

TIME DISCOUNTING AND SMOKING BEHAVIOR: EVIDENCE FROM A PANEL SURVEY*

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ABSTRACT

By using a panel survey of Japanese adults, we show that smoking behavior is associated with personal time discounting and its biases, such as hyperbolic discounting and the sign effect, in the way that theory predicts: smoking depends positively on the discount rate and the degree of hyperbolic discounting and negatively on the presence of the sign effect. Positive effects of hyperbolic discounting on smoking are salient for naïve people, who are not aware of their self-control problem. By estimating smoking participation and smokers' cigarette consumption in Cragg's two-part model, we find that the two smoking decisions depend on different sets of time-discounting variables. Particularly, smoking participation is affected by being a naïve hyperbolic discounter, whereas the discount rate, the presence of the sign effect, and a hyperbolic discounting proxy constructed from procrastination behavior vis-à-vis doing homework assignments affect both types of decision making. The panel data enable us to analyze the over-time instability of elicited discount rates. The instability is shown to come from measurement errors, rather than preference shocks on time preference. Several evidences indicate that the detected associations between time preferences and smoking behavior are interpersonal one, rather than within-personal one. Copyright © 2013 John Wiley & Sons, Ltd.

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KEY WORDS: smoking; time preference; discount rate; hyperbolic discounting; the sign effect; the two-part model; panel

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