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Original Investigation

Dating and changes in adolescent cigarette smoking: Does partner smoking behavior matter?

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Abstract

Introduction: Adolescents' relationships can play an influential role in adopting, maintaining, or changing health behaviors. Previous research has suggested that adolescent dating is a risk factor for both concurrent and prospective tobacco use. This study extends previous research by examining whether a partner's smoking status moderated the relationship between dating and adolescent smoking.

Methods: Participants were 1,263 9th and 10th grade students who took part in a longitudinal study investigating the social and emotional contexts of adolescent smoking patterns. Adolescents were recruited into the longitudinal study based on prior smoking history. The presence of a romantic partner, the partner's smoking status, and the adolescents' smoking behavior were assessed at baseline and at 15 months.

Results: Our findings indicated that a change in dating status from not dating to having a partner significantly increased the odds of the adolescent smoking at 15 months but significantly only for those who dated a smoker. This effect was especially pronounced among boys. All boys who dated a smoker smoked themselves. Among adolescents who smoked at 15 months, there was also a strong protective effect among boys for dating a nonsmoker, compared with either those who did not have partners or those with smoking partners; boys with nonsmoking partners smoked significantly less than those with partners who smoked or those without partners.

Discussion: These results highlight the importance of considering the smoking status of the romantic partner in the smoking–dating relationship in adolescents.

Introduction

Adolescents' relationships can play an influential role in adopting, maintaining, or changing health behaviors. While the role of peers and family in adolescent cigarette smoking has been well documented (Avenevoli & Merikangas, 2003; Ennett et al., 2008; Hoffman, Sussman, Unger, & Valente, 2006; Kobus, 2003), less is known about the influence of romantic partners on smoking among adolescents. Given that boyfriends and girlfriends play increasingly important roles in adolescents' lives as a source of support and companionship (Laursen & Williams, 1997), they are likely to shape a number of attitudes and behaviors, including that of smoking. Prior cross-sectional findings have found a positive association between dating and smoking behavior (Bynner, 1969; Martin et al., 2007) as well as between dating and the intention to smoke (Tucker, 1985). Longitudinal studies have found that having a boyfriend or a girlfriend is associated with higher odds of subsequent smoking uptake (McNeill et al., 1989; Murray, Kiryluk, & Swan, 1984). Additionally, Fidler, West, Jarvis, and Wardle (2006) found that dating at the age of 11–12 years was associated with smoking uptake for each of the following 4 years. A limitation of these studies to date has been the lack of consideration of the smoking behavior of the adolescent's romantic partner and how the partners' smoking or nonsmoking status may moderate the link between dating and smoking.

The purpose of the current study was to examine specifically the role of a romantic partner's smoking status on changes in an adolescent's smoking behavior. We hypothesized that a change in dating status from not having a romantic partner to currently dating would be associated with increased smoking but that this effect would be stronger for adolescents whose partner smoked compared with those with a nonsmoking partner. Given that adolescents' smoking is often characterized by nondaily smoking and irregular patterns of smoking (Mermelstein et al., 2002),

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we examined changes in both frequency of smoking (number of days smoked) and intensity of smoking (number of cigarettes per day). Frequency of smoking may reflect more the presence of and exposure to other smokers, whereas changes in intensity of smoking may reflect a different dimension along the development of dependence.

Smoking behavior among members of a romantic couple may be a function of both "assortive mating," that is, seeking partners with similar behaviors, and social influence or "contagion." Rarely, though, have these processes been examined among adolescents. Vink, Willensen, and Boomsma (2003) examined the association of current smoking in adolescents and young adults with the smoking behavior of friends, spouses, and parents and found that assortment for smoking may be based on similarity in smoking when dating begins.

Social influence or contagion processes may also be at work in the spread of smoking or even cessation. Among adults, there is good evidence that the smoking behavior of partners or spouses strongly influences the other partner. Christakis and Fowler (2008) recently documented how smoking behavior, notably cessation, spreads through close social ties. For example, Christakis and Fowler found that smoking cessation by a spouse decreased a person's chances of smoking by 67%. A spouse's heavy smoking, on the other hand, can significantly decrease the probability of the partner's smoking cessation (Dollar, Homish, Kozlowski, & Leonard, 2009), and a spouse's smoking in general increases the probability of relapse among recent ex-smokers (Manchon Walsh et al., 2007; Mermelstein, Cohen, Lichtenstein, Baer, & Kamarck, 1986). Similarly, one might suspect that adolescents' romantic relationships may also show similar patterns of social influence on smoking behavior, both positively and negatively, and recently, Ennett et al. (2008) have noted the importance of examining both the prosmoking and antismoking nature of adolescent–peer relationships. Romantic partners who smoke may help promote smoking, but similarly, romantic partners who do not smoke may help to stall smoking progression or even encourage cessation among adolescents. Thus, examining changes in smoking over time with changes in both partner status and partner smoking may start to shed light on these processes.

Social influence processes with smoking may also vary by gender, although there is little consistency in the literature about these gender effects. Fidler et al. (2006) found that the relationship between early dating and smoking was stronger in girls than in boys; however, they did not have data on the smoking status of the boyfriend or girlfriend. Among adults, Westmaas, Wild, and Ferrence (2002) found that men's smoking behavior, compared with women's, was more strongly influenced by their spouse. Thus, another goal of the current study was to examine potential gender effects in combination with romantic partner smoking status on changes in smoking in adolescents.

Methods

Overview of design, participant recruitment, and description

Data for this study come from the baseline and 15-month assessment waves of a large longitudinal study investigating the social and emotional contexts of adolescent smoking patterns. The cornerstone of the longitudinal study was the establishment of a cohort of adolescents comprising primarily youth who had ever smoked.

Participants were recruited from 16 Chicago area high schools. The sample was derived in a multistage process. All 9th and 10th graders at the schools ($N = 12{,}970$) completed a brief screening survey of smoking behavior. Invitations were mailed to eligible students and their parents. Students were eligible to participate in the longitudinal study if they fell into one of the four levels of smoking experience: (a) never-smokers, (b) former experimenters (smoked at least one cigarette in the past, have not smoked in the last 90 days, and have smoked fewer than 100 cigarettes in their lifetime), (c) current experimenters (smoked in the past 90 days but smoked less than 100 cigarettes in lifetime), and (d) regular smokers (smoked in the past 30 days and have smoked more than 100 cigarettes in their lifetime).

We mailed recruitment packets to 3,654 eligible students and their parents. These recruitment targets included all youth in the "current experimenter" and "regular smoker" categories plus random samples from the "never-smoker" and "former experimenter" categories. Youth were enrolled into the longitudinal study after written parental consent, and student assent was obtained. It is important to note that all youth and parents had to agree to potentially participate in all components of the main larger program project study including multiple, longitudinal questionnaire assessments, an ecological momentary assessment study, a family observation study, and a psychophysiological laboratory assessment study. Of the 3,654 students invited, 1,344 agreed to participate (36.8%). Of these, 1,263 (94.0%) completed the baseline measurement wave. Our baseline sample of 1,263 youth included 213 never-smokers, 304 former experimenters, 594 current experimenters, and 152 regular smokers. These 1,263 adolescents had a mean age of 15.6 years (range 13.9–17.5 years), and 56.5% were females. Their racial/ethnic distribution was 56.5% White, 17.2% Hispanic, 16.9% Black, 4.0% Asian, and 5.5% "Other."

For the current study, we were interested primarily in the subset of participants who reported having no romantic partner at baseline ($n = 675$) in order to examine the relationship between changes in having a romantic partner (and smoking) and changes in participant smoking. Of these 675 adolescents, 53.2% were females ($n = 359$); 53.6% were in the 9th grade and 46.4% in the 10th grade at baseline. Their mean age was 15.6 years ($SD = 0.60$). Their racial/ethnic distribution was 64.4% White, 16.3% Hispanic, 11.3% Black, 4.3% Asian, and 3.7% Other. Thus, compared with the participants who reported having a romantic partner at baseline, the nondaters at baseline were more likely to be males ($\chi^2 = 16.67$, $df = 1$, $p < .001$) and to have a somewhat different racial/ethnic distribution ($\chi^2 = 51.58$, $df = 5$, $p < .001$), with Whites more represented among the nondaters.

Measures

At baseline and at 15 months, participants completed a questionnaire assessing sociodemographic characteristics, psychosocial variables, and health behaviors. Respondents were asked both at baseline and at 15 months whether they had a boyfriend or a girlfriend and whether that partner smoked cigarettes. Respondents' smoking was assessed in terms of the number of days smoked during the past 30 days and the number of cigarettes smoked each day during the past 30 days both at baseline and at

15 months. Respondents were also categorized as "nonsmokers" or "smokers" (separately at baseline and follow-up) based on whether they had smoked at all during the past 30 days.

Results

Attrition

Attrition in the current study was minimal. Of the 1,263 adolescents who completed the baseline assessment, 135 (10.6%) did not complete the 15-month questionnaire. There were no significant differences between completers and noncompleters at 15 months in terms of whether participants had a romantic partner at baseline.

Differences in participant smoking behavior at baseline by romantic partner smoking

Baseline smoking status (smoked or not in the past 30 days) varied significantly by the smoking status of the romantic partner. Overall, 44.9% ($n = 657$) of the full sample of 1,263 adolescents reported smoking in the past month at baseline. Table 1 shows the prevalence of smoking in the past 30 days by the smoking status of the adolescent's romantic partner and by gender. There was a significant effect on adolescent smoking by the status of the partner ($\chi^2 = 31.68$, $df = 2$, $N = 1{,}262$, $p < .001$). As expected, adolescents with a romantic partner who smoked had a significantly higher prevalence of smoking (67.4%) compared with either those without a partner (41.9%) or those with a nonsmoking partner (42.8%). This pattern did not differ significantly by gender.

When examining only the subsample who reported smoking during the past month at baseline ($n = 568$), results of analysis of variance revealed that the participants' frequency of smoking varied significantly by the smoking status and presence of a romantic partner, $F(2, 564) = 7.26$, $p < .001$, but not the intensity (amount smoked per day), $F(2, 564) = 0.31$, nonsignificant. Nondating participants reported smoking on an average of 8.1 ($SD = 9.34$) days of the past 30 days compared with 7.4 ($SD = 8.95$) days for those dating a nonsmoking partner and 11.9 days ($SD = 10.65$) for those dating a partner who smoked.

Changes in dating and smoking over time

The analyses reported below focus on the subset of participants who did not report having a romantic partner at baseline ($n = 675$) in order to examine prospectively the link between changes in dating status, smoking status of the partner, and the adolescent's smoking. Of these 675 participants, 30.5% ($n = 206$) reported having a boyfriend or girlfriend at the 15-month follow-up, and 27.7% of these ($n = 57$) were dating a smoker. With this subsample of 675 adolescents, the overall prevalence of past 30-day smoking remained similar between baseline and 15 months (41.6% and 40.7%, respectively). However, among those who smoked at each timepoint, the frequency of smoking increased from a mean of 7.8 ($SD = 9.3$) to 12.7 days ($SD = 11.5$), as did average number of cigarettes smoked per day, from a mean of 1.9 ($SD = 2.1$) cigarettes smoked on days smoked to 3.4 cigarettes/day ($SD = 4.1$) at 15 months.

Table 1. Prevalence of past 30-day smoking at baseline by romantic partner status and gender ($N = 1{,}262$)

	Romantic partner status		
Percent smoking past 30 days	No partner, % ($n = 769$)	Nonsmoking partner, % ($n = 355$)	Smoking partner, % ($n = 138$)
Girls	40.7 (163)	41.6 (84)	66.5 (74)
Boys	43.1 (159)	44.4 (68)	73.1 (19)
Total	41.9 (322)	42.8 (152)	67.4 (93)

Logistic regression analyses were used to assess whether a change from no romantic partner at baseline to having a romantic partner at 15 months was associated with greater odds of being a smoker. Analyses controlled for respondents' baseline smoking status, gender, and age and examined the effects of the dating partner's smoking status as well as an interaction of partner smoking status and gender of the participants.

Model I in Table 2 reports the results of the main effects model for having a romantic partner at 15 months among those with no partner at baseline. As can be seen from the table, a change in dating status (romantic partner) was associated with higher odds of the adolescent smoking at 15 months. However, as shown in Model II in Table 2 (interaction model), this effect is moderated by the smoking status of the romantic partner, such that only having a partner who smokes increases one's likelihood of smoking. This effect was more pronounced for boys. As shown in Table 3, all boys who started dating a smoker reported smoking at 15 months. For both boys and girls, having a romantic partner who smokes significantly increased the odds of smoking oneself. Overall, 64.9% of adolescents with a romantic partner who smoked reported smoking themselves during the past 30 days, compared with 44.3% of those with a nonsmoking partner and 36.7% of those who were not currently dating (see Table 3). (Note: Logistic regressions are not included due to a failure to converge because of a perfect prediction of the outcome for boys.)

We also examined the effects of having a romantic partner and the smoking status of the romantic partner on frequency and intensity of smoking among the subset of adolescents who reported smoking at 15 months ($n = 275$), controlling for age and baseline smoking behavior. Given the stronger effects found for partner smoking status for boys than girls on overall smoking, we ran separate models by gender. For girls, there was not a significant effect for the smoking status of the partner on either the number of days smoked or amount smoked per day. For boys, though, there was a significant protective effect for dating a nonsmoker, compared with not dating ($\beta = -.23$, $SE = 0.91$, $p < .01$, for average number of cigarettes smoked per day, $\beta = -.25$, $SE = 2.02$, $p < .001$, for number of days smoked), as well as a significant harmful effect for dating a smoker (compared with not dating; $\beta = .19$, $SE = 1.49$, $p < .05$, for average number of cigarettes smoked per day; $\beta = .15$, $SE = 3.25$, $p < .05$, for average number of days smoked). Table 4 presents the means for number of days smoked and number of cigarettes smoked per day on smoking days by gender and by partner status. As can be seen in Table 4, boys with partners who did not smoke had lower levels of both frequency and amount smoked compared with those without partners and those whose partners smoked. However, for girls, there was less of a protective effect for dating a nonsmoker.

Table 2. Results of logistic regression analyses predicting adolescent smoking status (smoking in past 30 days) at 15 months (*n* = 675)

	I. Main effects model		II. Model with interaction by partner smoking	
	OR (95% *CI*)	*p* value	*OR* (95% *CI*)	*p* value
Baseline smoking status	6.53 (4.62–9.22)	***	6.40 (4.53–9.01)	***
Gender	0.78 (0.55–1.11)		0.74 (0.52–1.06)	
Age at baseline	1.12 (0.67–1.19)		1.11 (0.83–1.49)	
Romantic partner	1.67 (1.15–2.42)	**		
Nonsmoking romantic partner			1.39 (0.91–2.10)	
Smoking romantic partner			2.86 (1.50–5.51)	**

Note. *OR* = odds ratio. Gender is coded as female = 1 and male = 0.
*$p < .05$; **$p < .01$; ***$p < .001$.

Discussion

This study investigated the moderating effect of romantic partners' smoking behavior on adolescents' own smoking behaviors. Consistent with previous research findings (e.g., Fidler et al., 2006; McNeill et al., 1989), a change from not dating to having a partner was predictive of a greater likelihood of being a smoker. However, this effect was moderated by the smoking status of the partner, such that only having a partner who smoked increased the adolescent's odds of smoking; there was no significant increase in risk from dating a nonsmoker. In addition, the increased risk from dating a smoker was especially pronounced for boys; all boys who started to date a smoker reported smoking themselves at 15 months. However, given the relatively small number of boys with smoking partners, this strong gender effect should be considered with some caution.

In general, our results suggest that boys' smoking behavior was more influenced by the smoking behavior of their romantic partners than was girls' smoking. Not only were boys at greater risk for smoking if their partner smoked but also among those boys who smoked, both smoking frequency and amount were highest among those with smoking partners. The differences in smoking patterns by dating status and partner smoking status were less apparent for girls. These findings stand in contrast to those of Fidler et al. (2006) who found that the relationship between early dating and smoking was stronger for girls than for boys. However, we also need to consider differences in the study samples. The present study was conducted with a sample of adolescents at "high risk" for smoking, given that they were selected based on smoking history (with the majority having already tried smoking) and, as such, are not a "normative" adolescent sample as used in the Fidler et al. study. Unlike the Fidler et al. study, we also did not find that relatively "early" daters, that is, adolescents who at baseline had romantic partners, had an overall increase in risk for smoking, but rather only an increased risk if the partner smoked.

Our results also highlight the positive effects that dating nonsmokers may have on curtailing smoking among adolescents who smoke, especially for boys. Most striking was our finding that boys with nonsmoking partners smoked significantly less (both frequency and amount) than those who were either not dating or dating smokers. Thus, as Ennett et al. (2008) have suggested, peers may indeed have important antismoking roles. Rarely, though, have researchers examined this possible more positive side to adolescent dating and smoking.

In sum, our findings suggest that dating in adolescents is not automatically a risk factor for smoking, rather, it is the smoking status of the partner that emerges as a significant factor, in both reductions and increases in smoking, especially for boys. For boys, there is the intriguing and important possibility that dating a nonsmoker may help to reduce smoking. Interventions for adolescent smokers may try to harness this potential positive social influence process to improve cessation rates.

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Table 3. Prevalence of past 30-day smoking at 15 months by romantic partner status and gender (*n* = 675)

	Romantic partner status		
Percent smoking past 30 days	No partner, % (*n* = 469)	Nonsmoking partner, % (*n* = 149)	Smoking partner, % (*n* = 57)
Girls	34.2 (77)	40.7 (35)	58.3 (28)
Boys	38.9 (95)	49.2 (31)	100 (9)
Total	36.7 (172)	44.3 (66)	64.9 (37)

Table 4. Average number of cigarettes smoked per day and number of days smoked in past 30 days by gender and partner status among adolescents who smoked at 15 months (n = 275)

	Romantic partner status								
	No partner (n = 172)			Nonsmoking partner (n = 66)			Smoking partner (n = 37)		
Number of days smoked	*N*	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*
Girls	77	12.2	11.78	35	9.6	9.93	28	11.7	11.19
Boys	95	15.6	12.07	31	6.7	7.72	9	22.5	8.23
Number of cigarettes per day	*N*	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*
Girls	77	3.0	3.41	35	2.0	2.24	28	2.8	1.92
Boys	95	4.5	5.02	31	1.7	1.72	9	8.3	6.69

Declaration of Interests

None declared.

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