

# Implications of the Normative Fallacy in Young Adult Smokers Aged 19–24 Years

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We used a random-digit-dialed survey of 434 smokers to demonstrate that approximately three quarters of young adult (aged 19–24 years) smokers overestimated by 20% or more the proportion of their peers who smoked. The effect of this normative fallacy was significantly greater in young adult smokers than in smokers aged 25 years or older. Because of the strength of this false consensus effect in young adult smokers, normative feedback interventions might be especially effective in this age group. (*Am J Public Health*. 2007;97:1399–1400. doi:10.2105/AJPH.2006.101071)

Considerable attention has been focused on the false consensus effect among high school students, that is, the overestimation of the number of one's peers who smoke cigarettes.<sup>1–7</sup> This normative fallacy has been identified as a predictor of smoking and as a target mechanism for intervention. Interventions that incorporate normative feedback are theorized to be effective because normative feedback acts as a powerful source of social comparison that motivates smokers to reevaluate their use of cigarettes.<sup>6</sup>

What of young adults? For alcohol, normative feedback interventions in college-aged students have been found to consistently reduce the prevalence of problem drinking (e.g., heavy drinking occasions, negative consequences of drinking).<sup>8,9</sup> These interventions are thought to be especially effective in this age group because many young adults who drink heavily believe that their peers drink more than their peers actually do. Is the same true for smoking? Are young adults more likely to overestimate the proportion of their

peers who smoke as compared with the rest of the adult population? To answer these questions, we compared young adult smokers' perceptions of how many people their age and gender smoked to the actual prevalence of smoking in this age group.

## METHODS

We conducted a random-digit-dialed telephone survey among a representative sample of 434 daily smokers aged 19 years or older in Ontario, Canada (the legal smoking age in Ontario is 19). Our survey had a response rate of 77% (i.e., of households who acknowledged having a smoker in residence, 77% agreed to participate). As part of this survey, respondents were asked, "What percentage of people your age and sex do you think smoke cigarettes?" Data generated from a population survey conducted within a year of this telephone survey, the 2004 Canadian Tobacco Use Monitoring Survey (CTUMS),<sup>10</sup> was used to compare the actual prevalence of smoking to the respondents' answers. Because smoking prevalence varies by age and gender, respondents' estimates of the prevalence of smoking were compared with the actual level of smoking reported on the CTUMS by age and gender (age groups: 19–20, 21–22, 23–24, 25–29, up to the age of 65 or older in 5-year groupings). Our findings are presented as weighted values.

## RESULTS

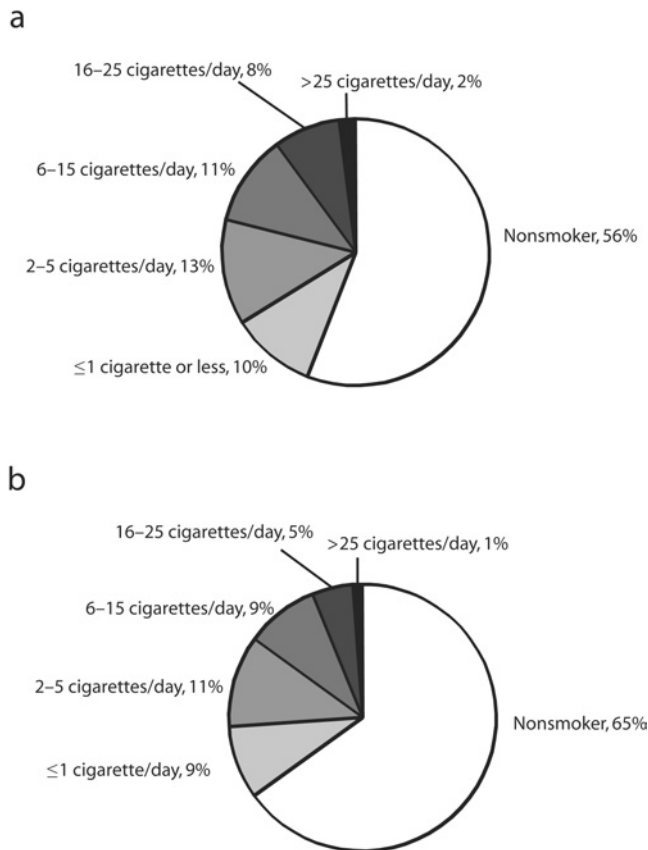
More than half of the smokers (53%), regardless of their age, overestimated by 20% or more the proportion of people their own age and gender who smoked compared with the actual prevalence rates determined by the CTUMS. However, younger smokers were more likely to overestimate the smoking prevalence of their peers. Almost three quarters (71%) of smokers aged 19 to 24 years, as compared with half (51%) of smokers aged 25 years or older, overestimated the prevalence of smoking in their own age–gender group by 20% or more ( $P<.02$ ). Not only did more young smokers overestimate the prevalence of smoking by their peers, they also overestimated to a greater degree than did older smokers. That is, young smokers overestimated the prevalence of smoking by their

peers by an average of 30.4% (SD=23.1) whereas smokers older than age 25 years overestimated by 22.8% (22.0;  $P<.04$ ).

## DISCUSSION

We found that many smokers overestimated the number of people their age and gender who smoke. This was especially true in young smokers where almost one third more respondents overestimated the actual prevalence of smoking by 20% or more, as compared with smokers aged 25 years or older. It is unclear why young adults overestimate the actual prevalence of smoking compared with older adults. One possibility is that the actual prevalence of smoking is higher in young adults as compared with those who are aged 25 years or older. Although we addressed this difference in prevalence rates by calculating the degree of overestimation in different age groups, this attempt to control for difference in actual prevalence cannot control for differences in perceptions. That is, when the actual prevalence of smoking (including occasional smokers) among people their own age is 40% (those aged 18–25 years<sup>11</sup>) as compared with 24% (those older than 25 years), the extent to which respondents overestimate smoking might be proportionally higher simply because there always seems to be someone around who is smoking. Other potential factors that might influence the degree of overestimation could include educational level, economic status, or other sociodemographic factors. A limitation of this study was that the sample size, although robust, was not sufficient to explore the interrelation of the normative fallacy, age of respondents, and other demographic factors.

Materials incorporating normative feedback directed at correcting perceptions of the prevalence of smoking have been found to promote tobacco cessation.<sup>12,13</sup> The implication of the strength of the effect of this normative fallacy among young smokers is that, just as with heavy drinkers, normative feedback interventions might be an especially fruitful intervention in this age group. For example, Figure 1 displays a graphic of prevalence data from a recent US population survey<sup>11</sup> that could be used to help correct this normative fallacy and, in doing so, motivate young adult smokers to quit smoking. ■



Source. From reference 11.

**FIGURE 1—Example of a normative feedback graphic for use with young adult smokers showing actual smoking rates of young adult smokers aged 25–29 years for (a) men and (b) women.**

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### Contributors

Both authors were involved in the conceptualization and conduct of this study and in writing the article. J.A. Cunningham was responsible for conducting the analyses.

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### Human Participant Protection

This study was approved by the standing institutional review board of the Centre for Addiction and Mental Health.

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