Accuracy and optimism in smokers’ beliefs about quitting

Neil D. Weinstein, Paul Slovic, Ginger Gibson

[Received 14 October 2003; accepted 5 March 2004]

Data collected in two nationwide surveys (N=361 and N=788) provide insight into the extent to which smokers recognize the ease of addiction and the difficulty of quitting. Smokers generally acknowledge that addiction occurs quickly and that smokers have considerable difficulty quitting. Youth smokers, however, generally believe that they would have less difficulty than other smokers and that they are less addicted than the average smoker. Adult smokers tend to say they are not different from other smokers in addiction or ability to quit. Nevertheless, both youth and adult smokers who want to quit greatly overestimate the likelihood that they will succeed in the coming year. Few smokers think about how long they will smoke when they first begin, and the reluctance to believe that they could have serious difficulty quitting may help in the progression from experimental to established smoker.

Introduction

Cigarette smoking is influenced by a host of factors. Among these are the images of smoking created by advertising, the desire to rebel against adult authority, the examples of peers, the desire to lose weight, and the addictiveness of nicotine (Jacobson et al., 2001; U.S. Department of Health and Human Services, 1994). Less clear is the role risk perceptions play in smoking. Educational programs that focus on the severe potential health consequences of smoking have had mixed success in preventing smoking. This situation leads us to ask why the threat from the largest and most preventable single cause of serious illness and mortality in Western society is not more effective in deterring smoking.

One possible explanation is that many consequences of smoking are too far in the future to be influential (Slovic, 2000). Reflecting this idea, some prevention programs have focused on short-term outcomes, such as yellowed teeth and shortness of breath. Necessarily emphasizing smoking effects that are not severe, this approach has not proved notably more effective. A second possible explanation is that smokers deny the risks. Although most smokers agree that smoking is harmful and can lead to fatal illnesses, they rate the risks as considerably less severe than do nonsmokers and tend to believe that their own risks are less than those of other smokers (Weinstein, 1999).

A third possibility is that people know little about the illnesses caused by smoking, making the illnesses little more than empty labels. Recent research has shown that smokers can, on average, cite only two illnesses caused by smoking, seldom mention cardiovascular disease, and underestimate the severity of both lung cancer and emphysema (Weinstein, Slovic, Gibson, & Waters, 2004).

A fourth explanation for the apparent disconnect between risk and behavior is that new and continuing smokers fail to take the risks seriously because they do not expect to smoke very long (Slovic, 2001). Supporting this perspective, Jarvis, McIntyre, and Bates (2002) showed that current smokers in Britain substantially underestimate the likelihood that they will still be smoking in the future. Arnett’s (2000) data showed that smokers’ optimism about their own quitting is quite different from their more pessimistic views about other smokers. He reported that 71% of adolescent smokers in his study and 81% of adult smokers agreed that “Most people who smoke for a few years become addicted and can’t stop.”
Nevertheless, many of these same smokers—50% of the adolescents and 48% of the adults—believed that “I could smoke for a few years and then quit if I wanted to.” Prospective data support the idea that optimism about the ability to quit after experimenting with smoking encourages heavier smoking. Choi, Harris, Okuyemi, and Ahluwalia (2003) found that 12–18 year olds who were occasional smokers were almost twice as likely to have progressed toward becoming established smokers when contacted 4 years later if they had agreed initially that short-term smoking is not harmful and that they could quit anytime they wanted.

The present article provides a more comprehensive picture of what smokers believe about the ease of addiction and the difficulty of quitting. It also examines the ways that these beliefs are related to the individual’s own smoking history. The data reported here come from two surveys in the United States, each of which included substantial numbers of youth and adult smokers.

Method

The surveys from which the present data come have been described elsewhere (Jamieson & Romer, 2001; Weinstein et al., 2004). Here we provide only a brief overview plus the wording of the questions relevant to the current report.

Subjects

Data were collected over the telephone in two separate surveys. One survey was supported by the Robert Wood Johnson Substance Abuse Policy Research Program (RWJ), the other by the Annenberg School of Communication at the University of Pennsylvania (ANN). In both surveys, the adult samples were obtained by random-digit dialing of exchanges within the 50 United States. The ANN survey used this same approach to reach youth smokers (defined as those aged 14–22 years). The RWJ youth sample was obtained by calling at random to households in a national sample of listed telephone numbers that had been preidentified as containing a person aged 15–19 years.

For adults (aged 20 years or older in the RWJ survey; 23 years or older in the ANN survey), a smoker was defined as someone who smoked any cigarettes in the past 30 days and smoked at least 100 cigarettes in his or her lifetime. For youth, a smoker was someone who had smoked any cigarettes in the past 30 days.

Survey instrument

Addiction questions. “If a teenager starts smoking half a pack of cigarettes a day, how long do you think it takes for them to show signs of nicotine addiction: a few days, a few weeks, a few months, about a year, more than a year, or that they would never show signs of nicotine addiction?” (RWJ). “Do you consider yourself addicted to cigarettes?” (RWJ and ANN). Addiction was coded as 0 for “no” answers or 1 for “yes” answers. “Compared to the average smoker, would you say that you are more addicted to cigarettes, less addicted to cigarettes, or about the same?” (RWJ and ANN).

Quitting questions. “The longer you smoke, the harder it is to quit?” (Agree or disagree; RWJ). Difficulty for others: “In your opinion, once someone has been smoking half a pack of cigarettes a day for several years, how easy is it for them to quit and never smoke again: easy, and most people can do it without much trouble; hard, but most people can do it if they really try; very hard, and most cannot do it; almost impossible, and only a few will be able to do it?” (RWJ). “I would like you to imagine ten people your age who smoke a pack of cigarettes a day. All ten of these people say that they would like to quit in the next five years. How many of them do you think would actually quit permanently in the next five years?” (ANN). Difficulty for oneself: “If you wanted to, how easy would it be for you to quit and never smoke again: easy, and I can do can do it without much trouble [1]; hard, but I could do it if I really tried [2]; very hard, and I might not be able to do it [3]; almost impossible [4].” (RWJ). “In your opinion, if you were to smoke a pack of cigarettes a day, how easy would it be for you to quit and never smoke again: very easy, you could quit with no trouble [1]; hard, but you could do it if you really tried [2]; very hard, you don’t know that you could do it [3]; almost impossible, you doubt that you could do it [4]?” (ANN). Comparison to other smokers: “Compared to the average smoker, do you think that you could quit smoking more easily, less easily, or about as easily?” (ANN). Success in quitting: “If we called you again in a year, would you guess that you would have successfully quit smoking?” (RWJ: asked of people who want to quit and have tried in the past; ANN: asked of people who want to quit in the next year). Responses were coded as 0 for “no” or “don’t know” or 1 for “yes.” Interest in quitting: “Would you say that you are not sure if you want to quit, that you don’t want to quit, or that you do want to quit?” (RWJ). “Do you plan to quit smoking?” (ANN).
Smoking questions. “When you first started smoking, how long did you think you would continue to smoke: a few days, a few months, less than a year, one to five years, or didn’t you think about it?” (ANN). “How many cigarettes did you smoke in a typical day during the last month?” (RWJ and ANN). “How old were you when you first started smoking cigarettes fairly regularly?” (RWJ). “How long have you smoked: for a few months or less, for about a year, for one to five years, or for more than five years?” (ANN). “About how many times, if any, have you made a serious attempt to quit smoking?” (RWJ). “About how many times, if any, have you tried to quit smoking?” (ANN).

Results

Sample

Sample sizes and characteristics are listed in Table 1. In the analyses that follow, we retained the age groupings used in the original surveys; the young smokers ranged in age from 15 to 19 years in the RWJ survey and from 14 to 22 years in the ANN survey.

Initial smoking expectations

Adopting smoking as a permanent habit was not on the minds of these respondents when they first began to smoke. Among youth smokers, 24% said they expected to smoke for a year or less, 10% said 1–5 years, and 61% said they had never thought about it; only 5% said they expected to smoke longer than 5 years (ANN). The corresponding figures for adult smokers were as follows: less than 1 year, 12%; 1–5 years, 5%; never thought about it, 76%; and longer than 5 years, 7%.

Addiction

An overwhelming proportion of 96% of both youth and adult smokers agreed with the statement “The longer you smoke, the harder it is to quit” (RWJ). Most also agreed that signs of addiction appear very quickly if a teenager starts smoking half a pack of cigarettes a day: 80% of youths and 79% of adults said that signs appeared in a few months or less (RWJ).

Respondents did not appear reluctant to say they were addicted. Most adult smokers and about half the youth smokers classified themselves as addicted (RWJ: 46% of youths and 84% of adults; ANN: 59% of youths and 77% of adults). Despite this recognition of addiction, many smokers, especially youths, tended to claim they were less addicted than the average smoker (Table 2). Few youths or adults said they are more addicted than average.

Quitting

Few respondents asserted that other smokers find it easy to quit. As shown in Table 3, about half of youth and adult smokers (RWJ) agreed that quitting is so difficult that most smokers cannot do it (responses of “very hard” or “almost impossible”). In the ANN survey, respondents were asked, out of 10 pack-a-day smokers who wanted to quit, how many would have quit permanently in the next 5 years. Youth estimates averaged 3.2, and adult estimates averaged 3.3 (ANN).

When respondents were asked how difficult they would find it to quit (see Table 3), young smokers in the RWJ study were quite optimistic, with 43% saying that it would be easy; by contrast, only 11% of adults thought they would find it easy. Looking just at daily smokers, we found that 28% of youths and 10% of adults said it would be easy for them to quit. In the ANN data, with a slightly different question, only 13% of youths said it would be very easy for them to quit; 7% of adults made the same claim. The

### Table 1. Sample characteristics.

<table>
<thead>
<tr>
<th></th>
<th>Robert Wood Johnson survey</th>
<th>Annenberg survey</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Youth (n = 191)</td>
<td>Adult (n = 170)</td>
</tr>
<tr>
<td></td>
<td>Youth (n = 478)</td>
<td>Adult (n = 310)</td>
</tr>
<tr>
<td>Age in years (range)</td>
<td>17 (15–19)</td>
<td>43 (20–89)</td>
</tr>
<tr>
<td>Gender (% female)</td>
<td>49</td>
<td>66</td>
</tr>
<tr>
<td></td>
<td>50</td>
<td>51</td>
</tr>
<tr>
<td>Cigarettes per day</td>
<td>3</td>
<td>6–10</td>
</tr>
<tr>
<td></td>
<td>17</td>
<td>1–5</td>
</tr>
<tr>
<td>Years smoking</td>
<td>3</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1–5</td>
</tr>
<tr>
<td>Quit attempts</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>&gt;5</td>
</tr>
</tbody>
</table>

**Note.** *Median value*
The data reported here cannot be summarized by a simple conclusion that smokers either understand or don’t understand the difficulties of quitting. Instead, the youth and adult smokers are most accurately described as having a partial understanding of these difficulties.

### Table 3. Perceived difficulty of quitting for other smokers and for oneself (percentage).

<table>
<thead>
<tr>
<th></th>
<th>Robert Wood Johnson</th>
<th>Annenberg&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Youth</td>
<td>Adult</td>
</tr>
<tr>
<td>Others</td>
<td>Oneself</td>
<td>Others</td>
</tr>
<tr>
<td>Easy&lt;sup&gt;b&lt;/sup&gt;</td>
<td>2</td>
<td>43</td>
</tr>
<tr>
<td>Hard</td>
<td>41</td>
<td>38</td>
</tr>
<tr>
<td>Very hard</td>
<td>34</td>
<td>12</td>
</tr>
<tr>
<td>Almost impossible</td>
<td>21</td>
<td>4</td>
</tr>
</tbody>
</table>

Notes. <sup>a</sup>Expected difficulty if respondent smoked a pack of cigarettes a day. <sup>b</sup>Very easy” in Annenberg survey.

those who said it was very hard or almost impossible for others (RWJ); among those who said that no more than 2 out of 10 regular smokers would be able to quit, 81% of youths and 71% of adults predicted their own success (ANN). Similarly, expectations of success were only moderately related to the number of past failures. As seen in Table 4, even among people with 10 or more unsuccessful quit attempts, a majority expected to succeed in the next year.

Respondents’ decisions about wanting to quit were generally unrelated to the perceptions of the difficulty they would have in quitting. Correlations between the difficulty rating and stating that they planned to quit were .06, not significant, and .17 (p < .05) for RWJ youth and adult smokers, respectively; and .23 and .06 for ANN youth and adult smokers, respectively.

### Table 4. Expected quitting success by number of prior quit attempts (all ages combined; percentage expecting to have stopped smoking in next year).

<table>
<thead>
<tr>
<th>Past quit attempts</th>
<th>Study</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3–9</th>
<th>10 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Robert Wood Johnson</td>
<td>—</td>
<td>85%</td>
<td>55%</td>
<td>58%</td>
<td>57%</td>
<td>59%</td>
</tr>
<tr>
<td>Annenberg</td>
<td></td>
<td>87%</td>
<td>88%</td>
<td>79%</td>
<td>78%</td>
<td>59%</td>
</tr>
<tr>
<td>n</td>
<td></td>
<td>115</td>
<td>95</td>
<td>81</td>
<td>124</td>
<td>34</td>
</tr>
</tbody>
</table>

Smoking patterns and beliefs about quitting and addiction

To a considerable extent, beliefs about the difficulty of quitting and about addiction reflect the individual’s smoking history. As shown in Table 5, expected difficulty of quitting was positively associated with the amount smoked per day and the number of quit attempts. It was less strongly related to the duration (years) of smoking. Belief in personal addiction increased most strongly with the number of cigarettes smoked per day, but it also increased significantly with the duration of smoking and the number of failed quit attempts. Finally, expected success in the coming year was inconsistently related to the smoker’s history, with only 4 significant correlations, most weak, among 12 examined.

Discussion

The data reported here cannot be summarized by a simple conclusion that smokers either understand or don’t understand the difficulties of quitting. Instead, the youth and adult smokers are most accurately described as having a partial understanding of these difficulties.

---

Expected success in quitting

Of current RWJ smokers, 43% of youths and 40% of adults said they planned to quit in the next year. When asked if they expected to be nonsmokers a year later, 81% of these youths and 51% of these adults said they would be successful in quitting. Among ANN smokers, 64% of youths and 48% of adults said they planned to quit in the next year. Of these, 83% of youths and 78% of adults expected to succeed.

RWJ data refer to people who said they wanted to quit, and because of an interviewing error, this question was asked only of those who also said they had already tried to quit. ANN data refer only to people who said they wanted to quit within the next year. In both surveys, “don’t know” responses were considered valid and combined with answers of people who said they did not expect to succeed.

Even among those who stated that quitting was very difficult for other smokers, the great majority of youth and adult smokers said they would succeed within the next year: 61% predicted success among corresponding figures for daily smokers were 12% for youths and 5% of adults (ANN). About half of adults in both samples had serious doubts about their ability to quit (answers of “very hard” or “almost impossible”).

Comparing ratings, we found that 69% of RWJ youths rated their own difficulty lower than other smokers’ difficulty (23% gave the same rating; 8% rated their own difficulty as higher). However, only 29% of RWJ adults rated their own difficulty lower than others’ difficulty (26% rated their own difficulty higher; 45% gave the same difficulty rating for oneself and others). When asked directly to compare themselves with others, ANN youths tended to claim they would find it easier than other smokers to quit (45% said easier, 34% said same, and 22% said more difficult). ANN adults, however, were closely divided, with 33% saying it would be more difficult for them, compared with the 26% who said it would be easier (41% said same).
Table 5. Correlations between smoking beliefs and smoking patterns.

<table>
<thead>
<tr>
<th></th>
<th>Own difficulty in quitting</th>
<th>Am addicted</th>
<th>Expect to succeed in quitting</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>RWJ</td>
<td>ANN</td>
<td>RWJ</td>
</tr>
<tr>
<td>Cigarettes per day</td>
<td>.36***</td>
<td>.39***</td>
<td>.19****</td>
</tr>
<tr>
<td>Years of smoking</td>
<td>.16*</td>
<td>.22**</td>
<td>.11*</td>
</tr>
<tr>
<td>Number of quit attempts</td>
<td>.29***</td>
<td>.20***</td>
<td>.17*</td>
</tr>
</tbody>
</table>

Notes. ANN, Annenberg study; RWJ, Robert Wood Johnson study.
*p < .05; **p < .01; ***p < .001; ****p < .0001.

Perceptions of quitting

Nearly all smokers agreed that the longer one smokes the more difficult it is to quit, and a large majority agreed that signs of nicotine addiction appear in only a few months. (This does not mean, however, that they have a realistic notion of the strength of nicotine cravings.) Smokers also recognized that many regular smokers have great difficulty quitting. In the RWJ survey, about half of the respondents thought that most smokers are unable to quit; in the ANN survey, respondents estimated that only about 3 in 10 are able to quit.

For youth smokers, this recognition of the difficulty others face is not translated fully into difficulty for oneself. Youth smokers tended to think, undoubtedly with some accuracy, that they are less addicted than other smokers, and 69% of RWJ youths thought they would find it easier to quit than the average smoker. In fact, 28% of daily youth smokers thought it would be easy to quit. The majority of youth smokers claimed it would be either easy or hard but they could quit if they tried. The youths in these surveys consumed fewer cigarettes per day than adults, and they were undoubtedly correct that they would find it easier to quit than the “average smoker” or “other smokers” as long as they interpret these reference groups to be adult smokers. It is worth noting, however, that a tendency for youths to interpret information about smoking risks and the difficulty of quitting as applying more to adult smokers than to themselves would be a way to justify their continued smoking.

In contrast, adult smokers did not claim on average that they are less addicted or would find it easier to quit than the average smoker. Very few claimed they would find it easy to quit. Most said it would be hard but they could quit if they tried, or it would be very hard and they didn’t know if they could quit.

This recognition by most smokers—but excluding a substantial number of youth smokers—that quitting would take considerable effort is held simultaneously with the belief that their next quit attempt will be successful. The reality is that only 28% of teen quitters manage to stay off cigarettes for a year when they try to quit (Brick, Farrelly, & Mowery, 2000), and only 9% of adults smokers remain cigarette free for a year (Fiore et al., 2000). Nevertheless, 81%–83% of youths and 51%–78% of adults in the present surveys said that their next quit attempt will succeed.

Acknowledgment of personal addiction and ratings of expected difficulty of quitting show a measure of responsiveness to reality. Both are correlated positively with the number of cigarettes smoked a day, the duration of smoking, and the number of failed quit attempts. Still, the reluctance of many young smokers to give up the reassuring illusion that quitting will present no significant difficulty is indicated by the fact that, even among youths who had already made a serious quit attempt and failed, 32% still said it would be easy for them to quit. Furthermore, for both youths and adults, expected success in the next quit attempt showed little or no relationship to the number of cigarettes smoked or the length of time smoking, and a majority remained optimistic about their next attempt despite repeated failures to stop.

Limitations

The groups defined as youths vs. adults in the two surveys reported here had different age ranges, and the youth samples were obtained by different procedures. Also, despite concerted efforts, completion rates for the youth samples were less than 50% (Jamieson & Romer, 2001; Weinstein et al., 2004). There also were some differences in the wording of questions. Although different sampling procedures and question wordings could produce different results, the consistency between the two surveys suggests that the differences are likely to be relatively small.

Conclusion

Overall, the present findings are consistent with a phenomenon observed regularly in the study of risk perceptions: People are more willing to acknowledge that others are at risk than they are to acknowledge their own vulnerability (Weinstein & Klein, 1995). It has been difficult to overcome this unrealistic optimism about personal vulnerability (Weinstein & Klein, 1996), and the same appears true for unrealistic
optimism about quitting. Even personal experience of failure apparently has limited impact on beliefs about personal success in quitting. Optimism about quitting can be beneficial for established smokers, given that multiple quit attempts are often needed to succeed. However, such optimism can be harmful for trial smokers, diminishing the perceived risk of experimental smoking.

The present data suggest that adolescents begin smoking with little or no thought about how long they will smoke. Their reluctance to believe they will have much difficulty quitting, despite what they hear about other smokers, encourages continuing experimentation until both smoking and addiction are established (Choi et al., 2003). By this time, quitting is a greater obstacle than they ever expected.

Acknowledgments

This research was supported by the Robert Wood Johnson Substance Abuse Policy Research Program.

References


