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Neighborhood disorder and smoking: Findings of a European urban survey

Rebecca Miles*

Florida State University, Tallahassee, FL, USA

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Abstract

Using the Large Analysis and Review of European housing and health Status (LARES) survey, this paper investigates the influence of neighborhood physical disorder on smoking behaviors, and the extent to which it is mediated by perceptions of safety. Indicators of physical disorder: litter, graffiti, and the absence of vegetation on facades, balconies or windows, were directly observed by surveyors. The paper also considers whether the place effects on smoking are similar across the 7 European cities in the study. Results indicate that the odds of smoking are 64% higher for those living in an area rated high on neighborhood disorder compared to low. The effect is substantially greater for men than for women with men in areas rated high on disorder showing odds of smoking that are twice as high as those living in areas rated low. The association does not vary by city of residence. Only a small part of the effect of neighborhood disorder is mediated by perceptions of safety. The finding of a substantial neighborhood physical disorder effect on smoking across a range of cities in Europe adds to the evidence suggesting that environmental interventions are worth pursuing in conjunction with other approaches to smoking prevention.

Keywords: Smoking; Neighborhood disorder; Perceptions of safety; Europe; Neighborhoods and health

Introduction

Of all the behaviors that affect health, smoking has the most dire consequences. Smoking is an important risk factor for most of the major causes of death and is responsible for 9% of all cancer deaths in women in European Union countries and 37% in men (Peto, Lopez, Boreham, & Thun, 2004; Peto, Lopez, Boreham, Thun, & Heath, 1992, 1994; Rogers, Hummer, Krueger, & Pampel, 2005). Smoking prevalence is on the decline in the general population but socioeconomic differentials in tobacco use are widening (Cavelaars et al., 2000; Graham & Der, 1999). A number of cross-sectional studies indicate that at least part of the socioeconomic effect may be due to differences in where people live.

In several studies, living in a disadvantaged neighborhood has been found to influence smoking behaviors above and beyond individual characteristics such as age, gender, personal education, employment status, household income, and mental health (Diez Roux, 2003; Duncan, Jones, & Moon, 1999; Kleinschmidt, Hills, & Elliot, 1995; Reijneveld, 1998; Ross, 2000). Other dimensions of neighborhood context, social cohesion, and perceived livability, have also been found to be associated with

*Tel.: +1 850 644 7102.
E-mail address: rebecca.miles@fsu.edu.

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smoking behavior (Blackman, 2005; Patterson, Eberly, Ding, & Hargreaves, 2004).

Health researchers and educators typically consider smoking to be a purely individual choice. Smoking prevention and cessation programs also tend to focus on the individual. However, if living in particular housing or environmental conditions predisposes people to smoke, then efforts to persuade people to quit smoking without addressing the predisposing factors are likely to be ineffective (Byrne & Keithley, 1993, p. 49).

In this study, I take advantage of a recent survey carried out by the World Health Organization, the Large Analysis and Review of European housing and health Status (LARES) to investigate whether there are similar place effects on smoking across the various European cities included in the survey. In particular, I analyze the influence of neighborhood physical disorder on smoking behaviors, and the extent to which it is mediated by perceptions of safety. I also seek to ascertain whether these relationships are similar for men and women. Neighborhood physical disorder often reflects a lack of social capital and low levels of both informal and formal social control. It may signal criminals that local residents are unable or unwilling to protect social order (Wilson & Kelling, 1982), while at the same time indicating to residents that it is unsafe and unpleasant to walk or interact socially in the streets (Raudenbush, 2003).

A strength of this study is that instead of using aggregate measures of residents' socioeconomic position to represent neighborhood disadvantage as many studies do, it includes direct observations of neighborhood physical disorder. The LARES also provides measures of the full range of individual-level characteristics that are important to control for in order to specify true place effects, including a widely used measure of mental health. A limitation of the LARES is that it does not include characteristics of the wider community or region in which the households are embedded.

In the first part of the analysis, I investigate the relationship between living in areas rated high on physical disorder and other measures of quality-of-life such as residential density, perceived noise annoyance, and perceived safety. In the second part of the analysis, I analyze the relationship between neighborhood disorder, perceptions of safety, and smoking behavior, taking into consideration individual-level risk factors. I find that the effects of neighborhood disorder and perceived safety are different for men and women but not for the different cities. I include an indicator of city of residence in all of the analyses to account for unmeasured city-level influences on smoking such as social and cultural patterns related to the prevalence and maintenance of smoking behaviors. The findings of this study therefore point to relationships that may be broadly applicable to Europe as a whole.

Neighborhood disorder and smoking—the literature

The theoretical basis for expecting an association between neighborhood disorder and smoking derives from the broader literature on the role of place in shaping people's health experiences and from a number of studies investigating neighborhood disadvantage and smoking in particular. A substantial set of studies establishes the existence of an effect of neighborhood deprivation on smoking behavior above and beyond the socioeconomic position of the individual (Diez Roux, 2003; Duncan et al., 1999; Kleinschmidt et al., 1995; Reijneveld, 1998; Ross, 2000). Existing studies suggest there are 4 main plausible mechanisms through which such a place-based effect on smoking might be mediated. These include contagion processes, opportunity structures, social capital, and social inequality.

Contagion

Place-based contagion processes affect health through people being influenced by others around them and copying their behavior (Jencks & Mayer, 1990). Contagion processes also help shape the cultural and normative standards neighborhoods have and that people use in choosing their own behaviors, including those that influence health (Ross, 2000, p. 267). Given the strong inverse relationship between individual socioeconomic position and smoking, it is likely that disadvantaged neighborhoods have a higher prevalence of smoking than advantaged neighborhoods. Diehr et al. (1993) found that American adults in communities where many people smoke are more likely to smoke themselves (p. 267). Smoking behaviors are highly visible in public places and therefore are more likely to spread through place-based exposure than less obvious health-related behaviors such as wearing a seat belt.