress cry. This response itself is also innately punishing to the child. Sucking on the finger, or anything else, is capable of stopping the infant from crying and so providing great comfort to an otherwise helpless organism. This may begin in the first week of life in the hospital nursery. I have observed nurses who control crying in the nursery by putting the infant's thumb in its mouth every time it cries. The exact mechanism by which distress is thereby reduced has still to be determined. It may be that sucking exerts this influence by simple interference with the crying response, and/or by

relaxation of the mouth muscles, and thereby reduces the density of neural firing which would maintain distress. It may be having its effect by interfering with the awareness of the instigator of the crying response as a distractor. Some pediatricians use such a principle in showing a brightly colored moving object to the infant as they give the infant an injection.

The secondary *innate* effect of the sucking response is the evoking of the smiling response and the affect of enjoyment. The infant is not only relieved of its distress whenever it sucks, but is also experiences the positive affect of enjoyment. In my view of it, the smiling response (and the enjoyment which the feedback of this response produces) is evoked whenever neural firing is suddenly reduced. Whenever, therefore, there is a sudden reduction of the distress response, or of muscular contraction, or both, or of any of the possible sources of too intense neural stimulation, the infant or adult will smile, and this smile will be a positive reward in addition to the relief of discomfort and distress.

Sucking or smoking, therefore, is innately capable of reducing the negative affect of distress and of evoking the positive affect of enjoyment. This is quite a powerful enough set of motivators to account for the excessive attachment of the child to its thumb or to a favorite blanket it sucks on, and for the analogous attachment of the adult to smoking behavior. The adult does not often openly cry in distress because of the taboo on crying, but the residues of the distress cry may be seen in the horizontal creases in the middle of the forehead, in the "V" formation between the brows, the turned-down mouth, and the whine in the voice of the adult in distress. Many adults experience distress frequently enough every day to seek to reduce this distress by smoking.

In addition to this innate basis for smoking there are the learned affective responses. Not only do we learn to be distressed by many things which would not innately distress us and also learn to reduce this distress by smoking, but smoking can be learned to relieve *any* negative affect and to evoke *any* positive affect. So we may learn to pick up a cigarette to make us feel less afraid, less angry, less ashamed, less disgusted. We may also learn to pick up a cigarette to give us a positive affective lift of excitement.

### Types of Smoking Behavior

On the basis of this theory we have distinguished four general types of smoking behavior: (1) habitual smoking, (2) positive affect smoking, (3) negative affect smoking, and (4) addictive smoking.

In habitual smoking the individual originally may have smoked to reduce his negative affect or to experience positive affect but he has long since ceased to do so. He may hardly be aware that he has a cigarette in his mouth. He smokes *as if* it made him feel good, or feel better, but in fact it does neither. Such a state of affairs is in no way peculiar to smoking. Consider two commonplace examples. Everyone daily crosses the street *as if* he were afraid. He looks up and down the street to make sure it is safe to cross. Yet he in fact experiences no actual fear. Every day he also shaves. Once upon a time, especially the first time he shaved, it may have been an exciting experience marking his coming of age as a man, but now years later he only acts *as if* he very much wanted to do this. The act has become so automatic and habitual he hardly knows that he is shaving as he thinks of the day's problems ahead. So he may once have been similarly excited about smoking as a symbol of his coming of age—but no more in habitual smoking.

The second type is positive affect smoking behavior. Here we have distinguished two subtypes, smoking as a stimulant, to experience the positive affect of excitement, and smoking as a relaxant, to experience the positive affect of enjoyment. The latter occurs in those individuals who characteristically smoke under pleasant circumstances which are relaxing—such as at the end of a meal, or in the midst of a pleasant conversation. The stimulant type of smoking occurs whenever smoking is used to give the person a lift from the positive affect of excitement—as when a youngster smokes to establish his masculinity or his coming of age, or to defy his parents, or when an adult smokes for the excitement of something to do. Dr. Daniel Horn has suggested another type of positive affect smoking—that associated with the sensorimotor aspects of smoking, i.e., what one does with one's hands and the positive affect which some smokers report about watching the smoke as it leaves their lips. Here it is the sensory and motor parts of the complex rather than the sucking behavior from which the smoker learns to derive positive affect.

The third type is negative affect smoking behavior which we have labeled *sedative* smoking. In this the individual smokes primarily to reduce his feelings of distress, or his fear, or his shame, or his disgust, or any combination of these. He is trying to sedate himself rather than to stimulate or relax himself. So long as all goes well he may not smoke. It is only when he is in trouble that he thinks of smoking. In contrast the positive affect smoker may *never* smoke when he feels bad, but only when he feels good, or wants to feel better. We have distinguished two subtypes of sedative smoker—the partial sedative and the complete sedative smoker. In partial sedation the smoker uses smoking as an assist in reducing his negative feeling enough so that he

can face his problems and solve them. In the complete sedative smoker, smoking is relied upon exclusively to reduce negative affect and there is no confrontation of the source of his suffering. It is used as an opiate.

In the fourth, the addictive type of smoker, there is *both* smoking for positive affect and for the reduction of negative affect organized in such a way that there is what I have called psychological addiction. In psychological addiction to smoking behavior first, the smoker is always aware of the fact that he is not smoking whenever this occurs. This is in contrast to sedation smoking in which whenever things go well the smoker does not know that he is not smoking. Second, such awareness of not smoking invariably evokes negative affect. The addicted smoker suffers whenever he is without a cigarette. Third, he thinks that *only* a cigarette will reduce his suffering, and that there are no substitutes or distractions possible in the absence of a cigarette. Fourth, *only* smoking will evoke *positive* affects; nothing else will satisfy him. Fifth, it is expected and it happens that his negative affect will increase in intensity until it is intolerable, so long as he cannot smoke. It is this steep gradient of accelerating negative affect which so often defeats the effort of the psychologically addicted smoker to break his dependence. Sixth, his expectations that smoking will both reduce his suffering and evoke positive affect are invariably confirmed.

### Control Patterns

If there are these varieties of smoking behaviors then clearly attempts to control them must be designed in the light

of these differences. We can only sketch some general directions of such differences. In the case of habitual smoking the major effort must be directed at increasing the degree of awareness of the act so that it again becomes possible for the individual to choose whether and when to smoke. In the case of stimulant and relaxant smoking the individual must be directed to alternative substitute sources of positive excitement and enjoyment. In the case of sedative smoking, either an attack must be made on the sources of negative affect, to reduce their frequency and severity, or the individual must be taught alternative ways of making himself feel better on such occasions, or to more directly confront and solve his problems rather than to sedate himself. In the case of addictive smoking there are two major possible strategies. One is to interfere with the first link in the long chain, i.e., to so arrange his life that he ceases to become aware of the fact that he is not smoking when he is not smoking. I have had success with myself and some others by the technic of massive interference by going to the movies for three days and nights. Upon emerging from this immersion the awareness of not smoking is then no longer invariant and automatic and the individual is on his way. The other major strategy is to intensify the cold turkey method so that the crisis of deprivation affect is reached more quickly and with more intensity so that the individual can learn that the apparently intolerable negative affect is in fact tolerable—to produce in effect the prototype of true mourning in which the bereaved thinks and feels that he cannot live without the beloved lost one, but painfully learns he can.

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