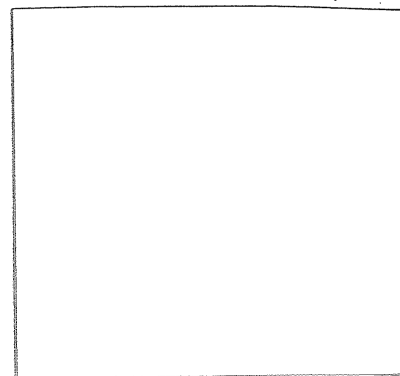


# Why do we behave the way we do?

JAMES O PROCHASKA PhD



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FRENCH TITLE

RESUME:

them to come to us, and we add incentives such as days off from work and chances to win vacations (just for signing up), that we are able to increase participation dramatically – from 4% to 7% (2)? Why is it that the Minnesota Heart Health Program, which had state-of-the-art science and scientists, and US\$40 million for communities of 400,000 people, were unable to show a significant decrease in the treatment communities for smoking, blood pressure, cholesterol and weight control.

When we wonder why our patients and communities behave the way they do, in many ways it is because of the way we behave when we go to offer health promotion programs. For the last 30 years, we rushed in with action-oriented programs. With current approaches to smoking cessation, exercise, reduction of high fat diets and other lifestyle and behavioural change programs that are state-of-the-art, action-oriented interventions, we end up disappointed by the impacts that we have because from the start so few people participate.

## STAGES OF CHANGE

But what we discovered, not from professional theories of behaviour change, not from any of the science in the literature, but from studying people attempting to quit smoking on their own, is that people go through a series of stages of change and that action is only one of six stages. The six stages are precontemplation, contemplation, preparation, action, maintenance and termination.

When we intervene with people with high risk lifestyles, we need to be sensitive to speak the language of the stage that they are in. If we are dealing with people in the precontemplation stage, we have to recognize that many of the people in this stage may be demoralized about their abilities to lose weight, stay on a low-fat diet, quit smoking, or to acquire an active lifestyle. These people are by no means ready to take action. They need to have the kind of help and interventions that will help to counteract their demoralization and increase their confidence and belief that changing is something within their power. Without being aware of it the vast majority of these people compared with people in other stages will rate the cons of making a lifestyle change as greater than the pros. A student of mine who has just completed her doctoral com-

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**W**HY DO PEOPLE BEHAVE THE WAY THEY DO? WHY IS IT that when health maintenance organizations (HMOs) in the USA offer state of the art smoking cessation programs for free, only 1% of the eligible smokers participate? Why is it that in those same HMOs, after spending 12 months heavily promoting home-based programs where people do not have to come to a clinic, where they can use state-of-the-art, home-based cessation programs for free, they are only able to recruit 4% of the eligible smokers (1)? And why is it that when we take self-help programs for smokers to the worksite, where we bring these programs to them instead of waiting for

Correspondence: Dr James O Prochaska, Cancer Prevention Research Center, Flagg Road, University of Rhode Island, Kingston, Rhode Island 02881-0808, USA. Telephone (401) 792-5562, Fax (401) 791-2830.

prehensive exams discovered in the scientific literature 50 physical and psychological benefits of exercising. There are multiple benefits from quitting smoking, eating a low fat diet, and becoming free from other major behavioural risk factors. Yet, people in precontemplation rate the cons of making those behaviour changes as greater than the pros. But, it should be recognized, that if you only asked them consciously, such as by doing a decisional balance, where they list the pros and the cons of changing, you could be fooled. It is only when we use standardized scores that are compared to people in the other stages that we discover that people in precontemplation are undervaluing the benefits and overvaluing the cost or cons of making a lifestyle change. Often, they are not even conscious of this. We can see why these people may be demoralized. They are not aware of what is keeping them back. Following people over a two year period of time who are in this stage, we know that without intervention programs the vast majority will stay in this stage for the whole two years. Yet, we also know from a representative sample of 4200 smokers in Rhode Island that these are the smokers that physicians are least likely to intervene with (3). They intervene with the ones who need their help the most. This may be because intuitively physicians recognize that these people are not ready for action, and they have been trained as action-oriented people, as have most of us, when it comes to behaviour change.

Here we have a group that is very important and most in need of our interventions. But historically we have seen these people as not motivated or ready for our programs. We have not gone out of our way to meet their needs and speak their language. We have blamed them rather than say that we have not been motivated enough to understand them and to create the kind of programs that could match their need<sup>s</sup> and help them progress toward healthier lifestyles.

Without intervention, progress from precontemplation to contemplation may involve a developmental event such as turning 39 years of age, which in our studies is the mean age of people quitting smoking. Those of us who have gone through 39 know it's a mean age. It certainly is a time to reevaluate our lives and the years we have left, and to consider whether we are going to die from the way we are living or whether we are going to change our ways. This kind of developmental event can cause us to think seriously about making a life-saving change. Or, it could be an environmental event that moves us, such as a youngster coming home from school and saying, "Mommy, mommy, I don't want you to die — I want you to quit smoking". Another example involves one of my favourite couples, both of whom were heavy smokers for 25 years, whose dog of 17<sup>0</sup> years died of lung cancer. The wife quit smoking — the husband bought a new dog! So, even the same environmental event will not necessarily move people to change their lifestyles. So, why should we think that every time we intervene we are going to have the impact that we would like to have. But as we will see, we can have much more impact than we used to have.

Once people are in the contemplation stage, they are seriously thinking about making a behavioural, lifestyle

change — typically within the next six months, which is the criteria that we use. There are very simple questions for staging. For example, "Are you seriously intending to quit smoking within the next six months?". If the answer is no, the person is in the precontemplation stage; if yes, the smoker is either in contemplation or preparation. If they are seriously intending to make that change in the next six months, but not in the next month, they are in the contemplation stage. In this stage, they are more aware of the pros of changing but they also are acutely aware of the cons, disadvantages, or costs of making a lifestyle change. People in contemplation can be plagued with profound ambivalence. They very much want to quit smoking, exercise regularly, reduce their risk for cardiovascular disease and sudden death, and yet their ambivalence can keep them stuck. A representative sample of contemplators enrolled in an intervention program stated that they were seriously intending to quit smoking within the next six months. But less than 50% quit smoking for 24 h<sup>1</sup> in the next 12 months (4). That ambivalence can keep them stuck, and without intervention the majority will stay in this stage for a couple of years. We often refer to them as 'chronic contemplators' or 'behavioural procrastinators', people who substitute thinking for acting. John Norcross, a former student of mine, has studied New Year's Eve resolutions and has found that the majority of people make the same resolution for at least three years in a row. There is nothing in this model of behaviour change that says that people will progress to the next stage. This is not like a maturational model where there is built in motivation to progress through developmental stages.

Those who are in the preparation stage will report that they are seriously intending to make a lifestyle change within the next month. They typically have a plan. It may be to talk to their physician or sign up with a group at work or health centre, send for self-help materials, or carry out a plan that they have created on their own. These people are convinced that the pros outweigh the cons. But their biggest anxiety is that they may fail. This can keep them from progressing ahead. They are the people, however, that we would be looking to recruit to our action-oriented programs.

In this model, action is the busiest time, the most demanding time. People will use the most processes of change most intensely. They are working hard to keep from regressing back to their old lifestyle, since relapse is the rule rather than the exception. They know this intuitively or from experience and are therefore working hard. Unfortunately, people who are in the preparation stage typically do not plan for as long a period as action takes. From classic relapse curves, we would expect that the worst of action would be over in three months, which is as long as people plan for intensely modifying their behaviour for most risk factors. We have found that this action period seems to be closer to six months of intense activity and use of change processes. If people let up too soon, they are at risk for relapsing back to their old behaviour patterns. After about six months they can start to let up, but not fully. If they let up fully, then they are at high risk for relapsing. After six months, they enter into the maintenance stage, which fortu-

nately is less demanding. They will still continue to use some behavioural change processes to keep from slipping back.

We tried to estimate from our naturalistic studies of people changing on their own how long maintenance would last for smoking cessation. Based on the fact that it takes a group of smokers 48 months before temptation finally bottoms out, and it does not hit zero for the group, we estimated that it would take approximately five years before people would be pretty well home-free. The research community thought we were too skeptical and pessimistic. Then the 1990 Surgeon General's report, which we helped to write, contained national, longitudinal data which showed that after 12 months without even a puff, the number of smokers who go back to regular smoking is 37%. It is not until five years of continuous abstinence that the relapse rate goes down to 7%. This is probably about as low as it can go (5).

Our ideal stage would be to have people terminate their risk factors entirely. By termination we mean zero temptation to go back to their old lifestyle across all high-risk situations with 100% confidence that they will not go back. No matter if they are bored, sick, angry, socializing – they will not go back to smoking, or high-fat diets, or their unhealthy ways. We find that with smokers who are in maintenance, only about 16% meet that criteria. With alcohol abusers, 17% met that criteria (6). We are still looking for someone with a weight control problem who has terminated with 100% confidence.

Our speculation is that we can probably terminate behaviours where age is on our side. With smoking, the older we get, the more likely we are to quit smoking. With substance abuse, the older we get, the more likely we are to quit abusing substances. But we would probably have a lifetime of maintenance where age is against us. In the area of weight control or sedentary lifestyles age may be against us and losing weight and staying more physically active become less likely with age.

#### PROGRAM PARTICIPATION

Why have we failed to get high percentages of people to participate in most of our health promotion programs? Across six different studies including a representative sample of 4200 smokers in Rhode Island, 7200 smokers in California, 4000 blue-collar workers in Rhode Island, a household sample of Mexican-Americans in small towns in Texas, a household sample of middle-aged males at high risk for cardiovascular disease in Finland, and one small sample of substance abusers, we have found that less than 20% of smokers are prepared to quit smoking. What we have found is that the vast majority of programs are designed for a minority of smokers. We have similar data on 15 different risk factors on 20,000 Rhode Islanders, and the basic rule of thumb is that less than 20% are prepared to take action, about 40% are in the contemplation stage and about 40% are in the precontemplation stage (7). Unless we begin to offer interventions that are matched to the stage that people are in, we can expect to serve a minority of people.

Let's compare home-based intervention programs in the Minnesota Heart Health program using three different recruitment approaches. They were able to recruit 1 to 5% of

the smokers. Using a proactive outreach program, with a random-digit dial of 5000 smokers in Rhode Island, we were able to recruit 82% of the smokers (4). In the HMO study that Orleans and her colleagues conducted in Seattle (1), after 12 months of heavy promotion for a home-based smoking cessation program they recruited 4% of eligible smokers. In our HMO study in Rhode Island of 5000 eligible smokers, we recruited 85% to our program.

Using a stage-matched program can give us a quantum increase in the percentage of people participating in our programs. Once we achieve much greater participation, then we have a much greater chance of having larger impacts on entire populations. We used to evaluate our programs only on the basis of the percentage of people who had taken action at long-term follow-up. For example, if a smoking cessation program had 30% abstinence at 12 months, it was seen as better than a program that had 20% abstinence. From a stage perspective, we must look at the impact of our programs. Impact equals participation rates times action rates. If we have 4% participating and 30% abstinence, we have 1.2% impact. If we have 60% participating and 20% abstinence, we have a 12% impact – a 1000% greater impact on a population of smokers.

#### STAGE PROGRESSION

What can we expect from people once they do participate? How do they behave depending on the stage that they are in. What we have found is that the amount of progress people make toward action after treatment is directly a function of the stage they were in before treatment (8). Randomly assigned to four state-of-the-art smoking cessation programs, precontemplators make the smallest amount of progress toward quitting smoking as measured by point prevalence abstinence rates. Contemplators make significantly more progress, and those who are prepared for action make the most progress over 18 months. The rate of quitting in precontemplators starts to flatten out over the 18 months. We see no evidence of people in the preparation stage slowing down over the 18-month period. This gives us a new strategy then, in terms of how people change naturally. Our theme is to work in harmony with how people change naturally. We do not expect to take precontemplators in a brief intervention and progress all the way to action. We set as a reasonable goal for one intervention session to move people one stage. If we can move these people one stage, we can increase the amount of abstinence over time. We have shown that if we move smokers one stage in one month, which involves one intervention session, then we double the chances that they will not be smoking in six months (9). If we can move them two stages in that one month, then we will quadruple their chances. In an action program, to move a person one stage in one month could be counted as a failure. This is because they are still smoking or still have a sedentary lifestyle. We now know that progressing one stage after one intervention is a significant effect and its a realistic effect and something we can expect people to be more motivated to do rather than expect them to be prepared to go all the way to action.

The stage effect has been found across many different populations. With smokers entering the hospital with cardiovascular disease, over a 12 month period, the cessation rates were: precontemplators 22%; contemplators 44%, action or prepared for action approximately 80% abstinent. The amount of progress to be expected will be a function of the stage people are in at the beginning of treatment. When Ockene et al (10) did an action- and maintenance-oriented program with these cardiovascular patients, she concluded it had no impact. It is true that it had no impact with precontemplators or contemplators, but it had a very significant impact with those in the preparation stage or those who had already started to take action. That is, there was nearly a 90% abstinence rate in those groups compared to about 65% in the control condition.

There are three kinds of effects that we can reliably count on. One is a stage effect – the amount of progress people make in changing a behaviour is directly related to their stage of change. The second is the severity of their disease. The more severe their cardiovascular disease, the more likely they are to make a behaviour change like quitting smoking (10). This has been found in cancer patients as well. The third is a treatment effect, when the treatment is matched to the group that it is appropriate for, as in Ockene's group (10). A treatment is effective when participants are prepared for an action program, but has no impact on those who are not prepared for action. This has been found with pregnant women and cancer patients as well (11).

### STAGE INTERVENTIONS

The questions then become, "How do we move people from precontemplation to contemplation? How do we move them through the stages?". When studying people changing on their own and assessing how they apply the most powerful processes of behaviour change in the scientific and theoretical literature from very different schools of therapy, we found that the public finds a way of integrating the processes they need to use with the stage they are in (12). So we do not expect precontemplators to substitute healthy alternatives for unhealthy alternatives, like low-fat foods for high-fat foods, or nicotine gum for smoking. Response substitution or counter-conditioning processes are for people prepared for action. People in the precontemplation stage will use other processes like consciousness raising. They need to increase the amount of information and knowledge they have, including the pros and cons of changing their high risk behaviours.

People might say that the public is well informed about the dangers and the health risks of smoking. Ask yourself, how many chronic diseases can you list that you can help to prevent if you help people quit smoking. The average smoker can list about three. The 1990 Surgeon General's report lists 12. How many benefits can you list for exercise? Remember the list of 50? How many would get an A on that test? We are not so adequately informed. We certainly should not expect that our patients are adequately informed on all the benefits of healthy lifestyle changes.

Another process that can move precontemplators is dra-

matic relief in which people are moved emotionally, such as by the death of a relative or pet. Another example was a client who was at high risk for heart attack. He was an obese smoker with high blood pressure, an unhealthy diet, high stress, a sedentary lifestyle, and was a substance abuser whose physician asked, "Why are you trying to kill yourself?". Within six months he began walking and prepared to quit smoking and lower the fat in his diet. No one process or technique is going to be a silver bullet that will get people to change their lives. Change involves a series of interventions, processes or techniques that accumulate over time to have the impact we want.

Environmental reevaluation is a process that involves thinking and feeling about how one's lifestyle affects an environment, particularly the social environment. How will the environment benefit if I improve my lifestyle? If you are working with a precontemplator who is a couch potato, and you are trying to get her to become a jogger, she may have the view that joggers are public nuisances. Joggers cause accidents – they get in the way. That kind of environmental reevaluation would certainly not get a precontemplator to participate in a jogging program when they see that as adding to the hazards on the road. We also know that people don't have enough knowledge of the kinds of benefits their lifestyle changes could have on others. There is a real possibility, as stated by scientists who have worked on the next Environmental Protection Agency report, that the top three preventable causes of death in the United States are: smoking, alcohol abuse and passive smoking. If the next report can make it through the system, it will report approximately 50,000 deaths from cardiovascular disease as compared to the last report which reported about 4000 cancer-related deaths (S Glantz, personal communication). Environmental reevaluation gets people to think differently. This has many effects. People who quit smoking reduce the chances that their children will smoke. People who have children at home are more likely to quit smoking. People who have children at home, conversely, are also more likely to eat high fat diets. We can have influences on each other in positive directions, but also in negative directions.

Self-reevaluation involves thinking and feeling about oneself as a high risk person. How do I think and feel about myself as a smoker, couch potato, or as a person with a high-fat diet? How will I think and feel about myself as a person who is a nonsmoker or a walker? People can have misperceptions about what will be the personal consequences of changing their behaviour. Many smokers think they will be more tense, more stressed even though the data show that within six months the person who quits smoking will be, on average, less stressed than the person who does not. So the image of themselves both looking backwards and moving forward toward action makes a great deal of difference on how prepared they are to take action.

Self-liberation involves the belief that I can change my behaviour and the commitment and recommitment to act on that belief. We know that there are ways to use commitments and choices that enhance motivation and there are ways that decrease motivation. For example, if we give our patients only

one choice – use the patch – that is not nearly as effective as if we give them two choices (13). People who are given three choices will be even more motivated. Anything over three choices seems to be superfluous. We can use techniques such as three choices for any particular action that we would ask people to do. For example, with smoking, typically small steps to move from contemplation to preparation can include the following: reduce your smoking by five cigarettes, delay your first cigarette in the morning by 30 additional minutes, or quit for 24 h. Which one of these are you most confident you could do? Which one of those would you be willing to make a commitment to do? Those small steps can allow them to progress toward preparation.

The action stage includes the use of contingency management: the contingent use of reinforcements and punishments, such as rewarding ourselves for taking steps in healthy directions, punishing ourselves for slipping back.

By studying self-changers, we have found that in general they use a fair amount of reinforcement – that's great, nice job, good going, it's great that you got up this morning even though you didn't feel like exercising, it's super that you didn't eat that high fat dessert. But they don't use much punishment on themselves. My speculation is that we use reinforcement to change ourselves and punishment to change other people. We also know that people expect much more reinforcements from their social environment than what they receive. People expect much more reinforcement for quitting smoking. Smokers say that on the average, each friend or acquaintance is good for about one reinforcement. Once they know you quit smoking – terrific, that's great – and then they assume you are all set and don't need more reinforcement.

The helping relationship process includes social support and knowing people we can talk to who will understand our problems in changing. We know that two-thirds of relapses for most behavioral changes occurred in times of emotional distress – when angry, bored, anxious, depressed or upset (14). And we know that one of the best treatments for emotional distress is social support.

Counterconditioning is the process that involves substituting healthy alternatives for unhealthy ones. Stimulus control involves rearranging the environment so that it elicits healthier behaviours, such as removing all high-fat foods from the home, removing all cigarettes and ashtrays, putting red dots on the telephone as a warning signal that this is a place where smoking occurs. Remember, no one process is a silver bullet. There are no miracle cures. Progress through the stages involves an accumulation of processes systematically applied over time. When we are working with someone in precontemplation, we are using very different kinds of communications and interventions than when working with someone who is prepared to take action.

Other important principles for progressing through the stages involve the pros and cons of changing. These principles were discovered from 80,000 data points from 12 different studies on 12 different high risk behaviours (smoking cessation, quitting cocaine, weight control, high fat diets,

exercise acquisition, unsafe sex, condom use, delinquent behaviour, sun exposure, radon testing, mammography screening, and physicians practising preventive medicine with smokers) (4,15). In all 12 studies, people in the precontemplation stage evaluate the pros as greater than the cons, though not necessarily consciously as shown by raw scores. In all 12 studies, the pros of changing increase from precontemplation to contemplation. If we are going to help our patients even seriously think about becoming more active, about losing weight, having a healthier diet, we have to appreciate the multiple pros of that behaviour change. If the pros do not go up, they are not progressing. The cons during this stage do not change systematically. But in 12 out of 12 studies the cons come down from contemplation to action. So, when working with people in the contemplation stage, we have to help them to lower their perception of the cons if they are going to be prepared to quit. We have to have the pros and cons cross over before they take action. We even now know, scientifically, how much the pros have to increase for people to be prepared to change their behaviour. We have to raise the pros or advantages twice as much as the perceived cons or disadvantages must come down (15).

In one of our studies we compared four treatments for smoking: a state-of-the-art, action-oriented program from the American Lung Association (ALA); stage-matched manuals; an expert-system computer assessment which stages participants and evaluates change processes that are being over- or underutilized, their pros and cons, and a total of 14 variables that are most important for progressing through the stages; and the expert system plus four proactive counsellor calls over a six-month period (8). The expert system includes three computer feedback interventions during the six months. At the 18-month follow-up, the best action-oriented, home-based program previously available (the ALA program) produced 11% abstinence. Our stage-matched manuals paralleled the ALA program for 12 months, and then we found a delayed action effect resulting in 18% abstinence at the 18-month follow-up. It takes time for people to move through the stages, so you do not get all of the benefits from the intervention right away. Counsellors plus the computer program paralleled the computer alone for 12 months of follow-up. Then the counsellors leveled off from 12 to 18 months, but the computer program continued to increase at 18 months resulting in 25% abstinence. The stage-matched expert system compared to the best action-oriented program produced about two-and-a-half times as much abstinence over an 18-month period of time. Other research on high fat diets used a one session assessment in the physician's office, with one report sent home. At follow-up, the estimated fat reduction in the diet was 3% for the control group, 9% reduction in the action-oriented intervention, and 23% reduction in the stage-matched intervention (16). In another program in Sydney, Australia health education and health risk assessments produced no effects on smoking at six months with 3% abstinence at 12 months. Action-oriented counselling plus incentives produced 13% abstinence at six months. Stage matched intervention at six months produced 13% abstinence. Action-oriented counsel-

ling at 12 months dropped down to 3%. Stage-matched intervention went up to 20% (17).

If we are to help people behave in healthier ways at higher percentages, by increasing the percentages of people who can participate and progress in our programs, we need to change

our behaviour. One alternative is to speak the language of the stages that people are in and match our interventions to what people are prepared to do, rather than expect them to match action-oriented programs for which they are not motivated or prepared.

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