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Short Communication

Social cohesion and the smoking behaviors of adults living with children

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HIGHLIGHTS

- Cohesion was inversely associated with odds of current smoking.
- Cohesion was inversely associated with odds of living in homes allowing smoking.
- Age moderated the relationship between cohesion and smoking in the household.

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ABSTRACT

Introduction: The smoking behavior of adults can negatively impact children through exposure to environmental tobacco smoke and by modeling this unhealthy behavior. Little research has examined the role of the social environment in smoking behaviors of adults living with children. The present study specifically analyzed the relationship between social cohesion and smoking behaviors of adults living with children.
Methods: Data from the 2009 California Health Interview Survey, a random-digit dial cross-sectional survey of California Adults, were used. Adults living with children reported their levels of social cohesion and smoking behaviors (N = 13,978). Logistic regression models were used to predict odds of being a current smoker or living in a household in which smoking was allowed, from social cohesion.
Results: Overall, 13% of the sample was current smokers and 3.74% lived in households in which smoking was allowed. Logistic regression models showed that each one-unit increase in social cohesion is associated with reduced odds of being a current smoker (AOR = 0.92; 95% CI = 0.85–0.99) and reduced odds of living in a household in which smoking is allowed (AOR = 0.84; 95% CI = 0.75–0.93), after controlling for sociodemographic characteristics.
Conclusions: Among adults living with children, higher social cohesion is associated with a lower likelihood of both being and smoker and living in a home where smoking is allowed. Thus, future research is needed to better understand mechanisms that explain the relationship between social cohesion and smoking-related behavior in order to prevent smoking-related health consequences and smoking initiation among children and adults.

1. Introduction

Each year, 480,000 Americans die from the effects of smoking, and 10% of these deaths are from the effects of secondhand smoke (U.S. Department of Health and Human Services, 2014). Despite a decline in smoking rates in the last decade (Syamlal, Mazurek, Hendricks, & Jamal, 2014), rates are still high considering that 18.1% of adults currently smoke cigarettes (Blackwell, Lucas, & Clarke, 2014). There is a need for more research to better understand the factors shaping smoking behavior to help reduce smoking-related adverse health consequences and premature mortality.

There is a dearth of literature on smoking behavior among adults living with children. This is a particular subgroup that merits attention given that their behavior can not only negatively impact their own health and health behaviors but of the children with whom they reside as well. Moreover, children are particularly vulnerable to the effects of smoking via two mechanisms: 1) increased risk of asthma and other respiratory illnesses, (Cook & Strachan, 1999; Ehrlich et al., 1996) ear infections and sudden infant death syndrome (Cook & Strachan, 1999) due to exposure to secondhand smoke and 2) the strong role (caregiver) modeling plays in establishing behaviors such as smoking initiation. Social Cognitive Theory (Bandura, 1986; Bandura & McClelland, 1977), describes how behaviors are developed as a result of reciprocal interactions between the individual, interpersonal relationships and environmental characteristics including observing parents' behaviors and attitudes (Schuck, Otten, Engels, & Kleinjan, 2012). This can help explain why children are at a higher risk of becoming smokers if they are exposed to family members that smoke (Bricker, Peterson, Andersen, et al., 2006; Bricker, Peterson, Leroux, et al., 2006; Melchior, Chastang,

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Mackinnon, Galéra, & Fombonne, 2010; Peterson et al., 2006), have friends that smoke (Bricker, Peterson, Andersen, et al., 2006) or are exposed to media depicting smoking (Dalton et al., 2003). Furthermore, children of smokers are more likely to hold positive attitudes towards smoking than their peers with non-smoking parents and childrens' exposure to smoking in one's environment is associated with more perceived benefits and less perceived risks of smoking compared to children who are not exposed to environmental smoking (Schuck et al., 2012). Given these reasons, it is important to assess the smoking-related behaviors of adults living with children.

Considering the strong role the social environment plays on smoking behavior, emerging research is assessing how smoking can be shaped by neighborhood factors including depravation (Cubbin et al., 2006), the availability of retail outlets that advertise and sell cigarettes (Henriksen, Schleicher, Feighery, & Fortmann, 2010) and banning smoking in homes (Pizacani, Maher, Rohde, Drach, & Stark, 2012). An additional factor of the social environment that can impact health is social cohesion, which refers to both the absence of latent conflict and the presence of strong social bonds at the community level (Kawachi & Berkman, 2000) and distinct from family cohesion, which refers to emotional bonding and closeness among family members (Johnson, Lavoie, & Mahoney, 2001). When social cohesion in a community is high, individuals cooperate with each other for the collective good of all (Stanley, 2003). Social cohesion has been shown to alter parenting behavior (Roche, Ensminger, & Cherlin, 2007) in such a way that high cohesion leads to diminished parental involvement, potentially because these parents can rely on others, such as neighbors, to be involved. In terms of health, higher levels of social cohesion have been linked to better mental health (Echeverria, Diez-Roux, Shea, Borrell, & Jackson, 2008; Johns et al., 2012), decreased mortality (Inoue, Yorifuji, Takao, Doi, & Kawachi, 2013), higher levels of physical activity and lower levels of smoking (Echeverria et al., 2008; Patterson, Eberly, Ding, & Hargreaves, 2004). Yet, to date, smoking research has largely ignored the effect of social cohesion among adults living with children.

Social cohesion can impact health behaviors, like smoking, through three mechanisms. First, high levels of social cohesion in a neighborhood can promote increased social support which refers to perceived or realized emotional or functional assistance from friends, loved ones or others (Thoits, 2010). This is important because social support has been associated with greater success with smoking cessation and smoking abstinence (Murray, Johnston, Dolce, Lee, & O'Hara, 1995). Moreover, social support has been associated with positive changes at the cognitive level, including greater self-efficacy (Samuel, Commodore-Mensah, & Dennison Himmelfarb, 2013), which can facilitate behaviors including smoking cessation or reluctance to initiate smoking behavior. Second, high levels of social cohesion can promote socialization to neighborhood norms (Samuel et al., 2013), which may condemn or condone smoking. Lastly, social cohesion can help buffer against stress, which is a risk factor for smoking (Kandula, Wen, Jacobs, & Lauderdale, 2009).

In the U.S. increased social cohesion has been negatively associated with smoking among Brazilian immigrants (Holmes & Marcelli, 2014), some Latino subgroups (Alcantara, Molina, & Kawachi, 2014; Li, Horner, & Delva, 2012), African-American women living in subsidized housing (Andrews et al., 2014) and Asian-American men (Kandula et al., 2009; Li & Delva, 2012). However, associations are not observed in all studies (Li & Delva, 2011; Reitzel et al., 2013; Samuel et al., 2013). These inconsistent findings may be attributable to differing definitions of social cohesion, different study methodologies or may reflect a real differential impact of social cohesion between groups. One subgroup, in particular, that has yet to be studied is adults who reside with children. This is an important oversight because these individuals may have more than just a personal stake in the social connectedness of their neighborhoods, because they live with children who may be dependent on them and are more vulnerable. Consequently, these individuals may be more sensitive to the effects of social cohesion. Given the potential importance of social cohesion for this subgroup, the goal of the present study is to study smoking behavior among adults living with children using a large, multi-ethnic sample.

2. Materials and methods

2.1. Data source

Data come from the 2009 Adult California Health Interview Survey (CHIS). This cross-sectional telephone survey of California adults, age 18 and over, was conducted between September 2009 and April 2010. The CHIS was administered in English, Spanish, Mandarin, Cantonese, Vietnamese and Korean and was designed to be representative of California adults living in households (California Health Interview Survey, 2011). The CHIS includes replicate weights and adjustments to account for differential selection probabilities, non-response bias and stratification (California Health Interview Survey, 2011). Data was publically available and did not require IRB approval.

Overall, 47,614 adults completed the survey, and missing data were imputed using hot deck imputation by the CHIS (California Health Interview Survey, 2011). Missing values were imputed using donor values from individuals with similar characteristics on gender, age, race/ethnicity, poverty level, educational attainment and geographic region (California Health Interview Survey, 2011). Once a particular donor value was used, it was removed from the pool of potential donors (California Health Interview Survey, 2011). Overall, most CHIS variables had missing values for less than 2% of the sample, with some cases, like household income, having over 20% missing (California Health Interview Survey, 2011).

The social cohesion module was only administered to respondents who reported living with children under 18 years of age (N = 14,261). Social cohesion questions were not ascertained or imputed for respondents who had a proxy responding on their behalf, yielding 283 missing cases and a final sample of 13,978.

2.2. Variables

The independent variable of interest was social cohesion. Social cohesion was assessed using a four-item scale, similar to previously used scales (Sampson, Raudenbush, & Earls, 1997). Questions measured the degree to which respondents agreed or disagreed with the following items: 1) People in this neighborhood can be trusted, 2) People in my neighborhood are willing to help each other, 3) People in this neighborhood generally do not get along with each other, and 4) You can count on adults in this neighborhood to watch out that children are safe and don't get in trouble. Items were measured on a four-point Likert scale (strongly agree to strongly disagree). Three items were reverse coded so that higher scores would indicate stronger social cohesion. Respondents indicating that item number four was not applicable were recoded to missing (N = 172). All items where then averaged using Stata's rowmean function, which calculates the mean even if cases have missing values. This scale was then multiplied by four and minimum value set to zero, to emulate a sum of the original items (range: 0–15; Cronbach's alpha = 0.78).

There were two smoking related dependent variables of interest. The first measured whether or not a respondent was a current smoker (i.e. smoke every day or some days). In order to be considered a current smoker, respondents needed to respond “yes” to the question, “Altogether, have you smoked at least 100 or more cigarettes in your entire lifetime?” and indicate “everyday” or “some days” to the question “Do you now smoke cigarettes every day, some days, or not at all?” Non-current smokers served as the reference group. Respondents were asked, “Is smoking ever allowed inside your home?” to measure if smoking was allowed in the household, with “No” serving as the reference group.