

SMOKING ONSET IN SOUTH AFRICA



Determinants of regular smoking onset in South Africa using duration analysis

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South Africa has achieved significant success with its tobacco control policy. Between 1994 and 2012, the real price of cigarettes increased by 229%, while regular smoking prevalence decreased from about 31% to 18.2%.

To examine the factors that affect people's decisions to start smoking, we investigated cigarette prices and socioeconomic variables. We applied duration analysis techniques to the National Income Dynamics Study, a

nationally representative survey of South Africa. Data on average cigarette prices were obtained from Statistics South Africa. The study uses duration analysis estimation, which focuses not only on the probability of the event taking place, but specifically on the time to the event.

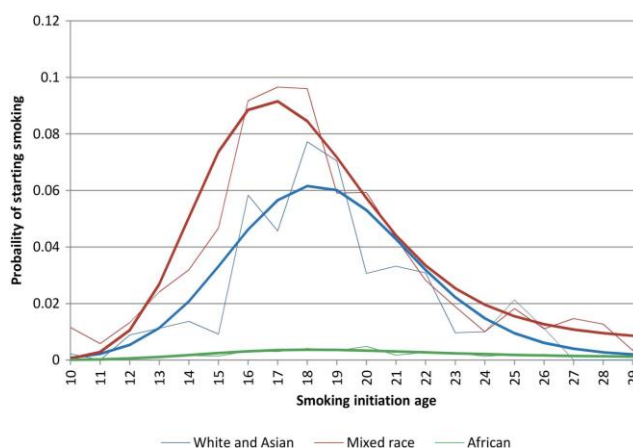
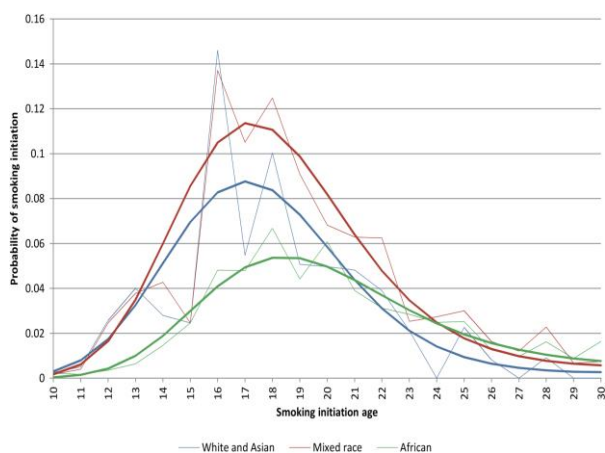
Since regular smoking prevalence in South Africa varies significantly by gender (males 39%, females 10% in 2010), separate models were estimated for males and females.

MAIN RESULTS

- An increase in cigarette prices significantly reduces regular smoking initiation among males, but not among females.
- Regular smoking among parents is positively correlated with smoking initiation among children.
- Children with more educated parents are less likely to initiate regular smoking than those with less educated parents.
- Africans initiate later and at lower rates than other race groups.



Regular smoking initiation hazard rates for males and females, by race.



The figures above show the hazard function. The spiked lines show the unadjusted data (which reflect heaping and recall error), while the smooth lines show the fourth-order polynomial specification. Based on the smoothed estimates, smoking onset is highest among mixed-race males, peaking at age 17.2 years with a hazard rate of 0.114. Thus, ~ 11.4% of mixed-race males who have not yet initiated smoking are expected to initiate smoking past their

17th birthday. Among whites and Asians, smoking onset peaks at 17.0 years. Smoking onset is substantially lower among Africans and peaks substantially later (18.5 years). Female smoking onset is lower than males. Among mixed-race females, regular smoking initiation peaks at 16.8 years, while initiation among Asian females peaks at 18.3 years. Very few African females initiate regular smoking.

POLICY LESSONS

- Higher cigarette excise taxes, which lead to higher retail prices, reduce smoking prevalence.
- SA should continue to increase excise taxes. However, if consumers are able to buy cheaper illicit cigarettes, the impact is likely to be reduced.
- Governments should therefore implement measures to reduce the illicit trade of cigarettes as outlined by the WHO's Framework Convention on Tobacco Control's Protocol to Reduce Illicit Trade.

Link to full research paper:

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