



The role of tobacco outlet density in a smoking cessation intervention for urban youth



Jeremy Mennis^{a,*}, Michael Mason^b, Thomas Way^c, Nikola Zaharakis^d

^a Department of Geography and Urban Studies, Temple University, 1115 W. Polett Walk, 328 Gladfelter Hall, Philadelphia, PA 19122, USA

^b Department of Psychiatry, Division Child & Adolescent Psychiatry Director, Commonwealth Institute for Child & Family Studies Affiliate Faculty, Institute for Drug and Alcohol Studies, Virginia Commonwealth University, PO Box 980489, Richmond, VA 23298-0489, USA

^c Department of Computing Sciences, Villanova University, 800 Lancaster Avenue, Villanova, PA 19085, USA

^d Commonwealth Institute for Child & Family Studies, Virginia Commonwealth University, PO Box 980489, Richmond, VA 23298-0489, USA

ARTICLE INFO

Article history:

Received 24 September 2015

Received in revised form

21 December 2015

Accepted 22 December 2015

Keywords:

Urban

Adolescents

Tobacco

Smoking

Tobacco outlet

Density

Mediation

Moderation

ABSTRACT

This study investigates the role of tobacco outlet density in a randomized controlled trial of a text messaging-based smoking cessation intervention conducted among a sample of 187 primarily African American youth in a midsize U.S. city. A moderated mediation model was used to test whether the indirect effect of residential tobacco outlet density on future smoking was mediated by the intention to smoke, and whether this indirect effect differed between adolescents who received the intervention and those who did not. Results indicated that tobacco outlet density is associated with intention to smoke, which predicts future smoking, and that the indirect effect of tobacco outlet density on future smoking is moderated by the intervention. Tobacco outlet density and the intervention can be viewed as competing forces on future smoking behavior, where higher tobacco outlet density acts to mitigate the sensitivity of an adolescent to the intervention's intended effect. Smoking cessation interventions applied to youth should consider tobacco outlet density as a contextual condition that can influence treatment outcomes.

© 2016 Elsevier Ltd. All rights reserved.

1. Introduction

1.1. Background

Smoking among adolescents remains a serious public health concern. Adolescent smokers are more likely to become adult smokers, and early age of smoking initiation can amplify the numerous negative health effects of smoking as an adult (U.S. Department of Health and Human Services, 2012). In addition, adolescent smoking is associated with a host of other negative behaviors such as substance use, problems at school, and risky sexual behavior (Hanna et al., 2001). While smoking rates among adolescents have declined recently in many high-income countries, these declines are often limited to more socioeconomically advantaged population subgroups (Han et al., 2014).

Recently, researchers have begun to consider exposure to retail stores that sell tobacco products (tobacco outlets) as a mechanism of adolescent smoking behavior. Studies indicate that a higher density of tobacco outlets nearby the home is associated with

increased adolescent and young adult smoking rates and smoking initiation (Cantrell et al., 2015b; Johns et al., 2013; Lipperman-Kreda et al., 2014; Novak et al., 2006). The mechanism for this effect can be ascribed to the presence of tobacco advertising at the point-of-sale, which has increased markedly as bans on tobacco advertising in other media, such as television, have been implemented (Frick et al., 2012). Adolescents may be particularly vulnerable to marketing and promotion of tobacco products (Henriksen et al., 2010), and the prevalence of tobacco sales, advertising, and use in a community can convey social norms that encourage smoking initiation and sustained tobacco use (Paynter and Edwards, 2009; Robertson et al., 2015; Slater et al., 2007). Exposure to tobacco outlets can thus influence attitudes towards smoking (Loomis et al., 2012) and the intention to smoke, which has been shown to be closely related to future smoking behavior among youth (Choi et al., 2001), even after accounting for past smoking experience (Wakefield et al., 2004).

While this body of research offers substantial evidence of a relationship between the density of tobacco outlets and smoking initiation and tobacco use among youth, we are not aware of any study that has addressed tobacco outlet density and youth smoking cessation. A handful of studies focusing on adults have found evidence that exposure to tobacco outlets (i.e. close proximity or high density) is associated with a lower likelihood of smoking

* Corresponding author.

E-mail addresses: jmennis@temple.edu (J. Mennis), mjmason@vcu.edu (M. Mason), thomas.way@villanova.edu (T. Way), zaharakisn@mymail.vcu.edu (N. Zaharakis).

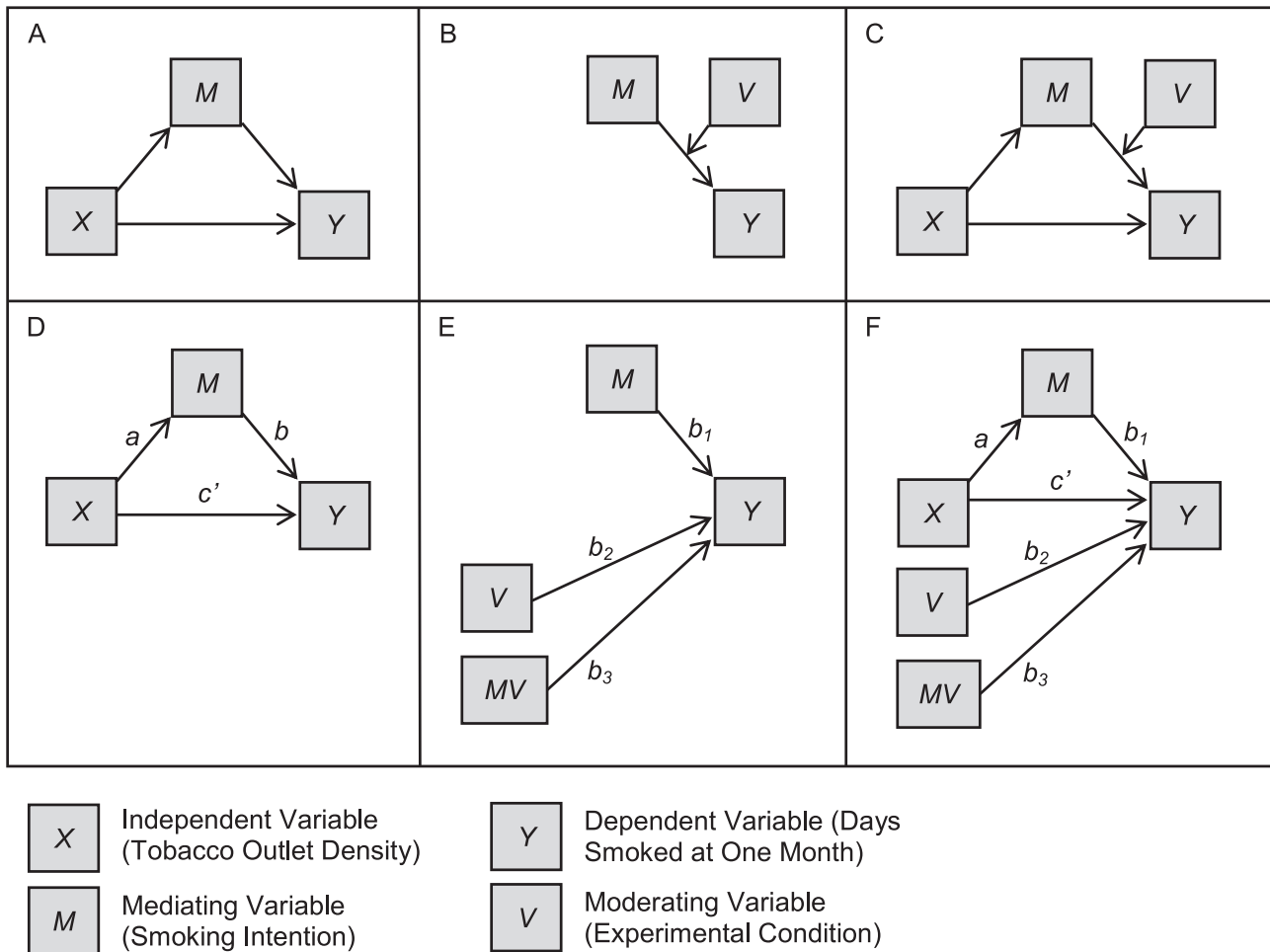


Fig. 1. Conceptual (top panels A, B, and C) and statistical (bottom panels D, E, and F) models of: (1) mediation (panels A and D) whereby the effect of tobacco outlet density (X) on days smoked at one month (Y) is mediated by smoking intention (M), (2) moderation (panels B and E) whereby the effect of smoking intention on days smoked at one month is moderated by the experimental condition (i.e. treatment or control group) (V), and (3) moderated mediation (panels C and F) whereby the indirect effect of tobacco outlet density on days smoked at one month as mediated by smoking intention is moderated by the experimental condition (V).

cessation or relapse following a quit attempt (Halonen et al., 2014; Pearce et al., 2015; Reitzel et al., 2011), although one study found no such evidence (Han et al., 2014). Cantrell et al. (2015a) found that exposure to tobacco outlets was associated with reduced smoking abstinence and lower pro-smoking cessation attitudes among smokers, though this effect was moderated by neighborhood level poverty.

The purpose of the present study is to investigate the role of tobacco outlet density in a smoking cessation intervention for urban adolescents. Our aim is to develop and test a conceptual model of how tobacco outlet density can influence future smoking behavior through an adolescent's intention to smoke, as well how this mechanism may be affected by the intervention to reduce smoking. To this end, we use data collected from a previously conducted randomized controlled trial of a text messaging-based smoking intervention conducted among a sample of adolescent smokers residing in Richmond, Virginia, a medium-sized city on the East Coast of the U.S.

1.2. Results of the original randomized controlled trial

As the present study is a secondary analysis of data derived from a randomized controlled trial, we provide a brief summary of the primary analytical results of that trial here. The smoking cessation intervention integrates principles of Motivational Interviewing (MI) (Miller and Rollnick, 2012) and peer network

counseling (Mason et al., 2011). It is intended to stimulate motivation to change through reflection of both current smoking behavior and the social and environmental contexts of where, and with whom, he or she smokes, and thus encourage the adolescent to alter the social and environmental processes associated with their smoking behavior. Two hundred urban, primarily African American tobacco-using adolescents were recruited, randomly allocated to a treatment group (who received the intervention) or a control group (who did not receive the intervention), and provided smart phones. The treatment group received 30 peer-network counseling text messages oriented around smoking cessation that were personalized based on each adolescent's reported smoking behavior, as well as the self-reported smoking behaviors of their peers. The control group received 30 text messages oriented towards general, non-smoking-related health behaviors. The smoking behavior of each adolescent was assessed at baseline and at one, three, and six months following the intervention using a web-based survey delivered through the adolescent's phone.

Results indicated that the treatment group decreased the number of days they smoked cigarettes over the past month ($p < 0.05$), decreased the number of cigarettes smoked per day ($p < 0.01$), and increased their intention not to smoke in the future ($p < 0.05$), as compared to the control group. Effect sizes ranged from small to large (Mason et al., 2015a; Mason et al., 2015b).

Download English Version:

<https://daneshyari.com/en/article/7457544>

Download Persian Version:

<https://daneshyari.com/article/7457544>

[Daneshyari.com](https://daneshyari.com)