

Smoking in Movies and Adolescent Smoking Initiation Longitudinal Study in Six European Countries

Matthis Morgenstern, PhD, James D. Sargent, MD, Rutger C.M.E. Engels, PhD, Ron H.J. Scholte, PhD, Ewa Florek, MD, Kate Hunt, PhD, Helen Sweeting, PhD, Federica Mathis, BSc, Fabrizio Faggiano, MD, Reiner Hanewinkel, PhD

Background: Longitudinal studies from the U.S. suggest a causal relationship between exposure to images of smoking in movies and adolescent smoking onset.

Purpose: This study investigates whether adolescent smoking onset is predicted by the amount of exposure to smoking in movies across six European countries with various cultural and regulatory approaches to tobacco.

Methods: Longitudinal survey of 9987 adolescent never-smokers recruited in the years 2009–2010 (mean age 13.2 years) in 112 state-funded schools from Germany, Iceland, Italy, The Netherlands, Poland, and the United Kingdom (UK), and followed up in 2011. Exposure to movie smoking was estimated from 250 top-grossing movies in each country. Multilevel mixed-effects Poisson regressions were performed in 2012 to assess the relationship between exposure at baseline and smoking status at follow-up.

Results: During the observation period (M₁₂ months), 17% of the sample initiated smoking. The estimated mean exposure to onscreen tobacco was 1560 occurrences. Overall, and after controlling for age; gender; family affluence; school performance; TV screen time; personality characteristics; and smoking status of peers, parents, and siblings, exposure to each additional 1000 tobacco occurrences increased the adjusted relative risk for smoking onset by 13% (95% CI 8%, 17%, *p* < 0.001). The crude relationship between movie smoking exposure and smoking initiation was significant in all countries; after covariate adjustment, the relationship remained significant in Germany, Iceland, The Netherlands, Poland, and UK.

Conclusions: Seeing smoking in movies is a predictor of smoking onset in various cultural contexts. The results confirm that limiting young people's exposure to movie smoking might be an effective way to decrease adolescent smoking onset.