

September 8, 1975

Prof. Stanley Schachter  
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Dear Stan:

Welcome back and thanks for your letter. And thanks for your solicitation of my critique of your manuscripts. I'd be delighted. I wouldn't view it as an imposition because, after all, I am responsible for the Company having provided you with those modest sums and therefore have vested interest as well as personal interest in your output.

As for your Marlboro question, we've tracked sales vs. nicotine over the past five years and have concluded that there is no discernible relationship. Interestingly, the concern grew from an hypothesis antithetical to your own. Market Research is burdened with attempting to explain a slipping sales increment. The robust 15% annual increase which we'd come to view as the norm became 10% from 1973 to 1974 and recent figures are of the order of 7%, if my memory serves me well. Some have interpreted this as the inevitable leveling off. Although we cannot fit any kind of explanatory equation using nicotine as a predictor, we cannot of course rule out the possibility that the Marlboro smoker is responding to nicotine reduction by switching to other brands. But your manner of putting the question implies that you would have predicted a sales increase. You neglected to take into account that the smoker has other options than merely increasing the number smoked.

My own prejudice is that the smoker is oblivious at the conscious level to major changes in the composition of his smoke, but not wholly unresponsive. I am more of the belief that we have many ways in which to accommodate to a variable smoke, and perhaps the least of these is to smoke more cigarettes. For too long investigators have relied on measures relatable to the cigarette (number of cigarettes, number of puffs, butt length) as consumption rate indices. True enough, the number smoked is an infallible index of cigarette consumption, but we should be thinking more in terms of smoke consumption. Cumulated puff volume tells us more, but even this is but a measure of smoke taken into the mouth. The ultimate

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index is how much passes over into the bloodstream, a not so readily monitored phenomenon. We're now looking at the fate of the smoke entering the mouth; how much goes down, how much comes back out, and related behavioral events that we anticipate finding to be dose-regulating mechanisms of remarkable precision and sensitivity.

Thus to accommodate to the 15% reduction in available Marlboro nicotine, the smoker who was getting 50% of the available nicotine over into his blood from the Marlboro delivering 1.3 mg of nicotine into a smoking machine ~~and~~ now must get 59% of what the current Marlboro offers him. He can take bigger puffs, or inhale more from the supply drawn into the mouth (we have varying quantities of residual smoke in the mouth at the end of an inhalation) or for more efficient extraction of the goodies, he can draw it in deeper or hold it in longer.

So we're looking at respiratory behaviors. I have a physiological psychologist joining the staff this month. Instrumentation is the big challenge at the moment.

Send the manuscripts.

Regards,

*Bill*

William L. Dunn, Jr.  
Principal Scientist

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