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You did this to yourself! Stigma and blame in lung cancer

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Abstract

Respondents ($N = 224$) read 1 of 4 scenarios: a heavy smoker, a moderate smoker, an occasional smoker, or a nonsmoker diagnosed with lung cancer. Results showed that smokers with lung cancer received more blame than did nonsmokers. Nonsmokers assigned more blame to tobacco companies and cigarette advertising and made more negative attributions about lung cancer victims. Respondents high in smoking-cessation efficacy assigned more blame and negative attributions to lung cancer victims. This study suggests that lung cancer is stigmatized because of the widely held belief that it is preventable. Interventions must encourage smokers to be vigilant about their lung health, to know the symptoms of lung cancer, and to see their doctor immediately if they experience lung problems.

In spite of reductions in the prevalence of smoking and the enforcement of smoke-free environments, lung cancer remains the leading cause of cancer death in the United States (American Cancer Society [ACS], 2011). Recent statistics from the American Lung Association (2010) revealed that lung cancer accounts for nearly one third of all cancer-related deaths in the U.S., exceeding deaths from breast, colon, and prostate cancer combined. One reason for this high mortality rate is that lung cancer generally is not diagnosed until it is at an advanced stage with few options for treatment. Roughly two thirds of people diagnosed with lung cancer in 2009 died within a year, even with aggressive chemotherapy and radiation (ACS, 2011). Lung cancer mainly occurs in older people. The average age of diagnosis for lung cancer is 71 years. Only 3% of all lung cancers are found in people younger than 65 years (ACS, 2011). The negative health consequences of smoking often are not readily apparent for younger smokers.

When people learn that someone has lung cancer, often the first assumption is that this person must have been a heavy smoker (Eldridge, 2011). Similarly, when people learn that someone has liver failure, they assume the person is a heavy drinker (Liver Foundation, 2011); or when someone has AIDS, they assume this person must have been sexually promiscuous or an intravenous drug user (Cichocki, 2011). What lung cancer, liver failure, and AIDS have in common is that assumptions about what caused these conditions are inaccurate and stigmatized. In fact, not all people with lung cancer developed it from smoking, not all people with liver failure developed it from drinking, and not all AIDS victims developed it from sexual contact or drug use. While most lung cancer is caused by smoking, it is important to point out that other factors such as exposure to secondhand and thirdhand smoke; radon, asbestos, chloride, formaldehyde, and other chemical preservatives and pollutants in the atmosphere; migration of cells from a primary tumor to the lungs; and genetic predisposition can also cause lung cancer (ACS, 2011).

The present study has three goals in more fully examining whether stigma and blame are directed toward people with lung cancer. The first goal is to examine whether respondents assign blame and negative attributions to smokers who are victims of lung cancer. The second goal is to examine the extent to which blame is assigned to tobacco companies for promoting smoking. And the third goal is to examine whether blame is assigned to cigarette advertising for making smoking seem attractive.

Lung cancer, stigma, and attributions of blame

The seminal work on stigma (Goffman, 1963) defined *stigma* as a situation in which "an individual becomes discredited in the eyes of others due to a particular condition or state" (p. 3). Link and Phelan (2006) further described the discrediting behavior as manifested in blame assigned to individuals with a stigmatized condition because the common belief is that the condition was preventable, and the person must have engaged in some health risk to get the disease. Stigma is also a process of personal devaluation associated with negative stereotyping and prejudice (Dovidio, Major, & Crocker, 2000;

Smith, 2007). People who are stigmatized are subject to feelings of anger, shame, and guilt (Ablon, 2002).

One of the hallmarks of a stigmatized condition is that people who have the condition are often reluctant to disclose their situation to family, friends, and healthcare providers. Having a stigmatized condition has been shown to be disruptive to social interactions with friends and family (Chapple, Ziebland, & McPherson, 2004). An unfortunate feature of stigmatized conditions is that they often prompt people to remove themselves from meaningful communication with others who could help and support them. Behaviorally based conditions thought to be controllable have been shown to evoke less sympathy and less help-giving, compared to conditions that are not controllable (Weiner, Perry, & Magnusson, 1988).

The literature on lung cancer and smoking suggests that blame assessment for lung cancer is directed toward three targets: smokers, tobacco companies, and cigarette advertising (Mantler, Schellenberg, & Page, 2003). Ziebland, Siemiatycki, Abrahamowicz, and Leffondre (2004) reported that many lung cancer victims—whether they had been smokers or never smoked—reported experiencing stigma in public perception, physician and medical staff treatment, from friends and family members, and representations of lung cancer in the media. While lung cancer can be caused by other factors, a high percentage of all lung cancer cases are caused by smoking, which is a preventable condition (American Lung Association, 2010). People who developed their lung cancer from smoking not only endangered their own health but also exposed others to potentially deadly secondhand smoke. Thus, it is reasonable to propose the following:

Hypothesis 1. Compared to nonsmokers who get lung cancer, smokers will receive more blame for lung cancer.

Tobacco companies are similarly a target of blame for lung cancer. Campaigns to prevent adolescent smoking have depicted tobacco companies as deceitful and exploitative (Niederdeppe, Matthew, & Haviland, 2004; Trasher & Jackson, 2006). For example, early on, tobacco companies added ammonia to cigarettes to make them more addictive (Trasher & Jackson, 2006). A number of recent studies have examined internal documents turned over to the American Tobacco Legacy Foundation as part of the Master States tobacco settlement, which reveal how tobacco companies have used social alignment strategies to undermine antismoking initiatives (Appollonio & Malone, 2009). These disclosures have given tobacco companies a compromised reputation. While cigarette advertising on television is prohibited, online ads, print advertising, and direct mailing of cigarette ads and discount coupons for the purchase of cigarettes continue to make smoking seem attractive.

A number of recent tobacco control initiatives have been specifically directed at deceptive practices of tobacco companies, including questionable marketing practices in the promotion of cigarettes. These initiatives include the American Legacy Foundation Truth Campaign (1998–2002), the American Academy of Family Practitioners Tar Wars Campaign, the Campaign for Tobacco Free Kids, the Bloomberg Initiative to Reduce Tobacco Use, and, most recently, the passage of the Family Smoking Prevention and Tobacco Control Act (June 2009), which gives the Food and Drug Administration the authority to regulate manufacturing, marketing, and sale of tobacco products in the U.S.

From 1998 until the present, over 60 antismoking commercials targeting the deceptive practices of tobacco companies have been aired on MTV (Appollonio & Malone, 2009). This portrayal of the deceptive practices of tobacco companies has created a generation of young people who have learned not to trust tobacco companies. Tobacco control efforts have also required tobacco ads to show larger health warning labels on cigarette packs and to restrict where cigarette ads can appear (e.g., no billboards near schools).

In a survey of 16,000 adolescents, Hershey et al. (2005) found that respondents who smoked showed more positive attitudes toward the smoking industry than did those who did not smoke. Given the efforts of previous tobacco control initiatives (e.g., the Truth Campaign) to inform the public of tobacco industry activities, it is reasonable to predict that nonsmokers might have been persuaded not to smoke because of learned mistrust for the tobacco industry. Similarly, they may demand greater accountability from cigarette advertising, compared to smokers.

Hypothesis 2. Compared to respondents who smoke, nonsmoking respondents will assign more blame to tobacco companies for encouraging people to smoke.

Hypothesis 3. Compared to respondents who smoke, nonsmoking respondents will assign more blame to cigarette advertising for encouraging people to smoke.

During the last several years, the line between smokers and nonsmokers has been drawn more sharply in public contexts. The net result of a variety of antismoking initiatives in the U.S. has been a reduction in smoking. The nonsmokers' rights movement has pitted smokers against nonsmokers as to who will control smoke in public spaces, resulting in smoke-free campuses, malls, workplaces, restaurants, bars, and so forth: public spaces free from offensive and harmful secondhand cigarette smoke (Shanahan, Scheufele, Yang, & Hizi, 2009). In many situations, smokers have become public pariahs, confining their smoking to sidewalk strolls or the privacy of their cars. Smoking has become a stigmatized condition, not just because of the health risk, but because it is seen as an antisocial, selfish activity that pollutes other

people's airspace (Alamar & Glantz, 2006). Research has described the growing negative public sentiment against cigarette smoking in which smokers are stigmatized as social deviants (Bell, Salmon, Bowers, Bell, & McCullough, 2010; Kim & Shanahan, 2003; Stuber, Galea, & Link, 2008). Public opinion favors support of more stringent smoking regulations for banning smoking in public places (Shanahan et al., 2009).

Hypothesis 4. Compared to respondents who smoke, nonsmoking respondents will make more negative attributions about people who have lung cancer.

The link between cigarette smoking and lung cancer has been clearly established in the medical and epidemiological literatures (Moore, Augustson, Moser, & Budney, 2004; Rothman & Schwartz, 1998; Weiner et al., 1988). Smoking prevention and cessation education has been at least moderately successful in making many Americans aware of the harmful effects of smoking and exposure to secondhand smoke. Wetter et al. (2004) established that there was a connection between education and greater smoking cessation and abstinence. Given that nonsmokers have secured smoke-free environments; that they are keenly aware of the negative health effects of smoking and secondhand smoke; and that they choose not to smoke, it is reasonable to predict that, compared to smokers, nonsmokers will be more judgmental about people who get lung cancer, with the likely cause being excessive smoking.

Hypothesis 5. Awareness of the risks of smoking will be related to more blame and negative attribution for people with lung cancer.

In a formative study on stigma and attribution, Weiner et al. (1988) examined the association between negative attributions of anger and withholding pity with the controllability of the problematic disease. They found that perceived responsibility for the problematic condition and perception of risk-taking resulted in greater negative attribution and less altruism toward the victim of the condition. Awareness of the perceived cancer risk related to smoking should result in more blame and negative attribution directed toward people who have lung cancer (Vidrine, Simmons, & Brandon, 2007; Weiner et al., 1988; Weinstein, Marcus & Moser, 2005).

Controllability is a central element of stigma. When controllability over the negative effects of a disease is perceived as high, more blame and negative attribution are likely to be assigned to the person who engaged in the risky behavior of smoking (Mantler et al., 2003). The ability to stop smoking ranges across the spectrum from people who want to stop smoking and who have the self-efficacy to quit; to people with low smoking-cessation efficacy, who would benefit from encouragement and support to quit; to people who suspect they might have lung cancer, but who are in self denial and resist seeking confirmation of this suspicion. Often family members and friends have repeatedly tried to encourage their loved ones to stop smoking, with little success. *Perceived smoking-cessation efficacy* is the belief that it is possible to effectively take steps to quit smoking (Joseph, Manafi, Iakovaki, & Cooper, 2003; Van Zundert, Engels, &Van Den Eijnden, 2006). Research has suggested that those who have resisted smoking may also perceive that there are effective ways for others to quit smoking, and thus might have greater expectations related to smokers' ability to quit the behavior. These individuals with high smoking-cessation efficacy may be more likely to assign blame or to make negative attributions about smokers because they believe that available treatments (e.g., nicotine gum, nicotine patch, prescription medicine) would work if smokers adhered to the treatment. Thus, the following hypotheses are warranted:

Hypothesis 6. The perception that smoking is controllable will be related to blame and negative attribution for lung cancer victims.

Hypothesis 7. Higher perceived smoking-cessation efficacy will be related to greater assignment of blame and negative attributions toward people with lung cancer.

Method

Study population and design

A total of 224 undergraduate students (90 males, 134 females) completed this study. Participants ranged in age from 17 to 28 years ($M = 22.8$ years, $SD = 1.5$). Most participants were Euro Americans (78%), with 9% African Americans, 5% Asian Americans, and 8% who identified as "other" or multiracial ethnicity. All of the participants were enrolled in a service course that is offered at a large, public midwestern university. They received research credit for their participation in the study.

The study is based on a 2 (Smoking Status of Respondents) $\times$ 4 (Research Condition) MANOVA measuring four dependent variables: (a) blame for the smoker; (b) blame directed toward tobacco companies; (c) blame directed toward cigarette ads; and (d) negative attributions about personal judgment and willpower that respondents made about lung cancer victims. The study also measured respondents' perceptions of controllability of smoking, smoking-cessation efficacy, and perceived lung cancer risk, as these relate to blame and negative attribution.

The first part of the questionnaire included questions about demographics, smoking status, frequency and amount of smoking, and prevalence of smoking among family and friends. Respondents were then randomly assigned to one of four scenarios that described a student's father who was recently diagnosed with lung cancer and

who was undergoing chemotherapy. The scenario was exactly the same across the four conditions, except for the father's smoking status, which was manipulated such that the father was identified as a heavy smoker, moderate smoker, occasional smoker, or nonsmoker. The scenarios are included in Appendix A. Respondents then answered questions that assessed blame and negative attribution.

Measures

All items were measured using 5-point Likert-type scales ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Mean scores for each variable were calculated and then averaged for purposes of analysis. The items measuring these variables are presented in Appendix B.

Blaming the victim

Five items assessed blame directed toward the victim of lung cancer (Cronbach's $\alpha = .92$). Sample items include "This man is to blame for his lung cancer," "It is clear that this man could have prevented his cancer," and "This man brought cancer on himself."

Blaming tobacco companies

Eight items measured blame directed toward tobacco companies ($\alpha = .79$). Sample items include "Tobacco companies are to blame for encouraging people like this man to smoke," and "Tobacco companies have known for a long time that smoking causes lung cancer."

Blaming cigarette ads

Nine items measured blame directed toward advertising ($\alpha = .78$). Sample items include "Cigarette ads make smoking seem desirable," "Cigarette ads make smoking seem glamorous," and "Cigarette ads hide the truth about smoking."

Negative attributions about people with lung cancer

Five items measured negative attributions about the weakness and excessive hedonism of people who get lung cancer ($\alpha = .83$). Sample items include "People with lung cancer make bad choices," "People with lung cancer have very little willpower," and "People with lung cancer are extremely selfish."

Smoking-cessation efficacy

Smoking-cessation efficacy is conceptualized as the belief that it is possible to effectively take steps to quit smoking. Smoking-cessation efficacy was measured with nine items ($\alpha = .91$) based on the Self-Administered Nicotine Dependence Scale (Davis et al., 1994). Sample items include "Chewing nicotine gum is an effective way to quit smoking," and "If smokers use a nicotine patch, they should be able to quit smoking easily."

Controllability of smoking

Controllability of smoking is conceptualized as the recognition that people are able to control whether or not to smoke. Controllability was measured with six items ($\alpha = .89$) from previous stigma and smoking prevention studies. Sample items include "People can choose not to smoke," "Smoking is a behavior which can be controlled," and "No one makes you smoke."

Perceived lung cancer risk

Health risk to lungs was measured with seven items ($\alpha = .91$) based on the smoking risk literature (Rothman & Schwartz, 1998; Vollrath, Knoch, & Cassano, 1999; Weinstein et al., 2005). Sample items include "Lung cancer only happens to people who abuse smoking," "Young people like me are not likely to get lung cancer," "Light, occasional smoking will not harm anyone," and "I am not at high risk for lung cancer."

Results

Of the respondents, 113 identified themselves as nonsmokers who abstain completely from cigarettes in all situations. The remaining 111 respondents indicated that they smoked at least 7 to 10 cigarettes during the past week. A smaller subset of this group ($n = 22$) indicated that they were heavy smokers, smoking at least a pack of cigarettes per day. When asked about their familiarity with lung cancer, 38% of respondents said that they personally knew someone who had died from lung cancer.

Significant main effects were observed, both for research condition and respondent smoking status. There was a significant main effect for research condition, $F(3, 224) = 94.19$, $p < .001$, $\eta^2 = .08$. This effect was accounted for by significantly less blame being assigned to the condition in which the cancer victim never smoked. Respondent smoking status yielded significant main effects for negative attribution toward the victim, $F(1, 224) = 11.15$, $p < .001$, $\eta^2 = .04$; blame directed to tobacco companies, $F(1, 224) = 6.18$, $p < .05$, $\eta^2 = .01$; and blame for cigarette advertising, $F(1, 224) = 11.87$, $p < .001$, $\eta^2 = .02$. No significant interactions were observed.

As shown in Table 1, the results are consistent with Hypothesis 1, which predicted that smokers with lung cancer would receive more blame for causing their lung cancer, as compared to nonsmokers. Hypothesis 2 predicted that compared to respondents who smoked, nonsmoking respondents would assign more blame to tobacco companies for encouraging people to smoke. The data were consistent with this

Table 1 Mean Scores Comparing Smoking and Nonsmoking Respondents

	Smoking respondents		Nonsmoking respondents		*t*(222)	*p*
Blame the victim	3.19	0.96	3.25	0.96	0.43	.67
Blame tobacco companies	3.46	0.69	3.71	0.58	2.96	<.01
Blame cigarette ads	3.27	0.62	3.56	0.58	3.57	<.001
Negative attribution	2.82	0.73	3.15	0.67	3.37	<.001
Smoking-cessation efficacy	3.03	0.48	3.10	0.54	1.18	.24
Controllability of smoking	4.02	0.53	4.18	0.56	2.17	<.05
Perceived risk of lung cancer	2.46	0.65	2.50	0.77	0.48	.63

Note. Means are based on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Table 2 Multiple Regression Results for Efficacy, Control, and Risk

	Smoking-cessation efficacy		Controllability of smoking		Perceived risk for lung cancer	
	β	*p*	β	*p*	β	*p*
Blame victim	.037	.42	.191	<.01	.067	.30
Blame tobacco companies	.088	.19	.125	.06	–.113	.09
Blame cigarette ads	.021	.76	.173	<.05	–.081	.23
Negative attribution	.176	<.01	.220	<.001	–.027	.68

hypothesis, $F(1, 224) = 6.18$, $p < .05$, $\eta^2 = .01$. While tobacco companies received significantly more blame than did either the victim of lung cancer or cigarette advertising, nonsmoking respondents blamed tobacco companies significantly more than smoking respondents for lung cancer, $t(222) = 2.94$, $p < .001$.

Hypothesis 3 predicted that nonsmoking respondents would assign more blame to cigarette ads for encouraging people to smoke. The data are consistent with this hypothesis, $F(1, 224) = 11.87$, $p < .001$, $\eta^2 = .02$. Nonsmoking respondents blamed cigarette advertising significantly more for encouraging smoking than did smoking respondents, $t(222) = 3.62$, $p < .001$.

Hypothesis 4 predicted that nonsmoking respondents would make more negative attributions about the personal judgment and lack of willpower of lung cancer victims, compared to smoking respondents. The data are consistent with this hypothesis, $F(1, 224) = 11.15$, $p < .001$, $\eta^2 = .02$.

Many of the respondents (36% of respondents who were smokers and 41% of respondents who were nonsmokers) knew someone who had died from lung cancer, often a grandparent or close relative. No differences in lung cancer blame assignment were observed between smoking respondents who did or did not know someone who had died from lung cancer. When nonsmoking respondents did not know anyone who had died from lung cancer, they tended to assign more blame to the victim ($M = 3.43$, $SD = 0.90$), compared to nonsmoking respondents who knew someone who had died from lung cancer ($M = 2.97$, $SD = 1.00$), $t(111) = 2.56$, $p < .001$.

We used multiple regression analyses to assess whether perceived risk of lung cancer, perception of the controllability of smoking, and smoking-cessation efficacy would be related to blame and negative attribution. The results of the regression analyses are presented in Table 2. Hypothesis 5 predicted that greater respondent awareness of the risks of smoking would be related to more blame and negative attribution for people with lung cancer. The data do not support this hypothesis. However, this result is understandable, as the mean risk score for respondents was low for whether they smoked or not (2.46 for smokers and 2.51 for nonsmokers on a 5-point scale). Only 11% of smokers indicated any agreement that they were at risk for lung cancer.

Hypothesis 6 predicted that perception of the controllability of smoking would be related to blame and negative attribution for lung cancer victims. The data are consistent with this hypothesis. Respondents who perceived smoking as highly controllable blamed the cancer victim ($\beta = .191$, $p < .01$), blamed tobacco companies for cancer ($\beta = .125$, $p = .06$), blamed cigarette advertising for cancer ($\beta = .173$, $p < .05$), and made negative attributions about lung cancer victims ($\beta = .220$, $p < .001$).

Hypothesis 7 predicted that people with high smoking-cessation efficacy would blame the victim and also make negative attributions about lung cancer victims. This hypothesis was partially supported. While people who were high in smoking-cessation efficacy did not show more blame toward the victim, they made significant negative attributions about people with lung cancer ($\beta = .176$, $p < .001$).

Discussion

The current study investigated smoking status and its role in assigning blame to those suffering with lung cancer.

Individuals' smoking status and their knowledge of lung cancer victims' smoking status made a difference for who they held accountable for lung cancer, providing evidence to confirm that lung cancer is a stigmatized condition. More specifically, the study showed that nonsmoking respondents tended to stigmatize people with lung cancer, especially smokers who developed lung cancer, even though lung cancer is not always caused by smoking. Perhaps because nonsmokers stigmatize smoking and perceive lung cancer to be a direct result of smoking behavior, they extend stigma associated with smoking behavior to lung cancer.

Respondents who were smokers showed greater sympathy for people with lung cancer. This result can be explained insofar as respondents who smoked reported lower smoking-cessation efficacy, showed perceptions of less controllability of smoking, and made fewer negative judgments of other people with lung cancer, compared to respondents who were nonsmokers. These results suggest that smoking respondents showed less stigmatized responses toward people with lung cancer, especially other smokers. Smokers showed awareness that it is very difficult for many people like themselves to give up smoking (Chapple et al., 2004; National Institute of Drug Abuse, 2001).

Given the stigma associated with lung cancer revealed in the present study, interventions designed for prevention and diagnosis of lung cancer must encourage smokers to be vigilant about their lung health by ideally getting annual chest X-rays while they are smoking. Health messages must be focused on early detection and provide recommendations that highlight potential negative symptoms (e.g., difficulty breathing, hacking, persistent cough, heavy congestion) that indicate a need for someone to obtain screening from a healthcare professional (HCP). Previous research has shown that when smokers begin to experience possible symptoms of lung cancer, they often suspect that other people (including HCPs) will blame them for bringing negative complications of smoking on themselves, so they delay seeking treatment (Chapple et al., 2004; Corner, Hopkinson, & Roffe, 2006; Tod, Craven, & Allmark, 2008). When they finally do get a diagnosis of lung cancer, they may attempt to conceal it from friends and family, thus forfeiting needed support. Therefore, HCPs must communicate with patients about supportive resources. What's more, HCPs must be trained to understand the destructive power of stigma so that they will treat patients with lung cancer impartially and without judgment.

Appollonio and Malone (2009) provided evidence that fear-based public health campaigns both feed misconceptions about diseased conditions and possibly intensify stigmatized responses to these conditions. While these fear-appeal approaches may be well intended as prevention messages, an unintended consequence may be to increase lung cancer stigma. This is a highly problematic situation, as lung cancer is a serious and often terminal condition; and victims of lung cancer deserve sympathetic treatment, just like people afflicted with any other form of cancer. The present study demonstrates that smoking status has an impact on perceptions of blame for victims of lung cancer. Covert blame against smokers and nonsmokers with lung cancer from friends, family members, and health providers can be counterproductive; and the effects of stigmatizing smoking and lung cancer can discourage communication and help-seeking by lung cancer victims.

The study also suggests some ways in which stigma operates for other health-risk behaviors. Conditions associated with stigma (e.g., obesity, diabetes, liver failure, AIDS) are likely to pose obstacles for prevention, care of afflicted individuals, and willingness to seek treatment. In practical terms, stigma can be destructive to personal self-concept and may also result in social disadvantage and discrimination. People may be reluctant to admit to themselves that they may have engaged in personally destructive health behaviors or that symptoms they are experiencing could be linked with a stigmatized condition. This state of denial may cause them to delay seeking needed medical treatment while the condition is free to develop out of control. In many cases, early intervention could prolong health and postpone the onset of detrimental symptoms. People afflicted with stigmatized conditions may also be reluctant to disclose their health condition to people who are most able to provide them with help and support.

Understanding how stigma operates and the often paralyzing effects of stigma on individuals afflicted with these conditions can inform health advocates to craft more efficacious interventions for lung cancer, diabetes, liver failure, and AIDS, focusing on the importance of early detection and treatment. Health practitioners can be trained to understand the destructive power of stigma so that they will receive disclosures about stigmatized conditions impartially and without judgment. Health advocacy can be directed at marshalling effective social responses to call for more research of stigmatized diseases, and to obtain broader treatment for stigmatized diseases.

Limitations and future research

One limitation of the current study is that it was limited to young adults who were college students. While many smoking studies are based on college students, this study should be extended to people who are out in the workforce and to people who did not attend college. A second limitation is that the current study measured only one factor of stigmatizing behavior: attribution of blame. Other factors might also be important, including labeling, separation, and possible status loss associated with a disease (Link & Phelan, 2006).

There are many questions that remain for future research. The ACS (2011) reported that while lung cancer is an

extremely serious and often deadly disease, in 2011 there were approximately 400,000 survivors of lung cancer. Their experience with stigma might be tapped in future research on YouTube, or in other online lung cancer survivor support groups. To what extent do people with lung cancer experience stigma from others, including medical personnel who are charged with treating them? To what extent is the stigma of lung cancer an impediment to seeking treatment? What smoking cessation and prevention interventions are most effective in overcoming the stigma of lung cancer? What support systems to stop smoking have been shown to work best? Earlier research has laid some groundwork in beginning to answer these questions (e.g., Chapple et al., 2004; Kim & Shanahan, 2003; Shanahan et al., 2009; Weiner et al., 1988). Future research might investigate other aspects of stigma, such as willingness to have contact with or wanting to distance oneself from lung cancer victims.

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Appendix A

Lung Cancer Scenario

Recently, one of my students told me that her father who [(1) has been a heavy smoker since high school, (2) has been a moderate smoker since high school, (3) smoked only occasionally, (4) never smoked] was diagnosed with a malignant lung tumor. Blood tests also showed that the cancer has spread beyond the lungs. Given this advanced stage diagnosis, he is not a candidate for lung surgery. He is currently receiving chemotherapy, and the tumor has been shrinking. To what extent do you believe that her father is to blame for his cancer?

Appendix B

Items measuring assignment of blame

Blame directed toward lung cancer victim

1. This man is to blame for his cancer.
2. It is clear that this man could have prevented his cancer.
3. This man should be aware that smoking causes lung cancer.
4. This man brought lung cancer on himself.
5. This man caused his own problem.

Blame directed toward tobacco companies

1. Tobacco companies are to blame for encouraging people like this man to smoke.
2. Tobacco companies have known for a long time that smoking causes lung cancer.
3. Tobacco companies should bear no responsibility for people smoking.*
4. Tobacco companies want to hook people like this man on smoking.
5. Tobacco companies don't care that smoking is highly addictive.
6. This man is a victim of unethical tobacco companies.
7. Tobacco companies are not at fault for people smoking.*
8. Tobacco companies are not responsible for the health of the public.*

Blame directed toward cigarette ads

1. The problem is that ads make smoking seem desirable.
2. Cigarette ads minimize the health risks of smoking.
3. Ads make smoking seem like fun and glamorous.
4. Cigarette ads hide the truth about smoking.
5. Advertisers have no responsibility at all for whether people end up smoking.*
6. Health risks are never mentioned in smoking ads.
7. Ads for cigarettes should be banned.
8. Ads for smoking should be clearer about harmful effects.
9. Cigarette ads are unethical.

Negative attribution toward people with lung cancer

1. People with lung cancer make bad choices.
2. People with lung cancer have very little willpower.
3. People with lung cancer are extremely selfish.
4. People with lung cancer have poor judgment.
5. People with lung cancer are inconsiderate of others.

Smoking-cessation efficacy

1. Chewing nicotine gum is an effective way to quit smoking.

2. If smokers used nicotine gum, they should be able to quit smoking easily.
3. Using a nicotine patch is an effective way to stop smoking.
4. If smokers used a nicotine patch they should be able to quit smoking easily.
5. Prescription medicines are an effective way to stop smoking.
6. If smokers used a prescription medicine, they should be able to quit smoking easily.
7. Going "cold turkey" is an effective way to quit smoking.
8. If smokers went "cold turkey" to quit smoking, they should be able to do it easily.
9. Overall, if people have the willpower to quit smoking, they should be able to do it easily.

Controllability of smoking

1. People can choose not to smoke.
2. Smoking is a behavior which can be controlled.
3. No one makes you smoke.
4. Lung cancer is caused by bad decisions about smoking.
5. It is a personal choice to light up a cigarette or not.
6. Smokers should be able to easily figure out that smoking is bad for your health.

Perceived lung cancer risk

1. Lung cancer only happens to people who abuse smoking, not me.
2. Young people like me are not likely to get lung cancer.
3. Lung cancer only happens to people who abuse smoking, not me.
4. Light occasional smoking will not hurt anyone.
5. Other people who abuse cigarettes are more likely than me to get lung cancer.
6. Lung cancer is something that happens to someone else, not to me.
7. People like me are not at risk for getting lung cancer.

*Item is reverse-scored.