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Perceptions of smokers influence nonsmoker attitudes and preferences for interactions

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Abstract

In two studies, we examined nonsmokers' perceptions of smokers and consequences of the perceptions. In Study 1, smokers answered questions about their sense of self, dependence on smoking, and motivation to quit. Nonsmokers answered questions about their perceptions of these characteristics. Differences between smokers' self-descriptions and nonsmokers' perceptions were observed. Study 2 asked nonsmokers to judge two types of smokers for which the descriptions were based on Study 1 findings. Results showed that nonsmokers held a more negative attitude about and were less willing to engage in different close relationships with the smoker who was described in terms of nonsmokers' perceptions rather than smokers' reports. Attitude mediated the relationship between type of smoker and willingness to date a smoker.

Keywords

Smokers; Nonsmokers; Perceptions; Stigma

For decades, researchers have asked smokers to describe themselves. Thus, we know a great deal about smokers' risk perceptions, their reasons for smoking, their motivation to quit, and their general self-views (Engels, Knibbe, de Vries, & Drop, 1998; Stanton, Mahalski, McGee, & Silva, 1993; Strecher, Kreuter, & Kobrin, 1994; Weinstein, 1999). We know less, however, about how other people perceive smokers and the implications of their perceptions.

How people perceive smokers can influence both society and the individual. At the societal level, perceptions of smokers could play a major role in determining the public attitude toward smoking, which affects smoking rates. For example, Kim and Shanahan (2003) found that in states where the majority of people held strong anti-smoking attitudes (including social rejection of smokers), the smoking rate was lower. At an individual level, perceptions of individual smokers could influence people's overall images of smokers, which can affect willingness to smoke and smoking behavior. For example, a number of studies have found that positive images of the typical smoker increase the likelihood of initiating smoking (Chassin, Presson, Sherman, & Margolis, 1988; Dinh, Sarason, Peterson, & Onstad, 1995; Gerrard, Gibbons, Stock, Lune, & Cleveland, 2005) and reduce the

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likelihood of quitting smoking (Gibbons & Gerrard, 1995; Gibbons, Gerrard, Lando, & McGovern, 1991).

When exploring how people view smokers, researchers have typically assessed perceptions of smokers' personality and social traits. Tokheim, Wanzenried, and Powell (1990), for example, asked people to rate photographs of male and female smokers and nonsmokers. All participants, including those who smoked, rated smoking models as having less character and composure than nonsmoking models. In 2003, Brosh, Austin, and Chambliss asked high school and college students to read descriptions of smokers, nonsmokers, and ex-smokers and to give their impressions of the person on traits such as hostility and creativity. They found that smokers were rated least favorably, nonsmokers most favorably, and ex-smokers' ratings fell in between. More recently, Chambliss and others (2006) asked high school and university instructors and students to evaluate smokers, non-smokers, and ex-smokers on traits like intelligence, ambition, and independence. Results showed that both instructors and students perceived student smokers more negatively than student non-smokers. Other studies have also found support for negative perceptions of smokers (Dermer & Jacobsen, 1986; Lotecka & Lassleben, 1981).

In addition to perceptions of smokers' personality, studies have examined perceptions of interactions with smokers. Bleda and Sandman (1977) had nonsmokers interact separately with individual nonsmokers and smokers. Findings showed that participants recalled more positive interactions with nonsmokers than with smokers, regardless of whether the smoker smoked during the interaction. In another study, Gilbert, Hannan, and Lowe (1998) asked supervisors in two military organizations to rate their employees on a number of dimensions (e.g., job performance, dependability, working relationships). The supervisors were also asked about the smoking status of employees. Findings showed ratings were associated with perceived smoking status of the employee. Compared to non-smoking employees, smoking employees were rated as less dependable and their overall job performance was rated lower. Supervisors also reported that their interactions with smoking employees were less positive than their interactions with nonsmoking employees.

In sum, people typically perceive smokers as having negative personality and social traits, and they tend to report less positive interactions with them. But there are two problems with the research to date. First, the studies exploring perceptions of smokers have focused solely on people's perceptions of smokers' personality and social characteristics. No studies have examined perceptions of smokers' characteristics that are directly linked to the act of smoking. For example, how important do people think smoking is to a smokers' sense of self? How dependent on smoking do people perceive smokers to be? And how motivated to quit do people think smokers are? Perceptions of these characteristics are important because they may provide the foundation for the negative attributions of smokers.

A second problem with studies to date is that it is unclear whether perceptions of smokers have implications for interacting with them. For example, we presented studies above showing that a) smokers are perceived negatively, at least with respect to personality and social traits, and b) people report experiencing negative interactions with smokers compared to nonsmokers. But are the negative perceptions of smokers directly responsible for the perceptions of negative interactions? One way to test this idea is to examine whether perceptions of smokers directly influence willingness to have interactions with them.

In this paper, we report the findings from two studies that address the above questions. Study 1 examines the degree to which nonsmokers' perceptions of smokers' characteristics such as motivation to quit smoking correspond to smokers' self-reports. Study 2 tests whether nonsmokers' perceptions predict negative attitudes and other negative judgments

about smokers (related to personality) as well as willingness to have close relationships with smokers.

Study 1

Overview & Hypotheses

In Study 1, we asked smokers to report their beliefs and behaviors regarding their sense of self as a smoker, their dependence on smoking, and their motivation to quit. We asked nonsmokers to report their perceptions of these characteristics for “most college student smokers.” Only one other study, conducted over 30 years ago, has examined nonsmokers’ perceptions and smokers’ self-reports regarding these types of characteristics. Eiser, Sutton, and Wober (1977) compared smokers’ self-reports and nonsmokers’ perceptions of addiction to smoking. They found that compared to smokers’ self-reports, nonsmokers overestimated how addicted smokers were.

The general hypothesis in Study 1 was that nonsmokers would perceive smokers negatively. The hypothesis was based on earlier studies showing people attribute negative personality and social image characteristics to smokers (Brosh et al., 2003; Chambliss et al., 2006; Lotecka and Lassleben, 1981; Tokheim et al., 1990) as well as the study by Eiser et al., (1977), showing a discrepancy between smokers and nonsmokers for estimates of addiction. Our three specific hypotheses were: Compared to smokers’ self-reports, nonsmokers would perceive (1) smoking as a larger part of smokers’ sense of self, (2) smokers as more dependent on smoking, and (3) smokers as less motivated to quit.

Method

Participants—We assessed participants’ thoughts and behavior during spring and fall semesters. Participants during the spring were 100 college student smokers who were recruited in three ways. First, students were recruited using a screening questionnaire distributed to undergraduates enrolled in lower level psychology courses. The questionnaire, administered at the beginning of the semester, asked, “Which statement best describes your current use of cigarettes?” Responses were on a 4-point scale and ranged from *I have never smoked cigarettes* to *I smoke cigarettes every day*. Students who reported smoking every day were contacted by phone and invited to participate. Second, we distributed posters on campus and sign-up sheets outside the department office asking for volunteers who smoke. Third, we sent an e-mail to the University student listserv with information about the study.

¹ In exchange for participating, students received either extra credit for class or \$7.00.

Participants during the fall were 35 college student nonsmokers. They were recruited through sign-up sheets located outside the psychology department office. They received extra credit for participation.

Of the 135 total participants 60% (n=81) were female (60% of smokers; 60% of non-smokers). The average age of participants was 20.5 (SD=2.7) (20.9 for smokers; 19.5 for non-smokers), and the majority were White (95%). For the smokers, the average age of initiating smoking was 15.8 (SD=2.0). More than one-half of them (60%) reported they planned to quit smoking in the next 30 days, and on average, participants had tried to quit 2.3 times (SD=4.1). On this campus, about 10% of the students report smoking at least one cigarette daily.

¹Analyses indicated no pretest differences between participants recruited in the three different ways.

Procedure—The smokers who participated in the spring were part of a larger study that assessed reactions to cigarette warning labels (Dillard, McCaul, & Magnan, 2005). In this larger study, participants completed baseline questionnaires that assessed smoking behavior, smoker sense of self, dependence on smoking, and motivation to quit smoking. The findings reported here are based on the responses to these baseline questionnaires.

The nonsmokers who participated in the fall were recruited specifically to examine perceptions of college student smokers. In this study, participants completed questionnaires that assessed their perceptions of smokers' behavior, smokers' sense of self, smokers' dependence on smoking, and smokers' motivation to quit.

The measures presented below were completed by both smokers and nonsmokers. The only difference was that nonsmokers responded to the questions based on what they thought about "most college student smokers." For example, instead of, "How motivated are you to give up smoking in the next 30 days?" which smokers answered, nonsmokers were asked, "How motivated do you think most college student smokers are to give up smoking in the next 30 days?"

Measures—To assess smoking behavior, we asked participants, "How many cigarettes a day do you [most college student smokers] smoke?" They could select one of 5 responses: 1–4, 5–10, 11–15, 16–20, or 21 or more. To assess smoker sense of self, we used Shadel and Mermelstein's (1996) Smoker Self-Concept Scale. This 5-item questionnaire provides a measure of how much the behavior of smoking is attached to one's sense of self. Examples of items included, "Smoking is a part of my [most college student smokers] self-image" and "Smoking is a part of who I am [most college student smokers are]." Responses on the scale ranged from 1 (*strongly disagree*) to 10 (*strongly agree*). Items were summed, and scale reliability (alpha) was .90 for the smokers and .83 for the nonsmokers.

To assess perceptions of dependence, we adapted 5 items from the Fagerstrom Tolerance Questionnaire (Fagerstrom, 1978; Fagerstrom & Schneider, 1989). We used only five items from the FTQ because the other items would be inappropriate and difficult for nonsmokers to answer (e.g., how deeply and how often inhale). Also, we modified the response options for these five items from dichotomous to continuous to allow for greater variability in responses. All of the items we used related to a smoker's self-control to abstain from smoking in particular situations. The items were: "How difficult is it for you [most college student smokers] to refrain from smoking in places where it is forbidden (e.g., in church, at the library, movies)?" "How difficult would it be for you [most college student smokers] to give up your [their] usual first cigarette of the day?" "How often do you [most college student smokers] smoke your [their] first cigarette within 30 minutes of waking?" "How often do you [most college student smokers] smoke more in the morning than during the rest of the day?" "How often do you [most college student smokers] smoke when you [they] are sick with a cold, the flu, or are so ill that you [they] are in bed most of the day?" Responses were on 5-point scales ranging from *not difficult* (1) to *extremely difficult* (5) or *never* (1) to *always* (5). The items were analyzed individually.²

To assess motivation to quit, we used items similar to those which have been shown to relate strongly to intentions to quit (Kozlowski et al., 1999). Participants were asked 3 questions: "How motivated are you [most college student smokers] to try to give up smoking in the next 30 days?", "How motivated are you [most college student smokers] to try to give up smoking in the next 6 months?", and "Please rate your [most college student smokers']

²The internal consistency of the 5-items was higher for smokers (alpha = .81) than for nonsmokers (alpha = .34), possibly because nonsmokers have less direct experience with these features of smoking behavior.

overall desire to quit smoking someday on the following scale.” Responses ranged from 1 (*definitely not motivated to try to give up smoking*) to 7 (*definitely motivated to try to give up smoking*) and 1 (*no desire*) to 7 (*strong desire*). Items were averaged, and scale reliability (alpha) was .79 for the smokers and .83 for the nonsmokers.

Results

Independent-samples *t*-tests were used to test for differences between smokers’ and nonsmokers’ self-reports and perceptions. There was no difference between smokers’ reports and nonsmokers’ perceptions regarding number of daily cigarettes, $t(133) = .51$, *ns* (see Table 1 for means and *SDs*).

For all of the other measures, however, we found significant differences between smokers and nonsmokers (see Table 1). First, smokers reported that smoking played a smaller role in their sense of self than what nonsmokers perceived, $t(133) = 8.31$, $p < .001$, effect size $r = .58$, and this effect was the largest of any difference we discovered. Nonsmokers also perceived smokers to be more dependent on smoking than what smokers reported. For example, compared to smokers’ reports, nonsmokers estimated that smokers smoked more often in the morning, $t(133) = 4.34$, $p < .001$, $r = .35$, were more likely to have a cigarette within 30 minutes of waking, $t(133) = 3.67$, $p < .001$, $r = .30$, and would have greater difficulty giving up the first cigarette of the day, $t(133) = 7.88$, $p < .001$, $r = .56$. Compared to smokers’ self-reports, nonsmokers estimated that smokers would have greater difficulty refraining from smoking in places where it is not allowed, $t(133) = 6.37$, $p < .001$, $r = .48$, and that smokers have more cigarettes when they are sick, $t(133) = 3.93$, $p < .001$, $r = .32$. Finally, analyses revealed that smokers reported being more motivated to quit than nonsmokers perceived, $t(131) = 4.74$, $p < .001$, $r = .38$.

Discussion

Study 1 showed strong and consistent discrepancies between nonsmokers’ perceptions and smokers’ self reports for smoker self-concept, addiction, and motivation to quit. First, compared to smokers’ self-reports, nonsmokers believed that smoking played a larger role in smokers’ sense of self. They also perceived smokers as more dependent on smoking than smokers reported being: for example, nonsmokers perceived that smokers experienced greater difficulty in giving up their first cigarette of the day and in not smoking in places where it is forbidden. Third, compared to smokers’ reports, nonsmokers perceived smokers as less motivated to quit.

Study 1 is one of few studies to compare nonsmokers’ perceptions of various smoking characteristics to smokers’ reports. Eiser and colleagues (1977) found a discrepancy in which nonsmokers overestimated smokers’ reports of level of addiction to smoking. We found a similar discrepancy for addiction, but we also found discrepancies for how much smoking was integrated into the self and how motivated smokers were to quit. Thus, nonsmokers not only have negative views of smokers’ addiction but also these other identity and motivational constructs. The findings of overall negative views of their smoking characteristics are consistent with the findings of overall negative views of smokers’ personality and social characteristics (Brosh et al., 2003; Chambliss et al., 2006; Gilbert et al., 1998; Tokheim et al., 1990).

The findings of Study 1 provide additional evidence that smokers are a stigmatized group (Gibson, 1998; Goldstein, 1991). Stigma has been defined as an attribute that is “deeply discrediting” (p.3, Goffman, 1963) or one that “conveys a social identity that is devalued” (p.505, Crocker, Major, Steele, 1998). It has generally been argued that stigma can lead to prejudice, and discrimination (Heatherton, Kleck, Hebl, & Hull, 2000). Similarly,

stigmatizing views of smokers may lead to prejudice and discrimination toward individual smokers. For example, the negative view of smokers described by nonsmokers in Study 1 may have consequences for attitudes and intentions. We addressed this question in Study 2. We examined whether the discrepant views of smokers would lead to differences in attitudes toward smokers, and spur other negative judgments, such as those concerning personality and social traits. We also examined whether the discrepant views would influence willingness to have interactions with smokers.

Study 2

Overview and Hypotheses

The purpose of Study 2 was to test if the smoker-nonsmoker discrepancies discovered in Study 1 had implications for nonsmokers' a) attitudes toward a smoker, b) perceptions of a smoker's personality and social traits, and c) willingness to have close relationships with a smoker.

For this study, we created descriptions of two kinds of college student smokers. One description reflected *how smokers described themselves* in Study 1. This student was a smoker who did not find smoking to be especially important in life, did not believe he (she) was dependent, and was motivated to quit (i.e., a "low-identity smoker"). The second description reflected *how nonsmokers perceived smokers* in Study 1. This student was a smoker who found smoking to be important in life, believed he (she) was dependent, and was not motivated to quit (i.e., a "high-identity smoker").

We tested three hypotheses. Compared to nonsmokers who read about a high-identity smoker, we predicted that those who read about a low-identity smoker would (1) have more positive attitudes toward the smoker, (2) rate the smoker's personality and social traits more favorably, and (3) report greater willingness to have close relationships with the smoker.

Method

Participants—Participants were 39 students enrolled in an introductory psychology course. They were recruited for a class survey and received extra credit for participation. Two participants that were smokers were dropped from all analyses, leaving a sample of 37 nonsmokers. Of these participants, 59% ($n=22$) were female. The average age of participants was 20.3 ($SD=2.4$), and the majority (87%) were White.

Procedure—Students in a lower level psychology course were given the opportunity to complete a class survey on "first impressions" of smokers. They were told that the results would be reported to them later in the semester. All of the students chose to participate, and they were randomly assigned to read about either a low-identity smoker or a high-identity smoker. Because we were interested in participants' willingness to have romantic relationships (in addition to other close relationships) with the smoker they read about, participants always read about a smoker of the opposite sex. After reading about the smoker, participants completed questionnaires in which they reported their attitudes toward the smoker, rated the smoker on personality and social characteristics, and reported their willingness to have different types of close relationships with the smoker.

Manipulation—Female participants read a vignette about "John," and male participants read the same vignette about "Jen." The low-identity smoker vignette was:

[John, Jen] is a 22 year old college student at your university, majoring in sociology. [He, She] is from a small, rural Minnesota town. [He, She] lives off campus with several good friends. Although [he, she] smokes, [he, she] does not

view smoking as an important part of who [he, she] is. [He, She] doesn't smoke in the morning and would not have that much difficulty giving up [his, her] first cigarette of the day. In addition, [he, she] doesn't have a problem not smoking in places where it is not allowed and [he, she] would never smoke when [he, she] is sick. [John, Jen] is motivated to quit smoking.

The high-identity smoker vignette was:

[John, Jen] is a 22 year old college student at your university, majoring in sociology. [He, She] is from a small, rural Minnesota town. [He, She] lives off campus with several good friends. [He, She] smokes and views smoking as an important part of who [he, she] is. [He, She] smokes in the morning, typically having [his, her] first cigarette within 30 minutes of waking up. It would be difficult for [him, her] to give up [his, her] first cigarette of the day and [he, she] has a problem not smoking in places where it is not allowed. In addition, sometimes [he, she] smokes when [he, she] is sick. At this time, [John, Jen] is not motivated to quit smoking.

Measures—To assess participants' attitudes, we asked them to rate the smoker on eight 7-point Likert scales ranging from good-bad, healthy-unhealthy, sexy-unsexy, pleasant-unpleasant harmful-harmless, sociable-unsociable, ugly-glamorous, and calming-stressful. Items were averaged ($\alpha = .78$).³

In addition to the attitude measures, we asked participants to rate the smoker on 11 traits: considerate, self-centered, smart, moody, honest, irrational, dependent, friendly, attractive, weak, and reliable. Participants responded on 1 (*Not at all*) to 7 (*Extremely*) scales. Items were averaged ($\alpha = .73$).⁴

We asked participants four questions to assess willingness to engage in different types of close relationships with the smoker. The four questions were, "Would it bother you to be around [John, Jen]?", "Would you be willing to date [John, Jen]?", "Would you be willing to marry [John, Jen]?", and "Would you be willing to have [John, Jen] as a close friend?" Responses ranged from 1 (*Not at all*) to 7 (*Extremely*). Each item was analyzed separately.

Results

Correlations between attitudes, trait descriptions, and willingness measures are presented in Table 2 and reveal a number of significant associations. For example, more positive attitudes toward a smoker were significantly associated with more positive trait descriptions of the smoker as well as greater willingness to date and marry him or her. Willingness to date a smoker was the only variable that was significantly correlated with all of the other dependent measures. Greater willingness to date a smoker was associated with more positive attitudes, more positive trait descriptions of the smoker, being less bothered by the smoker, greater willingness to marry the smoker, and greater willingness to have the smoker as a close friend. In comparison, willingness to marry the smoker was only significantly related to attitude toward the smoker.

³Scale reliability was variable when split by gender and identity vignette (female participant, male high-identity vignette, $\alpha = .60$; female participant, male low-identity vignette, $\alpha = .76$; male participant, female high-identity vignette, $\alpha = .13$; male participant, female low-identity vignette, $\alpha = .88$).

⁴Scale reliability was variable when split by gender and identity vignette (female participant, male high-identity vignette, $\alpha = .57$; female participant, male low-identity vignette, $\alpha = .62$; male participant, female high-identity vignette, $\alpha = .29$; male participant, female low-identity vignette, $\alpha = .57$).

Analyses of variance (ANOVAs) were used to test for condition, gender, and gender $\times$ condition interaction effects for the main dependent variables. All of the means and standard deviations are presented in Table 3. First, the analysis for attitude produced a main effect of condition, $F(1, 33) = 15.80, p < .001, r = .57$. Participants who read about a high-identity smoker had a more negative attitude toward the smoker than participants who read about a low-identity smoker. Similarly, the analysis for the trait description of a smoker produced a main effect of condition, $F(1, 33) = 16.03, p < .001, r = .57$. Participants who read about a high-identity smoker described the smoker more unfavorably than participants who read about a low-identity smoker.

When asked how bothered they would be to be around the smoker, participants who read about a high-identity smoker reported greater bother than participants who read about a low-identity smoker, $F(1, 33) = 15.85, p < .001, r = .57$. There was no main effect of gender and no interaction for this variable, $F_s < 1$. When asked how willing they were to date the smoker they read about, those in the low-identity condition reported greater willingness than those in the high-identity condition, $F(1, 33) = 12.45, p = .001, r = .52$. Results also indicated a nearly-significant main effect of gender, $F(1, 33) = 3.98, p = .054, r = .33$, showing that males reported greater overall willingness to date a smoker. The condition $\times$ gender interaction, however, was not significant, $F(1, 33) = 2.12, p = .16$.

When asked how willing they were to marry the smoker, participants who read about a low-identity smoker reported greater willingness than those who read about a high-identity smoker, $F(1, 33) = 11.24, p = .002, r = .50$. There was also a main effect of gender, $F(1, 33) = 5.95, p = .02, r = .39$, in which (again) males reported greater overall willingness to marry the smoker. In addition, the condition $\times$ gender interaction was significant, $F(1, 33) = 4.65, p = .04, r = .35$ (see Figure 1), indicating that both men and women were unwilling to marry a high-identity smoker, but men were more willing than women to marry a low-identity smoker (see Table 3 for means). Finally, the analysis of willingness to have a smoker as a close friend produced no significant effects, all $F_s < 1, ns$.

In addition to the effects of condition on attitudes, perceptions of traits, and willingness, we tested if attitude mediated the relationship between condition (reading about a high vs. low-identity smoker) and willingness to date and marry (we did not test mediation for willingness to have as a close friend because there was no main effect of condition). To test mediation, we conducted hierarchical regressions according to Baron and Kenny's (1986) four steps in establishing mediation, which are to show that the 1) independent variable is correlated with the dependent variable, 2) independent variable is correlated with the mediator, 3) mediator is correlated with the dependent variable, after controlling for the independent variable, and 4) correlation between the independent and dependent variable becomes non-significant when controlling for the mediator.

Following the steps above, we found support for attitude as a mediator between condition and willingness to date. Analyses showed condition was associated with willingness to date, (standardized) $b = .43, p < .01$, and attitude, $b = .58, p < .001$. Moreover, attitude was associated with willingness to date when statistically controlling for condition, $b = .43, p < .05$, and the association between condition and willingness became non-significant when controlling for attitude, $b = .19, p = .29$. A Sobel test further revealed significance, $z = 2.11, p = .03$. Attitude did not mediate the relationship between condition and willingness to marry.

Discussion

Study 2 showed the discrepant views of smokers observed in Study 1 were consequential. First, compared to nonsmokers who read about a high-identity smoker (i.e., a smoker whose description was based on nonsmokers' perceptions from Study 1), those who read about a

low-identity smoker (i.e., a smoker whose description was based on smokers' reports from Study 1) had more positive attitudes toward the smoker and rated the smoker more favorably on personality and social traits. Second, those who read about a low-identity smoker reported they would be less bothered by, and more willing to date and marry the smoker. We further found that the effects of condition on willingness to date were mediated by attitudes, suggesting a mechanism through which beliefs about smokers influence willingness to interact with them.

Study 2 is consistent with research finding that nonsmokers report preferences for interactions with nonsmokers rather than smokers. Goldstein (1991), for example, found that in addition to stereotyping smokers as unhealthy and unattractive, nonsmokers reported that they preferred a nonsmoker instead of a smoker for close relationships, and that they anticipated negative interactions with smokers. Similarly, Hines (1996) found that individuals were more likely to want a nonsmoker than a smoker for a roommate, date, or prospective spouse. Study 2 extends this research by showing that people's preferences for smokers depend on their perceptions of the smoker. By describing smokers differently than how nonsmokers may typically think of them, we influenced nonsmokers' attitudes, their tendencies to attribute negative personality traits to smokers, and their willingness to have particular types of close relationships with smokers. We further extended the research by showing that negative attitudes, stemming from nonsmokers' perceptions of smokers, caused the interaction preferences. Indeed, this study is the first to find that attitude mediates the relationship between stigma of a smoker and interaction willingness.

At least two reasons may explain nonsmokers' more favorable ratings of and preferences for the low-identity smoker. First, many experiments in social psychology have documented the phenomenon that we tend to like people who we perceive as similar to ourselves, and dislike those we perceive as dissimilar (Byrne, 1971; Newcomb, 1961; Singh et al., 1999). Nonsmokers who read about a low-identity smoker (who was less connected to smoking, less dependent, and motivated to quit) may have viewed the smoker as more likely to become a nonsmoker in the future. This perceived similarity may have led to a more favorable view. A second reason is related to health issues, specifically concern about second-hand smoke. In the last 20 years, people have become increasingly aware of the ill effects of second-hand smoke. Those who read about the high-identity smoker may have anticipated that interacting with such a smoker would place them at a high risk for second-hand smoke exposure. In contrast, nonsmokers who read about the low-identity smoker may have perceived the smoker would place them at a small risk for such exposure.

The significant condition $\times$ gender interaction for willingness to marry showed that men showed tolerance for a low-identity, but not a high-identity smoker while women would not tolerate either type of smoker. The nearly significant gender effect for willingness to date showed that men tolerated either type of smoker whereas women were only willing to date a low-identity smoker. Together the findings suggest that overall, men may be more tolerant of smoking in intimate relationships. Future research should explore reasons for this gender difference for tolerance of smokers in close relationships.

General Discussion

In the present studies, we asked a novel set of questions about perceptions of smokers. Unlike previous studies that have emphasized perceptions of smokers' personality (Brosh et al., 2003; Tokheim et al., 1990), we focused on perceptions of their smoking characteristics. Findings of Study 1 showed that compared to smokers' self-reports, nonsmokers estimated that smoking played a larger role in smokers' self-concepts, they were more addicted to smoking, and less motivated to quit. In Study 2, we found that the discrepant view between

nonsmokers and smokers mattered: Compared to a smoker who was described in terms of smokers' self-reports (from Study 1), a smoker who was described in terms of nonsmokers' views was judged more negatively by nonsmokers and less preferred for interactions.

Our findings suggest smokers are a stigmatized group (also see Farrimond & Joffe, 2006; Gibson, 1998; Goldstein, 1991), and that this stigma has consequences. However, we also showed that the stigma may not be equal across smokers. By describing smokers in ways that contradicted how nonsmokers may usually perceive them, we reduced the negative attitude and other social and personality judgments about smokers. We also influenced the preference for interactions. Thus, some smokers, some of the time, may receive the benefit of the doubt, and be subject to less prejudice and discrimination.

One interesting question is whether nonsmokers' perceptions influence smokers at all. The first part of this question is whether smokers are aware that nonsmokers see them in a negative light, and there is some evidence that they are. Farrimond and Joffe (2006), for example, asked smokers to tell them their first thoughts regarding images of smokers. Smokers reported that others viewed them as having a negative physical appearance and as polluters of the environment. In another study, patients who had been diagnosed with lung cancer reported they felt stigmatized and blamed for their illness, despite the fact that some of them were nonsmokers or some had quit smoking a long time ago (Chapple, Ziebland, McPherson, 2004). Stuber, Galea, and Link (2008) also found that current and former smokers perceived stigmatization (related to fear of second-hand smoke) and discrimination because of their smoking. We also see evidence of awareness in so-called "closet smokers." These individuals often go to great lengths to hide their smoking from friends, co-workers, and their spouse, suggesting they may be aware of the negative perceptions.

Smokers' awareness of nonsmokers' negative perceptions could motivate smokers to quit. For example, the negative perceptions, over time, could create a strong negative image of smokers among other smokers. Studies show that if a smoker tends to associate other smokers and smoking with negative images, then he or she is more likely to quit smoking and maintain abstinence (Gibbons and Eggleston, 1996; Gibbons & Gerrard, 1997). Similarly, internalization of the negative perceptions could cause smokers to feel embarrassed or guilty about their smoking. Kim and Shanahan (2003) found these feelings, which can stem from experiencing strong anti-smoking sentiment, can encourage smokers to quit.

The negative perceptions of smokers could also have the opposite effect of increasing smokers' commitment to smoking. For example, nonsmokers' views could promote solidarity among smokers through the common experience of stigma. Goldstein (1991) argued that feeling stigmatized can cause smokers to bond with each other and become more committed to smoking. In this way the stigma may lead to psychological reactance (Brehm, 1966), a situation in which smokers outwardly resist anti-smoking sentiment because they feel that smoking is a personal freedom that is being threatened. In qualitative research with smokers, Perryman (2007) found some support for this idea. In one interview, a female smoker said, "There has been a shift in public policy... we as smokers need to assert our right to smoke." She continued to say, "I am free to decide if I want to quit. So if I haven't quit, it is because I don't want to, not because I am an addict, or can't... I am choosing to smoke (pp. 10)." Finally, in one recent quantitative study, researchers found that smokers' perceptions of stigma were not significantly associated with reduced smoking or intentions to quit (Stuber, Galea, & Link, 2009). The question of how the negative perceptions influence smokers is an important one for future research.

Another question raised by our data is who is more accurate when it comes to smokers' characteristics? On one hand, nonsmokers' perceptions may be incorrect. Because they are not smokers, they fail to understand smokers, including their level of addiction and motivation to quit. This idea fits with Eiser et al. (1978) who found that nonsmokers failed to cite the number one reason smokers reported they smoked: because it was pleasurable.

The problem with this idea, however, is that it assumes smokers' reports are unbiased, but there is research to suggest the opposite: there are many studies showing that smokers tend to report optimistic biases about whether or not their smoking will lead them to experience health problems (e.g., Ayanian & Cleary, 1999; Dillard, McCaul, & Klein, 2006; McCoy et al., 1992; Schoenbaum, 1997). It is reasonable to believe that smokers may also have optimistic biases when it comes to their own smoking characteristics. In other words, in Study 1, smokers may have underestimated their addiction and dependence and overestimated their motivation to quit. Future research should test whether smokers exhibit optimistic biases about their smoking by asking smokers to rate most college student smokers as well as themselves. If a discrepancy emerges, it would be evidence of a bias. Smokers' accuracy could also be determined by using ecological momentary assessment. Smokers could be asked about addiction and motivation to quit and these reports could be compared to actual behavior in real time.

Limitations

One limitation of our study is that we asked nonsmokers about their willingness to have types of close interactions with smokers -- we did not examine actual interactions. Future studies should explore how perceptions influence real-world interactions and also how being a smoker influences interactions in general. A second limitation is that our studies included all college students. Students may not be representative of the population of nonsmokers and smokers in general. In fact, Everett et al. (1999) reported that most college student smokers are light smokers. Thus, it is possible there is an even larger discrepancy between perceptions and self-reports for community nonsmokers and smokers, respectively. However, college student smokers are an important group in their own right because smoking in this demographic represents a major public health problem (for a review see Patterson, Lerman, Kaufmann, Neuner, & Audrain-McGovern, 2004). A third limitation, related specifically to Study 2, was that the scale reliabilities---when broken down by gender and condition---were variable and exhibited low consistency. It is possible that the lower reliabilities related to another limitation which was that the questionnaires (in Study 2) assumed that participants were heterosexual. Female and male nonsmokers were given vignettes about male and female smokers, respectively. This was an oversight; 3% of the United States population self-identify as gay, lesbian or bisexual (Gates, 2006). Nonetheless, at least with respect to date and marry willingness, the oversight likely led to more conservative estimates, making it more difficult to detect effects.

Conclusion

In two studies, we showed that smokers are perceived negatively in terms of characteristics of their smoking such as motivation to quit and dependence. We found these negative perceptions influenced attitudes about smokers, which in turn influenced willingness to interact with them for certain close relationships. Future studies should examine how these negative perceptions influence smokers themselves and whether smokers are accurate when asked to estimate characteristics such as their addiction to smoking.

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Figure 1.
Gender $\times$ Condition Interaction of Willing to Marry (Study 2).

Table 1

Means and standard deviations for nonsmokers' beliefs and smokers' reports

Variables	Nonsmokers' Beliefs <i>M (SD)</i>	Smokers' Reports <i>M (SD)</i>
	<i>N = 100</i>	<i>N = 35</i>
How many cigarettes a day?	2.06 (.64)	1.95 (1.19)
Self-concept ***	27.51 (9.39)	16.28 (9.99)
How often smoke in the morning? ***	3.55 (.87)	2.63 (.81)
How often smoke within 30 minutes of waking? ***	3.14 (1.14)	2.21 (1.34)
How difficult to give up first cigarette of the day? ***	4.06 (.77)	2.17 (1.34)
How difficult to refrain in forbidden places? ***	2.49 (1.20)	1.35 (.83)
How often smoke when sick? ***	2.94 (.91)	2.10 (.1.15)
Motivated to quit? ***	3.29 (1.03)	4.90 (1.46)

Note. Recall that for cigarettes per day, participants could select one of five options: 1–4, 5–10, 11–15, 16–20, or 21 or more. Smoker self-concept was on a 10-point scale, addiction measures were on 5-point scales, and motivation to quit was on a 7-point scale. Higher numbers meant greater smoker self-concept, greater addiction, and greater motivation to quit.

*
 $p < .05$,

**
 $p < .01$,

 $p < .001$.

Table 2
Study 2 correlations between attitudes, trait descriptions, and willingness to interact items

Variables (n = 37)	1	2	3	4	5
1. Overall attitude toward smokers	1				
2. Trait descriptions	.62***	1			
3. Bother to be around?	-.58***	-.55***	1		
4. Willing to date?	.54**	.34*	-.35*	1	
5. Willing to marry?	.40*	.20	-.30***	.92***	1
6. Willing to have as close friend?	.20	.30	-.29	.40*	.27

Note.

*
p < .05,
**
p < .01,

p < .001.

Study 2 means and standard deviations for male and female participants in the low and high-identity smoker conditions

Table 3

Variables	Low-Identity Smoker		High-Identity Smoker	
	Male (n = 6)	Female (n = 13)	Male (n = 9)	Female (n = 9)
	M (SD)	M (SD)	M (SD)	M (SD)
Overall attitude toward smokers	.31 (.86)	.20 (1.12)	-.92 (.40)	-.88 (.70)
Trait descriptions	4.38 (.44)	4.56 (.62)	3.73 (.69)	3.72 (.26)
Bother to be around?	2.67 (1.63)	2.62 (1.39)	4.78 (1.79)	5.11 (2.03)
Willing to date?	3.50 (1.76)	2.08 (1.55)	1.44 (.53)	1.22 (.44)
Willing to marry?	3.50 (1.87)	1.69 (1.38)	1.33 (.50)	1.22 (.44)
Willing to have as close friend?	4.33 (1.75)	4.62 (1.56)	4.00 (1.32)	4.33 (1.66)

Note: All measures were on 7-point scales, and larger numbers indicate more positive attitudes and trait descriptions, and increased willingness to have interactions with smokers.