

Twelve-month smoking status was unrelated to health status, expectancy of success, or social environment. Compared with participants who relapsed between 3 and 12 months, 12-month abstainers had *higher* nicotine intake before cessation, were less likely to be pleasure smokers or negative-affect smokers, and were less likely to have quit smoking before the current attempt. Compared with those who relapsed between 3 and 12 months, 12-month abstainers were also *less* likely to believe that quitting smoking would decrease their chances of illness and less likely to make internal attributions for previous failures to quit smoking.

Multivariate analyses supported the interpretation that predictors of short-term cessation were different from, and sometimes the reverse of, predictors of long-term cessation. Although self-efficacy factors appeared to be important for predicting 3-month success, they were unrelated to 12-month status. Attributions for previous failures and smoker type were significant predictors of 12-month status but were unrelated to outcomes at 3 months. Furthermore, higher levels of nicotine addiction were related to relapse at 3 months and abstinence at 12 months.

## Role of Social Support in Smoking Cessation and Relapse

Sheldon Cohen  
*Carnegie-Mellon University*

This research addresses the role social support plays in smoking cessation and in the maintenance of smoking abstinence. Two points are emphasized: (a) Different types of social-support measures imply different processes that influence behavioral change, and (b) different processes (and hence different types of support) operate in different stages of change. Prospective data from two clinic-based, smoking-cessation studies are provided in support of these arguments.

Three stages of behavioral change are distinguished: active change or cessation, early maintenance of abstinence, and late maintenance of abstinence. A distinction is also made between three kinds of social-support measures that have been used to predict smoking behavior: support for quitting smoking, stress-buffering support, and smoking status of social network members.

*Support for quitting smoking* refers to specific behaviors performed by

others that reinforce the decision to quit and make the quitting process easier. This kind of support is presumed to influence behavior change by helping to sustain needed motivation. Social network support for quitting would tend to be intense during and shortly after quitting but would be expected to decrease rapidly as time since quitting increases. Hence, support for quitting would be most influential in the early stages of change: cessation and early maintenance. In our own work, support for quitting smoking has been operationalized in terms of a questionnaire designed to inquire about the support for quitting provided by a spouse or living partner (Partner Interaction Questionnaire).

*Stress-buffering support* refers to social resources that aid in evaluating and coping with stressful events. Many smokers view smoking as a major means of coping with stress. Moreover, quitting itself is often a source of stress. Stress-buffering support could facilitate quitting and maintenance by preventing and reducing stress and by helping to regulate negative affect. Stress reduction is presumed to be most important during cessation and early maintenance stages, when the stress of the quitting process is at its peak and before quitters have developed new ways of coping with stress to replace smoking. Because of evidence that perceived availability of such support is what is critical in buffering stress, we measure perceptions of available support (Interpersonal Support Evaluation List).

*Smoking status of social network members* refers to both the status of specific persons with whom one has a close relationship (e.g., spouse, best friend, work supervisor) and the proportion or number of smokers in one's network. The influence of smokers or nonsmokers in one's network is mediated by social influence and smoking cues. Social influence is presumed to be especially important from cessation through early maintenance, whereas smoking cues are thought to be important from cessation through late maintenance. Hence it can be argued that smoking status of social network members is important for all stages of change. In our own work, status of network members is measured by questions regarding the proportion of friends, coworkers, and household members who smoke.

Although there were inconsistencies in the results across the two studies, data from the clinic quitters are relatively consistent with our predictions. High levels of partner support for quitting (Study 1) and the perceived availability of stress-buffering support (Study 1) were assets early in the behavior-change process (during initial cessation and short-term maintenance). They did not influence long-term, continuous abstinence in either study. The presence of smokers in participants' social networks, on the other hand, influenced both cessation (Study 1) and long-term maintenance (Studies 1 and 2).

In sum, we found evidence for the role of all three types of support processes in cessation and maintenance. Moreover, these measures were related to

dif  
ma

P

Nati  
ing c  
ers p  
prec  
smo  
next  
smol  
thro  
quitt  
Pa  
who  
chan  
tion ;  
ing a  
may  
tion j  
Co  
who  
again  
smok  
cesse  
move  
help t  
In t  
templ  
effica  
ticula  
currec  
dition

different stages in the process of becoming and remaining an ex-smoker in a manner consistent with our stage-optimal model.

## Patterns of Change in Smoking Behavior

James O. Prochaska  
*University of Rhode Island*

Naturalistic studies of self-change and therapy-change approaches to smoking cessation have identified a series of stages of change through which smokers progress in their attempts to quit smoking. These stages have been labeled *precontemplation, contemplation, action, and maintenance*. A minority of smokers follow a linear pattern, progressing directly from one stage to the next and finishing in long-term maintenance on their first attempt to quit smoking. Most smokers follow a cyclical pattern in which they revolve through the stages of change three to four times before they succeed in quitting.

Participants' use of coping processes reflects this cyclical pattern. Those who have relapsed during the previous 6 months reported emphasizing change processes that are used most often by individuals in the contemplation and action stages. The relapsers may have been preparing to quit smoking again as they engaged in processes associated with contemplation. They may also have been attempting to prevent complete relapse as they used action processes to control their current levels of smoking.

Consistent with a cyclical pattern, approximately 85% of self-changers who had relapsed moved immediately back into contemplating quitting again. The other 15% gave up for now. Participants who gave up on quitting smoking after relapsing showed a general lowering in the use of change processes to control smoking and increase self-efficacy. These individuals, who moved from relapse to precontemplation, tended to resist outside efforts to help them change.

In the opposite pattern, however, self-changers who moved from precontemplation to relapse over a 2-year period showed important increases in self-efficacy, decreases in temptations to smoke, and increases in the use of particular change processes such as helping relationships. Positive gains occurred even though these individuals had returned to regular smoking. In traditional smoking-cessation treatment programs, these individuals would

## Appendix: Abstracts of Formal Presentations to the Workshop

*The following abstracts represent the current state of the art in research on smoking relapse. Most fall into one of three perspectives. The first group of abstracts (Henningfield; Benowitz; Pomerleau; Grunberg) deals with biological factors in relapse—specifically, the role of nicotine. Although pharmacological accounts of ongoing smoking have been very successful, explaining relapse, which typically occurs long after the last traces of nicotine have seemingly been washed from the body, presents a difficult challenge to biological models.*

*The second group of abstracts (Shiffman; Lichtenstein & Baer; Ossip-Klein) represents a paradigm in which the specifics of relapse episodes are probed as a vehicle for understanding the relapse process. One emerging theme is the importance of affective determinants of relapse episodes. Also notable is the degree of convergence among studies from different research groups.*

*The third group of abstracts (Abrams; Curry; O'Connell; Cohen) describes studies that predict relapse from background factors and that reflect the range of factors being actively investigated (including, e.g., smoking history and motives, health beliefs, attitudes and beliefs about the quitting process, availability of social support for smoking and cessation, physiological reactivity to smoking stimuli, and social skill). Especially notable here are efforts to study relapse from multiple perspectives and with multiple measures.*

*Finally, the fourth group of abstracts (Prochaska; Brownell, Marlatt, Lichtenstein, & Wilson) provides larger frameworks for orienting studies of relapse. Prochaska emphasizes that single cessation attempts or relapses are only part of a larger cycle of self-change. Brownell et al. highlights the commonalities in relapse processes among addictive behaviors and emphasizes the prospects for new understanding of relapse by suggesting areas that need research attention.*

Saul Shiffman  
Abstracts Editor