

The Myth of Peer Influence in Adolescent Smoking Initiation

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The widespread belief that peer influence is the primary cause of adolescent smoking initiation is examined and called into question. Correlational and longitudinal studies purporting to demonstrate peer influence are analyzed, and their limitations described. Qualitative interview studies of adolescent smoking initiation are presented as depicting the more complex role of the peer context. Finally, a new model of the role of peers in smoking initiation is offered, with an emphasis on how adolescents' characteristics lead to the selection of their friends, who then provide a peer context that may or may not support smoking.

Keywords: peers; smoking; prevention; youth

For years, peer influence has reigned as the most important contributor to adolescent smoking initiation, in the views of researchers, the general public, and the tobacco companies. As summarized in the 1994 Surgeon General's report on youth smoking, "The influence of peers has been posited as the single most important factor in determining when and how cigarettes are first tried" (U.S. Department of Health and Human Services, 1994, p. 131). In the general public, polls have found that a majority of Americans agree that peer pressure is the most important influence in leading adolescents to smoke (Thomas & Larsen, 1993). The tobacco companies, too, wholeheartedly endorse peer influence as the primary reason that adolescents begin smoking. A Tobacco Institute (1990) publication entitled, "Tobacco: Helping Youth Say No: A Parent's Guide to Helping Teenagers Cope With Peer Pressure," warned parents that "more than likely, your children will be tempted by their friends to smoke. . . . Peer pressure has an enormous influence over your children, and . . . sometimes becomes too strong to resist" (pp. 1, 4). A recent Philip Morris-sponsored brochure (Philip Morris USA, 2003) asserted that "when it comes to youth smoking, the connection is clear—research shows that the influence of peers is the most important factor in determining when and how cigarettes are first tried. . . . Encouragement from friends to smoke cigarettes is one of the new pressures your child might encounter" (pp. 4, 6).

Thus, the primacy of peer influence in adolescent smoking initiation has reached the status of conventional wisdom, believed by nearly all, assumed to be so well-established that "the connection is clear" and no reasonable person doubts it to be true. My goal in this article is to expose the "clear connection" between peer influence and adolescent smoking initiation as a myth, a dangerously false myth that allows the tobacco companies to divert attention from the role that their advertising and promotion of cigarettes plays in

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adolescent smoking initiation. First, I will distinguish between peer influence and the broader peer context. Second, I will analyze studies claiming to show evidence of peer influence and demonstrate that this evidence does not hold up under scrutiny. Third, I will present studies that provide a more complex and more valid view of the role of the peer context in adolescent smoking initiation. Finally, I will present a model that places peers in a secondary role in smoking initiation, interconnected with other factors.

PEER PRESSURE AND PEER CONTEXT

It is important at the outset to clarify what is meant by *peer influence*. In popular discourse, the term typically used is *peer pressure*, meaning direct peer influence such as peers' explicit offers of cigarettes, accompanied by coercion, teasing, or taunting if the offer is resisted. Researchers sometimes use *peer pressure* but more commonly use the term *peer influence*. This term is rarely defined by those who use it, and the social processes involved are rarely specified or investigated. As I will explain in detail below, peer influence is simply assumed to exist on the basis of a statistical association between the smoking behavior of adolescents and their friends. However, it seems reasonable to conclude that by *peer influence* researchers mean direct peer pressure as well as other social processes with peers that involve an influence from the peers to the adolescent. With both peer pressure and peer influence, the direction of effects is believed to be from the peers to the adolescent. I will mainly use the term *peer influence* from this point forward in accordance with what is mainly used by researchers.

In contrast with peer influence are what I will call *peer context variables*. These include interpersonal peer group processes such as implicit group expectations and the development of a social identity as a smoker, as well as the simple fact that opportunities for smoking depend in part on whether one's peers smoke. It is a long-established principle of social psychology that people feel compelled to conform to the norms and perceived expectations of the group to which they belong (Baumeister, 1990), and there is evidence that this is especially true in early adolescence (Berndt, 1996), when the risk of smoking initiation is highest. Social identity theory asserts that homogeneity of behavior develops within groups as group members modify their behavior to fit the norms that are central to the social identity of the group (Abrams & Hogg, 1990; Kobus, 2003). This, too, may be heightened in early adolescence, when identity issues become prominent.

The important contrast between peer influence and peer context is that friendship selection is the basis for the peer context variables. Adolescents choose their peer friendship groups, which in turn determine the content of the peer context they experience. Thus, with peer influence, the direction of effects is from peers to the adolescent, whereas with peer context, the direction of effects begins with adolescents in the selection of their peer groups and is multidirectional within the group. I wish to show in this article that claims of peer influence are exaggerated but that the peer context does play an important if limited role in adolescent smoking initiation.

STUDIES CLAIMING PEER INFLUENCE

The number of studies claiming to show peer influence in adolescent smoking is large, and I will not attempt to review all of them here. Instead, I will describe the two types of

studies that make this claim—first correlational studies and then longitudinal studies—and analyze representative studies in each category to show that the claim is unwarranted.

Correlational Studies

Numerous studies have shown that adolescents who smoke are more likely than nonsmoking adolescents to have friends who also smoke and have claimed “peer influence” on this basis alone (Allen, Donohue, Griffin, Ryan, & Turner, 2003; Andrews, Tildesley, Hops, & Fuzhong, 2002; Avenoli & Merikangas, 2003; Prinstein, Boergers, & Spirito, 2001; Simons-Morton, Haynie, Crump, Eitel, & Saylor, 2001; Unger et al., 2001; Wang, Fitzhugh, Westerfield, & Eddy, 1995; Webster, Hunter, & Keats, 1994). For example, Wang and colleagues (1995) examined data on 6,900 adolescents aged 14 to 18 from the national Teenage Attitudes and Practices Survey (TAPS). They found that smoking behavior among adolescents’ best three to four friends was correlated with the adolescents’ own smoking behavior. Unger and colleagues (2001) defined “informational peer influence” simply as best friend’s smoking behavior, in a study of nearly 6,000 eighth-grade adolescents in California. They found a correlation between adolescents’ smoking behavior and their reports of their best friend’s smoking behavior.

There are several problems with interpreting such studies as evidence for the role of peer influence in adolescent smoking initiation. Perhaps most obvious is that correlational data cannot be assumed to indicate influence between variables. Although “correlation does not necessarily mean causation” is one of the first principles learned in statistics, this is a principle that is frequently disregarded in studies of peers and smoking initiation. For example, despite presenting only correlational data, Wang and colleagues (1995) concluded that “these findings reinforce previous literature in which peer smoking behavior is generally considered to be the major social environmental factor *influencing* adolescent smoking” (p. 202, italics added). Similarly, Simons-Morton and colleagues (2001) presented only correlational data on adolescent friends’ smoking behavior, yet concluded, “Our findings underscore the powerful *influence* affiliation with substance-using peers can have on smoking” (p. 103, italics added). However, correlational data *may* indicate causation, but they may not; an effective argument has to be made for causation, or additional evidence has to be proffered to support the claim of causation. Unfortunately, this is rarely done in studies purporting to show peer influence in adolescent smoking initiation.

A second problem with correlational studies on the role of peer influence in adolescent smoking initiation is that most of them rely on adolescents’ reports of their friends’ smoking behavior. This has been shown definitively to exaggerate the degree of similarity between adolescents and their friends, a phenomenon known as the “false consensus effect” (Sherman, Presson, Chassin, Corty, & Olshansky, 1983; Wolfson, 2000). Numerous studies have been conducted that include friends’ independent reports of their smoking behavior (Fisher & Bauman, 1988; Iannotti & Bush, 1992; Sherman et al., 1983; Urberg & Shyu, 1990). These studies show that the correlation between adolescents’ smoking and their friends’ smoking is substantially lower when friends’ independent reports of smoking are used rather than having adolescents report the smoking behavior of both themselves and their friends.

But the most serious problem with correlational studies purporting to show peer influence in adolescent smoking initiation is that they fail to account for *selective association* (also termed *selection*, *differential association*, *friendship homophily*, or *assortative pairing*), that is, they fail to take into account the similarities between adolescent friends

that existed before they became friends and that may in fact have drawn them together (Aboud & Mendelson, 1998). It is well-established that people choose one another as friends or partners mostly on the basis of their similarities. People of all ages tend to make friends with people who are similar to them in age, gender, social class, personality, and other characteristics (Lempers & Clark-Lempers, 1993; Rose, 2002). One of these similarities is smoking behavior. Smokers tend to prefer other smokers as friends, and nonsmokers tend to prefer nonsmokers; in fact, nonsmokers tend to be more vehement about this similarity than smokers are (Nichter, Nichter, Vuckovic, Quintero, & Ritenbaugh, 1997). As a consequence, when a study finds a correlation between the smoking behavior of adolescents and the smoking behavior of their friends, even if the reports were obtained independently from adolescents and their friends to avoid the false consensus effect, it may be that the similarity in their smoking behavior existed before they became friends and was in fact at least partly the basis of their friendship.

Furthermore, other similarities may exist among adolescent friends that simultaneously provide the basis for their friendship and contribute to similarities in their smoking behavior. Numerous common factors have been implicated in both adolescent friendship and adolescent smoking initiation. These factors include family socioeconomic status, ethnicity, academic achievement, participation in risk behavior, and a variety of personality variables such as depressiveness, impulsiveness, and sensation seeking (Aboud & Mendelson, 1998; Baker, Brandon, & Chassin, 2004; Brown, 1989; Slater, 2003; Urberg, Qing, & Degirmencioglu, 2003; U.S. Department of Health & Human Services, 1994). Thus, when adolescent friends are similar in their smoking behavior, this may be a consequence of the other similarities between them that have contributed to their common smoking behavior, without indicating any mutual peer influence toward smoking.

Longitudinal Studies

In tobacco research as in other areas, it is often assumed that the solution to the problem of drawing causal conclusions from correlational data is to conduct longitudinal studies. Longitudinal studies seem to offer the promise of unambiguous evidence of a causal relationship. If an adolescent is not smoking at Time 1 but has friends who smoke, then reports smoking at Time 2, this is believed to show that peer influence causes smoking initiation.

Numerous longitudinal studies of smoking initiation have been conducted, and the authors of these studies confidently draw conclusions about causality from their results. For example, Wills and Cleary (1999) asked seventh-grade students, "Do any of your friends smoke?" and found that their responses predicted the adolescents' own smoking behavior in grades 8 through 9. The authors asserted that "the results provide consistent evidence for an influence mechanism" (p. 460).

Rose, Chassin, Presson, and Sherman (1999) began with 6th through 12th graders ($n = 8,556$) and followed them up 4 and 8 years later ($n = 6,223$ after 8 years). Peer influence was measured at baseline and included number of closest friends who smoke; perceived prevalence of smoking among boys and girls in the community; friends' normative beliefs about cigarettes (e.g., their views of whether the adolescent should or should not smoke); friends' expectations for success; friends' general support; friends' control (e.g., whether they would try to stop the adolescent from doing something wrong); and friends' approval of smoking (i.e., the adolescents' belief that smoking would lead to gaining or losing friends). Virtually all of these peer influence variables were nonsignificant as predictors of smoking initiation, except for the number of the adolescent's friends who

smoked. Nevertheless, on the basis of this one significant peer predictor, the authors concluded that their results "replicated previous research on peer influences by revealing a persistent effect of peer influences on smoking onset during adolescence." Furthermore, they asserted that their longitudinal design allowed them to make especially strong claims of causality: "By using a prospective design, we were able to rule out the possibility that peer influences could be explained solely by a selection process" (p. 78).

However, in tobacco research, there may be more faith placed in the proof of causality gained from longitudinal data than is warranted. When an event at Time 1 is correlated with an event at Time 2, this does not mean that the event at Time 1 caused the event at Time 2. In fact, it has been recognized for centuries that a common logical fallacy is *post hoc, ergo propter hoc* (i.e., the belief that when one event occurs after another event, the second event must have been caused by the first). Longitudinal data can be helpful in discerning causal relationships, but even when a relationship is found between variables at Time 1 and Time 2, the validity of a causal claim depends on how the variables were measured and the strength of the argument purporting to connect them.

In the case of longitudinal research on smoking initiation, the variables proffered to show evidence of peer influence are often weak. As in the correlational studies, the questions typically address not peer influence but simply incidence: how many of your friends smoke, does your best friend smoke, and the like. Not only do these variables fail to measure peer influence, but the false consensus effect operates here as in correlational studies. That is, adolescents typically are asked to report the smoking behavior of themselves as well as their friends, and they tend to exaggerate the similarity between their friends' smoking behavior and their own. For example, Fisher and Bauman (1988) studied adolescents from eighth grade (Time 1) to ninth grade (Time 2). They found that when adolescents' reports of their friends' smoking behavior were used, nonsmoking adolescents with a smoking friend at Time 1 were more likely to begin smoking by Time 2. However, when the friends' own reports of their smoking behavior was used, no relationship was found. Similar results were reported by Urberg and Shyu (1990). Thus, adolescents may not be reliable reporters of their friends' smoking behavior, and this problem exists in longitudinal studies no less than in correlational studies when only adolescents' reports of friends' smoking behavior are used.

Nor do longitudinal data escape the problem of selective association that afflicts correlational data. There is, certainly, a widespread belief about longitudinal data, that by assessing adolescents' friendships before they begin smoking, it is possible to show that the ones who take up smoking in the future already had friends who smoked, thus demonstrating that smoking initiation was "caused" by having a friend who already smoked. But this assumption ignores the fact that friends who become similar over time in their smoking behavior are likely to share not only that similarity but many other similarities related to smoking behavior. Thus, the adolescent who did not smoke at Time 1 but had a smoking friend may have shared numerous characteristics with the smoking friend that made the adolescent at risk for smoking initiation, irrespective of the friend's smoking behavior. As noted above, the similarities between adolescent friends typically include socioeconomic status (SES), ethnicity, academic achievement, and various personality variables. Longitudinal studies claiming to show evidence of peer influence in adolescent smoking initiation would be more persuasive if they controlled for these characteristics and could show that having a friend who smoked significantly predicted the adolescent's future smoking behavior over and above the influence of the other similarities the friends had in common (Fergusson, Lynskey, & Horwood, 1995; Quinton, Pickles, Maughan, &

Rutter, 1993). Unfortunately, they rarely do. The longitudinal design alone is presumed to be sufficient to demonstrate the causal influence of peers.

INSIGHTS INTO THE PEER CONTEXT: QUALITATIVE STUDIES

Although the correlational and longitudinal studies most often proffered to support the claim of peer influence in adolescent smoking initiation fail to make that case persuasively, a number of extant studies provide more valid insights into the peer context of smoking initiation. For the most part, these are qualitative studies that present adolescents' own accounts of the complex, limited, and in some respects surprising role that peers play. I will describe several of what I believe to be the most important studies in some detail. The studies are highly consistent in finding that direct peer influence to smoke rarely occurs; in fact, peer pressure not to smoke is more common and more vehement. However, the peer context does play a subtle role in smoking initiation, by providing a setting where smoking behavior is acceptable and by providing a motive for their nonsmoking friends to begin smoking in the belief that this will enhance their social acceptance by their smoking friends.

Alexander, Allen, Crawford, and McCormick (1999) obtained qualitative data from individual interviews and focus groups with more than 300 13- to 19-year-olds in which the participants were asked to recall the circumstances of their smoking initiation. The authors concluded that "very few of the teens described instances of peer pressure in their smoking narratives. For the most part, adolescents described social interactions in which exposure to friends who smoked coupled with a desire for acceptability provided the impetus to try" (p. 249). In the rare instances where direct coercion was reported, it took place among males as a challenge to their manhood aspirations (i.e., they were ridiculed as being less than manly if they were reluctant to smoke). More common, the role played by peers was indirect and subtle. Adolescents often reported that they began smoking to be more accepted by their smoking friends, even though their smoking friends had done nothing to suggest that social acceptance would be enhanced if the adolescent joined them in beginning to smoke.

Denscombe (2001) conducted focus group interviews with 123 15- to 16-year-olds, plus pair interviews with 20 of the adolescents. All of the adolescents were aware of the idea that smoking is prompted primarily by peer influence. As the author observed, "The notion of 'peer group pressure,' it seemed, had permeated into common parlance and it was often introduced unprompted into the discussion by the young people themselves" (p. 15). However, this does not mean they believed that this notion is valid. On the contrary, "the overall tenor of the responses was critical of the thesis" (p. 16). Their skepticism was derived from a belief that the peer pressure thesis is simplistic and overstates how easily they would capitulate to pressure from friends. "Time and again, the young people were at pains to argue that they were free agents and that no one forced them to do things they did not want to do" (p. 18). They vigorously defended their independence and freedom of choice to smoke or not to smoke. Moreover, they believed that direct pressure to conform in smoking or any other behavior would violate the mutual respect that is at the heart of their view of friendship, and thus could be the basis for the dissolution of a friendship.

They stated that peer influence to smoke rarely exists in any case, except in the milder form of wanting to fit in with a group of friends who already smoked; it was self-initiated, then, not a response to the threat of exclusion. Furthermore, they believed that nonsmokers who were friends with smokers willingly placed themselves in a social position where smoking would be more likely. Peer influence to smoke could take place only where the adolescent already had the inclination to begin smoking. As one adolescent observed, "If they fell in line with the group, it was because they wanted to. If they accepted the offer of a cigarette it was because they were 'up for it' in any case" (p. 25).

A distinctive result of the Denscombe (2001) study is that the adolescents emphasized the fluidity of their peer groups. Not only do these groups change over time, but most adolescents have several groups they are part of. As a consequence, they could hang out with smoking friends if or when they wanted to smoke, but not at other times. This means that if they were pressured and wanted to avoid it, they could just avoid that particular peer group and spend time with their other groups instead; it would not mean becoming friendless. The author observed that the adolescents "did not regard themselves as belonging to a peer group but as belonging to a variety of peer groups. The 'pressure to conformity' which any one peer group could exert, therefore, is likely to be diluted" (p. 24). This finding fits well with research on adolescents' views of peer crowds (Iannotti & Bush, 1992), which reports that adolescents tend to see themselves as having a variety of groups of friends, not just one.

Lucas and Lloyd (1999) conducted 13 focus groups with 13-year-old girls, two to six in each group, to explore the circumstances of smoking initiation. There were three types of focus groups: nonsmokers, experimental smokers, and regular smokers. The strength of peer pressure was far greater against smoking than toward it. Within groups of nonsmoking friends, there was a clear demand for conformity to a nonsmoking norm. The nonsmoking girls "reported that they would react very unfavorably to a group member who started to smoke. . . . Most girls from the never-smoked groups agreed that if a girl took up smoking, she would almost inevitably leave their group to join other smokers. They explained this as a consequence of the girl's behavior which was not part of the identity of their group, and which could not be tolerated" (pp. 651-652).

Among experimental smokers, there were three common elements in their accounts of the circumstances of their smoking initiation: (a) an instigator, often an older person, who was known to the new smoker but not always among her closest friends; (b) a sense of place, for example, going outside for the purpose of smoking, which gave the event the quality of a ritual or initiation, especially because the first cigarette was often passed around to each member of the group; and (c) claims by smokers that one cigarette would not be harmful, that there was no need to worry about becoming addicted, and that smoking is pleasant once you get used to it. But direct pressure to smoke did not occur; in contrast, "Nonsmoking friends put pressure on the new smoker not to smoke, as smoking represented a threat to the integrity of the group" (p. 653).

The regular smokers recalled three phases in their smoking careers: (a) Initiation, in which some reported being driven by curiosity, whereas "others described being pressured into smoking by a friendship group of smokers" (p. 654). There was less of a role for an instigator than the experimental smokers described, but a similar sense of place. (b) Experimental smoking. The regular smokers reported difficulty saying no to offers of cigarettes after they had been seen smoking, because others now ascribed a social identity to them as a smoker. Also, after an initial period, they got used to smoking and relied on it for

something to do when bored. (c) Regular smoking. They kept smoking "experimentally" until one day they realized they were addicted. There was little role of peers in this last phase, in contrast to the two previous phases.

Nichter and colleagues (1997) conducted a study of 205 16- to 17-year-old girls that included ethnographic interviews, focus groups, telephone interviews, and surveys. In response to the survey question, "I started smoking because . . ." the most common responses were stress (49%) and relaxation (47%); 40% said they started smoking because friends smoked, and a best friend was far more likely to smoke among smokers than among nonsmokers.

Although 40% responded on the survey that they began smoking because their friends smoked, the qualitative data showed the complexity of the friends' role. Peer influence was almost never overt, and "when asked if there was *pressure* from friends to smoke, most girls denied that they had ever actually experienced peer pressure to try a cigarette" (p. 291). Instead, peer smoking provided a social context that sometimes motivated smoking initiation as part of a desire to join in what others in the group were doing: "Rather than feeling pressure from others, they may experience internal pressure to behave as others around them do" (p. 290). Also, occasional smoking led to girls being identified by friends as a smoker, which led to further offers of cigarettes and expectations that the offer would be accepted. However, as in the Denscombe (2001) study, the girls generally rejected peer pressure as an explanation for their behavior because they fiercely defended their independence.

To say that it was "just something I wanted to do" or "I just felt like doing it when I was around my friends" was different than saying there was peer pressure. Using the term "peer pressure" might imply that the girl had succumbed to her friends or that her decision to smoke was not entirely her own. Denying peer pressure may have served as an affirmation of her own agency. (p. 294)

The author concluded that "The term 'peer pressure' is often reified and discussed as if it were a social fact exerting a constant force in the life of teenagers . . . when, in fact, social influences may be subtle and are experienced in a variety of ways depending on the context and the individuals involved" (p. 290).

In a study by Hahn and colleagues (1990), 320 adolescents aged 11 to 18 were interviewed about their first and most recent smoking episodes. Those who had never smoked were given a "nonsmoker interview" on smoking-related topics. Consistent with other studies, the majority of smokers were with close friends the first time they smoked—only 7% were alone—and 54% smoked in response to a suggestion from others. However, nearly as many (43%) said they asked for a cigarette on this first occasion, rather than having smoking suggested to them. Also, the most common reason for first smoking was "curiosity." Only 13% said their motivation was "to fit in with the group," and only 10% said, "I was pushed into it."

In sum, qualitative studies that describe adolescents' accounts of the circumstances of smoking initiation do not support the claim that peer influence plays a primary, central role in their smoking initiation. Direct peer pressure is rare, and when it occurs it is often rejected as a violation of the principles of friendship and as an infringement of the adolescent's independence and freedom of choice. Nor does peer influence often occur as a simple direction of effects from peers to the adolescent. On the contrary, the role of the peer context in smoking initiation is subtle, complex, and indirect and begins not with peers but with adolescents' choices of their peer friendship groups.

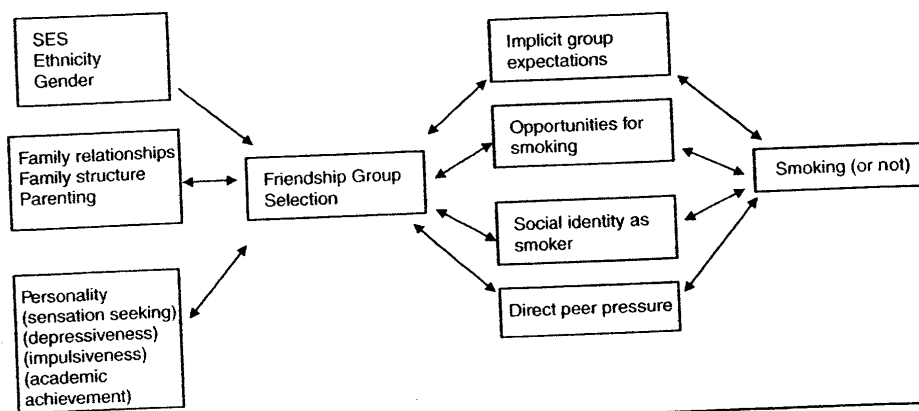


Figure 1. A model of the role of peers in smoking initiation.

A NEW MODEL

Although I have sought to demonstrate in the previous sections that widely held beliefs about the primacy of peer influence in adolescent smoking initiation are exaggerated, to say that peer influence is a myth does not mean that there is no role whatsoever for peers in adolescent smoking initiation. Even myths are sometimes built around a grain of truth; what makes them myths is that they become so exaggerated and embellished that they are no longer based in fact. In this section, I present a new model for understanding the role of peers in adolescent smoking initiation.

The flow of the model (Figure 1) is from left to right. On the far left is where friendship selection and smoking initiation begin, in the factors that contribute to both. This row is not meant to present a comprehensive list of the factors involved in smoking initiation. Rather, it presents the factors that are involved in both friendship selection and subsequent smoking initiation. The top box in the row contains the demographic characteristics of SES, ethnicity, and gender. The next box down contains a variety of family characteristics, including quality of family relationships, family structure (single parent, divorced, nondivorced, stepfamily), and parenting behavior (e.g., parental monitoring). The bottom box contains personality characteristics, including sensation seeking, impulsiveness, and depressiveness. For each of the boxes, the variables in the boxes are intended to be representative but not exhaustive. These are the factors that are most important as common contributors to both adolescent friendships and smoking initiation, in my judgment; others may have additional variables they would add.

The next box in the sequence is friendship group selection. All the factors on the far left lead directly to this box. The direction of influence is mainly from left to right. However, arrows also go in the return direction for all but the demographic characteristics. Adolescents' friendship selection does not influence their ethnicity or gender or their family SES, but it may influence their family relationships and their personalities.

Friendship selection leads to the crucial stage in the model, representing the peer context of adolescent smoking initiation. This stage has four aspects. First, at the top, is implicit group expectations (i.e., normative behavior within the friendship group). Adolescents may be motivated to smoke in order to conform to the behavior modeled by others in the friendship group they have chosen. Second is opportunities for smoking provided by the friends. Adolescents who are at risk for smoking may be tipped over to actual

smoking behavior by having friends who are smoking and who clearly have cigarettes available and may offer one. Third is social identity as a smoker. Once adolescents have tried smoking, their friends may believe they have decided to become a "smoker" and may offer cigarettes in the assumption that they would welcome the offer. Finally, direct peer pressure does occasionally take place, although rarely.

The arrows representing direction of effects go in both directions at this stage of the model. The friends adolescents select determine the extent to which they will be exposed to the various aspects of the peer context for smoking. In turn, adolescents' responses to the peer context influence the kinds of friends they will have. Adolescents may respond to peer pressure to smoke by ending the friendship. Adolescents who develop a social identity as a smoker may find that nonsmokers avoid forming friendships with them.

The most important feature of the model is that friendship selection is a prerequisite for all the peer context variables. None of the peer context variables can influence adolescents to smoke unless they place themselves, through friendship selection, in a peer context with adolescents who smoke or who are at risk for smoking.

Last in the sequence comes smoking behavior. Here, too, the arrows go in both directions. The peer context variables influence whether adolescents will smoke or not. In turn, adolescents' decisions of whether or not to smoke influence the peer context to which they will be exposed.

In sum, the new model proposed here goes beyond the myth of peer influence to promote a more complex understanding of the role of the peer context in adolescent smoking initiation. Once the simplified view of peer influence is understood to be a myth, the door is opened to an understanding of peers and smoking initiation that will be truer to what adolescents experience.

IMPLICATIONS FOR PRACTITIONERS

The analysis presented here has important implications for health practitioners, especially those involved in the design and implementation of programs to prevent smoking and other health risk behaviors. Due to widespread belief in the myth of peer influence, most smoking prevention programs focus on teaching adolescents social resistance skills so that they will be less susceptible to it (Lantz et al., 2000). For example, the most widely applied substance use prevention program, Drug Abuse Resistance Education (D.A.R.E.), explicitly focuses on peer pressure as the purported cause of substance use initiation and teaches children and adolescents how to deflect their peers' attempts to apply such pressure (Hansen & McNeal, 1997). However, the results of D.A.R.E. and other smoking prevention programs that focus on peer pressure have been disappointing (Ennett, Tobler, Ringwalt, & Flewelling, 1994; Peterson, Kealey, Mann, Marek, & Sarason, 2000). Generally, the effects of such programs are modest at best. By focusing on a form of peer influence that few adolescents experience, the programs fail to address the motivations and issues that are most important in adolescent smoking initiation.

To develop more effective smoking prevention programs, it will be necessary to reconceptualize the role of peers to take into account the subtlety and complexity of that role. In addition, effective smoking prevention programs must address multiple factors that contribute to adolescent smoking initiation, including not only peers but health lifestyle (e.g., physical activity, diet), life skills (e.g., stress management and coping skills), and risk perceptions (Dino et al., 2001; Horn, Dino, Kalsekar, & Mody, 2005). Furthermore, the role of billions of dollars per year of cigarette advertising and promotion of

smoking initiation must be addressed with program components that teach adolescents how to analyze and deconstruct the allure of the advertisements (Farrelly et al., 2002; Hersey et al., 2003). Once the myth of peer influence is diminished, perhaps a greater place will be given in prevention programs to the other factors that contribute to smoking initiation.

CONCLUSION

Given the weakness of the peer influence myth when it is examined closely, it is perhaps surprising that it has gained such widespread acceptance among such a wide range of audiences, from tobacco researchers to the general public to the tobacco industry. Of course, it is understandable that the tobacco industry would be interested in promoting the myth of peer influence, because belief in that myth helps deflect attention from the way their advertising and promotion practices target youth and enhance the appeal of smoking in the eyes of youth (Arnett, 2001; Cummings, 2002; Pollay, 1997). The same Tobacco Institute (1990) publication described in the introduction to this article, which warned parents that "peer pressure" may provoke children with a "temptation to experiment" with cigarettes, was silent on the temptations offered by cigarette advertisements depicting smokers as young, fun-loving, good-looking, and popular.

However, tobacco researchers should reexamine their beliefs and assertions about the role of peer influence in adolescent smoking. Researchers should avoid using the term *peer influence* when presenting data from correlational or longitudinal studies of the kind I have described here (i.e., studies that simply find a relation between the reported smoking behavior of adolescents and their friends). Studies seeking to explore the degree of contribution made by peers to adolescent smoking initiation should take into account all the background factors that contribute to adolescent friendships, as in the model I have presented, and then see if there is anything explained by adolescents' friendships above and beyond these factors. More attention should be given to the social processes operating in the peer context, rather than making assumptions about those processes on the basis of a correlation in smoking behavior between adolescents and their friends.

A more valid understanding of the sources of smoking initiation is crucial for the development of more effective interventions to prevent smoking. The exaggerated role attributed to peer influence has resulted in a focus on peer pressure in prevention programs. Despite the ineffectiveness of such programs, researchers presenting results from correlational and longitudinal studies of the kind described above frequently conclude with an exhortation to focus on the influence of peers in prevention programs (Maxwell, 2002; Rose et al., 1999; Wills & Cleary, 1999). However, the more complex model presented here suggests that this focus should be reconceptualized and broadened so that the peer context is recognized. Programs should address the range of factors that lead to the friendship selection that provides the peer context for smoking initiation.

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