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SMOKING IN COLLEGE WOMEN: THE ROLE OF THINNESS PRESSURES, MEDIA EXPOSURE, AND CRITICAL CONSCIOUSNESS

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There are strong social pressures for U.S. females, particularly those of European heritage, to achieve and maintain an extremely low body weight. These pressures are reflected in a variety of media sources, including advertising. We argue that valuing thinness, exposure to thinness-depicting media, and lacking skepticism about tobacco advertisements have adverse effects on young women's decisions about smoking, particularly smoking for weight control. We tested these hypotheses in a study of 188 female undergraduates, both never-smokers and daily smokers. Believing that smoking controls weight, exposure to thinness-depicting media, and low levels of skepticism about tobacco advertising were associated with being a smoker. Among smokers, believing that smoking controls weight, internalizing thinness pressures, and low levels of feminist consciousness were associated with smoking for weight control. Results are discussed with the aim of encouraging public health anti-smoking campaigns targeted at women, and smoking cessation programs that are responsive to the needs of weight-concerned female smokers.

Cigarette smoking is a major public health threat. It is the leading preventable cause of morbidity and mortality in the United States, accounting for 20 percent of deaths annually (Centers for Disease Control, 1999). Almost all smoking initiation occurs during childhood and adolescence (U.S. Department of Health and Human Services, 1994), making smoking in young people a particularly important area of study. In order to gain a better understanding of why individuals begin smoking and continue to smoke it is important to consider the role of demographic and cultural factors. For instance gender, age, ethnicity, and socioeconomic status have all been documented to relate to smoking (e.g., Denton & Walters, 1999; Epstein, Botvin, & Diaz, 1998; Taylor, Ayars, Gladney, Peters, Roy, Prokhorov, Chamberlain, & Gritz, 1999). In this study we focus on smoking in women; we argue that there may be particular gendered experiences women have that relate to their decisions about smoking. For example, cultural messages about women's bodies, such as the importance of appearing thin, glamorous, and heterosexually appealing, are emphasized in the media, and have been capitalized on by cigarette advertisers (Boyd, 1996–7). This study explores the role of thinness pressures, media exposure, and critical consciousness in college-aged women's decisions to smoke, and use of smoking as a weight control strategy.

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Weight Concerns and Smoking

In an often-cited paper, Rodin, Silberstein, and Striegel-Moore (1984) described dieting and weight concerns as "normative discontent" for women in Western culture (see also, Rodin & Larson, 1992; Silberstein, Striegel-Moore, Timko, & Rodin, 1988; Striegel-Moore, 1995). A number of social critics (e.g., Bordo, 1993; Chernin, 1981; Wolf, 1991) have discussed the ways in which women have internalized social pressures for thinness. In fact, Chernin has argued that a "tyranny of slenderness" rules over women in the United States. Empirical studies (e.g., Cash & Henry, 1995; Field, Cheung, Wolf, Herzog, Gortmaker, & Colditz, 1999) continue to demonstrate that increasing numbers of American women and girls are dissatisfied with their appearance in general and their weight in particular (whether or not they are overweight). There is some variance with regard to ethnicity, however. There is evidence that, among all women, European Americans are least satisfied with their bodies and most weight concerned, particularly in comparison to African Americans (Bay-Cheng, Zucker, Stewart, & Pomerleau, in press; Fallon, 1990; Harris, 1994; Striegel-Moore, Silberstein, & Rodin, 1998).

Perceived social pressure for thinness often leads women to use strategies for weight loss that pose serious health risks (Kilbourne, 1994). Many women diet, take appetite suppressants, or develop patterns of starvation and disordered eating in order to become slim. The cultural messages valuing thinness also lead to a particular vulnerability to smoking among women (Pomerleau, Berman, Gritz, Marks, & Goeters, 1994), because cigarette smoking can be used as a method of appetite control. In an experimental setting nicotine has been found to suppress caloric consumption and alter metabolism (Gross, Stitzer, & Maldonado, 1989). Both male and female smokers tend to weigh less than their non-smoking counterparts (Albanes, Jones, Micozzi, & Mattson, 1987; Froom, Melamed, & Benbassat, 1998), and individuals who stop smoking can expect to gain weight when nicotine is no longer used to regulate appetite and metabolism (Gross, Stitzer, & Maldanado, 1989). In addition, women have been found to gain more weight than men when they stop smoking (Williamson, Madans, Anda, Kleinman, Giovino, & Byers, 1991), and nicotine's effect on food intake has been found to be more pronounced in women. Thus, for women, societal pressures for thinness may contribute to smoking initiation and/or the continued use of cigarettes among certain segments of smokers. Specifically, we expect that being aware of societal standards for thinness, internalizing those standards, and believing that smoking is an acceptable form of weight control will be predictive of smoking in general and smoking for weight control in particular. Furthermore, because White women tend to internalize thinness pressures to a greater extent, we expect being White to predict smoking for weight control.

Media and Thinness Pressures

The role of the media in perpetuating preoccupation and dissatisfaction with women's bodies has been widely discussed (e.g., Harrison & Cantor, 1997; Heinberg & Thompson, 1995). In particular, many studies have documented that exposure to both the thinness-related content and advertising in media directed at women correlates with body dissatisfaction and disordered eating (Levine & Smolak, 1996). Andersen and DiDomenico (1992) demonstrated that women's magazines contained 10 times more advertisements and articles promoting weight loss than men's magazines, and suggested that there might be a direct relation between exposure to such magazines and the development of eating disorders. Harrison and Cantor (1997) found that exposure to thinness-depicting and promoting magazines (such as those concerning fitness and fashion) was related to eating disorder symptomatology among women, whereas the relation for news and gossip magazines (that do not have an explicit focus on thinness) was weaker. Field et al. (1999) found that frequency of reading fashion magazines was positively related to dieting and exercising prevalence in a sample of school school-age girls. Other recent data have demonstrated that patients with eating disorders were more likely than control participants to report being influenced by media-presented body ideals (Murray, Touyz, & Beumont, 1996). In addition, female college students who looked at pictures of thin models scored higher on a number of dimensions of body dissatisfaction and anxiety than women who looked at control pictures (Kalodner, 1997). Thus, there is evidence for an association between exposure to thinness-depicting media and holding negative attitudes about oneself or having eating disturbances. Because exposure to such media is related to both negative beliefs and unhealthy behaviors, we expect that it may be related to another risky health behavior, smoking, in women because of smoking's weight control aspects. Furthermore, we expect that thinness-depicting media exposure will be particularly related to smoking for weight control among women who are already smokers.

The media in general, and the advertising industry in particular, have taken advantage of women's desires to be thin and created product campaigns that capitalize on this social anxiety. The history of cigarette advertisements illustrates this phenomenon clearly (Boyd, 1996–7; Ernster, 1985; Kluger, 1996). Although many different advertising tactics have been used to encourage women to smoke, one of the most successful since the 1920s has been the association of smoking with weight control, exploiting particularly White, middle-class women's concerns with their body appearance and weight (Berman & Gritz, 1991; French & Perry, 1996). Almost from the start, cigarette advertisements aimed at women have emphasized the role of smoking to achieve and maintain thinness. For instance, an early Lucky Strike campaign used the slogan "Reach for a Lucky instead (of a sweet)." During the period 1925–1930, this campaign led to a nearly three-fold sales increase and made Lucky Strike the market leader; much of these changes can be attributed to capturing the female market (Boyd, 1996–7).

More recently, the development of "women's brands," such as Virginia Slims, created a product that was meant to emphasize blatantly the relation between smoking and thinness through the product name and type of advertising. A recent Virginia Slims ad pictured a thin woman in a bathing suit stating, "When we're wearing a swimsuit there's no such thing as constructive criticism." Although this woman is not shown smoking or even holding a cigarette, the ad is clearly reminding women that thinness is an important social and personal ideal and implies that tobacco use is a route to thinness (Boyd, Boyd, & Greenlee, under review). Carrying this argument further, Boyd, Boyd, and Cash (1999–2000) stated that "ultimately, tobacco companies are not selling cigarettes; they are selling the ability to achieve beauty, social success, and feelings of independence" (p. 26).

Around 1967, cigarette ads in women's magazines increased (Pierce, Lee, & Gilpin, 1994), and following the 1971 ban on cigarette ads on television, the number of ads in women's magazines skyrocketed (Albright, Altman,

Slater, & Maccoby, 1988). There is a strong correlation between the amount of cigarette advertising that is aimed at women and the prevalence of women smokers (Kluger, 1996; O'Keefe & Pollay, 1996). Furthermore, Cortese (1999) argued that cigarette advertisements provide a constant stream of unrealistic representations of women's bodies. Thus, we expect that exposure to these ads is predictive of smoking in general and, among smokers, smoking for weight control.

There may be some attitudes that help women resist the pressure to smoke in order to be thin, however. A number of elements of critical consciousness may help women to deconstruct the messages that smoking is acceptable, and that thinness is important at any cost. Most directly, it seems probable that a woman who is able to critique advertising or the tobacco industry would be less likely to be seduced by the powerful pro-thinness messages in cigarette ads. Therefore, we expect that skepticism about the motives of tobacco advertisements will be related to being a non-smoker and, among smokers, will negatively relate to smoking for weight control.

Another route to critical consciousness, particularly concerning the portrayal of women's bodies, is feminism. It has been argued that feminism can serve as a "life raft" for women negotiating sexism (Klonis, Endo, Crosby, & Worell, 1997) and as a powerful explanatory framework for painful personal experiences of exclusion and marginality (Stewart, 1994). A central goal of the women's movement is the development of gender consciousness (Henderson-King & Stewart, 1999), and women's studies curricula in particular emphasize critical thinking skills (Stake & Hoffmann, 2000). Thus, feminists have the skills to recognize the ways in which mainstream media objectifies women's bodies and frequently critique these institutions and their harmful effects (e.g., Kilbourne, 1994). There is some evidence that feminist identity is related to better body image among women as well. For instance, Snyder and Hasbrouck (1996) found that feminists were more satisfied with their body weight and figure size, and had fewer bulimic tendencies. Cash, Ancis, and Strachan (1997) found that although feminist identity per se was not related to body image attitudes, adherence to traditional gender attitudes was associated with stronger and more dysfunctional investments in cultural and personal appearance standards. We argue that feminist consciousness may entail a critical world view that allows women to be skeptical of normative cultural constructions of women generally and of the construction of women by the media and tobacco industry in particular. Feminist attitudes may therefore mitigate against women's use of cigarettes for weight control.

Drawing on both the psychological and feminist theory presented above, we used data from a college-student sample of female daily smokers and never-smokers to examine the relation between smoking and attitudes toward thinness, media exposure, and critical consciousness. Specifically, we tested the hypotheses that:

1. Being aware of societal standards for thinness, internalizing those standards, believing that smoking is an acceptable form of weight control, and exposure to thinness-depicting magazines increase the odds of being a smoker, whereas being skeptical of tobacco advertisements decreases the odds of being a smoker.
2. Among smokers, smoking for weight control is associated with being aware of societal standards for thinness, internalizing those standards, believing that smoking is an acceptable form of weight control, exposure to thinness-depicting magazines, lacking tobacco ad skepticism, low levels of feminist consciousness, and being White.

METHOD

Participants

Participants were 188 female undergraduates who were enrolled in Introductory Psychology at the University of Michigan in fall of 1997 (n = 74) or winter of 1998 (n = 114). Participants ranged in age from 17.57 to 24.66 (M = 18.98, SD = .87). Seventy-three percent of participants (n = 137) were European American. Of the remaining 27%, 4% (n = 7) were African American, 9% (n = 16) were East Asian, 2% (n = 3) were Arab, 5% (n = 9) were other Asian background, 3% (n = 6) were Hispanic, and 5% (n = 9) were biracial (numbers are rounded to the nearest percentile).

Procedure

All Introductory Psychology students completed a prescreening measure during the first week of school, and we used data from this measure to select a specific sample. Our first priority in inviting women to participate was to create two groups based on smoking status (daily vs. never-smoker). Additionally, in order to have as diverse a sample as possible, we oversampled for women of color. Finally, we also selected participants to maximize diversity with respect to feminist identification ("How closely do you identify with feminists as a group?").[1] Participants met in groups outside of class with a female researcher to fill out a set of self-report measures and received course credit for participating in the study.

Measures

Attitudes toward thinness were assessed with a modified version of the two subscales of the *Sociocultural Attitudes Towards Appearance Questionnaire* (SATAQ; Heinberg, Thompson, & Stormer, 1995). The first, *awareness*, represents an acknowledgement of societal emphasis on appearance. It consisted of the mean of four items (e.g., "People think that the thinner you are, the better you look."). The second subscale, *internalization*, represents the degree to

which women accept the societal appearance standards above. It consisted of the mean of seven items (e.g., "Pictures of thin women make me wish that I were thin."). Items for both subscales were rated on a Likert scale, ranging from 1 (*do not agree at all*) to 7 (*definitely agree*). Internal consistency was acceptable for awareness (α = .64) and high for internalization (α = .87).

Beliefs about smoking and weight were assessed with one item created for this study, "Smoking helps people control their weight." It was rated on a Likert scale ranging from 1 (*do not agree at all*) to 7 (*definitely agree*).

Thinness-depicting magazine exposure (after Harrison & Cantor, 1997) was assessed by asking women to indicate how many of several types of magazines (e.g., news, fashion, etc.) they read or look at. They were then asked to indicate how many magazines in each genre they were exposed to on a monthly basis, using an 8-point scale: 0 (none), 1 (1–2), 2 (3–4), 3 (5–6), 4 (7–8), 5 (9–10), 6 (11–12), 7 (13 or more). Two genres of magazines were explicitly thinness focused; these were fashion (e.g., *Vogue, Glamour, Mademoiselle, Sassy*), and entertainment (e.g., *Entertainment, Spin*). The mean number of magazines read in these two genres was used as an indicator of thinness-depicting magazine exposure.

Tobacco advertising skepticism (after Price, Huang, & Tewksbury, 1997) consisted of the mean of four items that assessed skeptical attitudes about tobacco ads (e.g., "The tobacco industry uses smoking's weight-suppressing effects to manipulate women."). Items were rated on a Likert scale, ranging from 1 (*do not agree at all*) to 7 (*definitely agree*). Internal consistency was high (α = .81).

Feminist consciousness was measured as the extent to which participants rejected innate in favor of social structural explanations for gender discrimination (Gurin & Townsend, 1986). This scale consisted of the mean of six items (e.g., "By nature, women are happiest when they are making a home and caring for children."—reversed, and "Men have more of the top jobs because our society discriminates against women."). Items were rated on a Likert scale, ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). Internal consistency was acceptable (α = .68).

Ethnicity was self-reported by participants in terms of seven categories: Caucasian, African heritage, East Asian, Arab, other Asian background, Hispanic, and biracial.

Weight was self-reported by participants. Because scantrons were used for data collection, participants could not report their exact weight. Instead they endorsed one of the following nine options: 0 (less than 100 pounds), 1 (100–115 pounds), 2 (116–130 pounds), 3 (131–145 pounds), 4 (146–160 pounds), 5 (161–175 pounds), 6 (176–190 pounds), 7 (191–205 pounds), 8 (more than 205 pounds).

Smoking status was based on participants' self reported smoking behavior. They were classified as daily smokers (n = 75) if they indicated that they had smoked more than 100 cigarettes and currently smoke every day, and never-smokers (n = 113) if they indicated that they are not currently a cigarette smoker, and that they had smoked fewer than 100 cigarettes ever (Centers for Disease Control, 1992).

Smoking for weight control was measured by the Weight Control Smoking Scale (WCSS; Pomerleau, Ehrlich, Tate, Marks, Flessland, & Pomerleau, 1993). This scale consisted of the sum of three items such as "I smoke to keep from gaining weight," rated on a 4-point scale ranging from 0 (*not at all*) to 3 (*very much so*). This scale had high internal consistency (α = .78).

RESULTS

Preliminary Analyses

As indicated above, 73% of the sample were Caucasian, and 27% were women of color from a variety of ethnic backgrounds. Due to the diversity of ethnicities among people of color in this sample, and the fact that there was no sizable group of any ethnicity other than European heritage, ethnicity was treated as a dichotomous variable: White versus people of color. This analytic strategy may mask real differences in the experiences of women from different backgrounds, and this limitation is discussed later in the paper. A series of t-test and chi-square analyses showed that there were no differences between White women and women of color on any of the other variables, including smoking status, used in the study.

Descriptive information for each of the variables for the sample as a whole, and separately for never-smokers and smokers, is presented in Table 1. Smokers were significantly more likely than never-smokers to believe smoking helps people control their weight and to read thinness-depicting magazines; smokers were significantly less likely than never-smokers to be skeptical of tobacco ads. Item intercorrelations are presented separately by smoking status in Table 2.

Hypothesis 1

A logistic regression was performed to predict smoking status (daily smoker vs. never-smoker) from thinness awareness, thinness internalization, believing that smoking helps people control their weight, thinness-depicting magazine exposure, and tobacco ad skepticism. The model was significant, Cox and Snell, R^2 = .17, $\chi 2$ (5, 187) = 33.80, p < .001, and correctly classified 69% of the cases. Believing smoking helps people control their weight, and magazine exposure increased the odds of being a smoker, whereas tobacco advertising skepticism decreased the odds (see Table 3). Thinness awareness and thinness internalization were not significant predictors of smoking status. The same patterns of relations between the variables held, even when the model was reanalyzed controlling for participants' actual weight.

Table 1

Descriptive Information

Variable (range)	*Whole Sample*	*Never-smokers*	*Smokers*
Self-reported weight [a]	2.47 (1.59)	2.59 (1.66)	2.29 (1.46)
SATAQ-Awareness (1–7)	4.74 (1.04)	4.82 (.94)	4.62 (1.15)
SATAQ-Internalization (1–7)	4.40 (1.43)	4.37 (1.36)	4.42 (1.54)
Smoking helps people control weight (1–7)	3.22 (1.74)	2.99 (1.74)	3.57 (1.70)*
Magazine exposure	1–2/month	1–2/month	3–4/month**
Tobacco ad skepticism (1–7)	4.50 (1.34)	4.81 (1.23)	4.03 (1.37)**
Feminist Consciousness (1–5)	3.68 (.64)	3.65 (.61)	3.73 (.69)
White ethnicity	73%	73.5%	72%
Weight control smoking (0–9)	2.21 (2.15)	—	2.21 (2.15)

Note. Figures provided are means, with standard deviations in parentheses.
[a] Self-reported weight: 0 = < 100 pounds; 1 = 100–115 pounds; 2 = 116–130 pounds; 3 = 131–145 pounds; 4 = 146–160 pounds; 5 = 161–175 pounds; 6 = 176–190 pounds; 7 = 191–205 pounds; 8 = > 205 pounds.
* $p < .05$. ** $p < .01$.

Table 2

Intercorrelation of Variables by Smoking Status

Variable	*1.*	*2.*	*3.*	*4.*	*5.*	*6.*	*7.*	*8.*
1. Actual weight		.10	–.07	–.07	–.14	–.07	.20*	.09
2. SATAQ-Awareness	.11		.29**	.13	.03	.13	–.15	.38*
3. SATAQ-Internalization	–.02	.62***		.29**	.15	.03	.17	.02
4. Smoking controls weight	–.00	.27*	.34**		.14	–.04	.11	.01
5. Magazine exposure	.16	.23*	.18	.07		–.02	–.02	.06
6. Tobacco ad skepticism	.08	.08	.08	.16	.13		–.02	.17
7. White ethnicity	.17	.09	.01	–.03	–.05	–.20		.05
8. Feminist consciousness	.21	.00	–.13	–.04	.06	.29*	–.13	
9. Smoking for weight control	.02	.30*	.49***	.48***	.12	.13	–.05	–.17

Note. Correlations for never smokers are above the diagonal; current smokers are below the diagonal.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Table 3

Significance of Individual Predictors of Smoking Status

	B	*Wald*	*Estimated odds ratio*
SATAQ-Awareness	–.27	2.15	.76
SATAQ-Internalization	–.02	.02	.98
Smoking controls weight	.23	4.88*	1.25
Magazine exposure	.54	7.97**	1.72
Tobacco ad skepticism	–.48	15.65***	.62

* $p < .05$. ** $p < .01$. *** $p < .001$.

Hypothesis 2

Among smokers, smoking for weight control was regressed on the same set of variables listed above, with the addition of feminist consciousness and ethnicity. The overall model was significant, $R^2 = .42$, F (6, 68) = 6.26, $p < .001$. Thinness internalization ($\beta = .31$, $t = 2.70$, $p < .01$) and believing that smoking helps people control their weight ($\beta = .36$, $t = 3.51$, $p = .001$) were both positive predictors of actual smoking for weight control, whereas feminist consciousness ($\beta = -.21$, $t = 2.03$, $p < .05$) was a significant negative predictor of smoking for weight control. Thinness awareness, magazine exposure, tobacco ad skepticism, and

being White were unrelated to smoking for weight control. The same patterns of relations between the variables held even when the model was reanalyzed controlling for participants' actual weight.

DISCUSSION

As expected, believing that smoking is an acceptable form of weight control and exposure to thinness-depicting magazines increased the odds of being a smoker, and skepticism about tobacco advertising decreased the odds of being a smoker. Unexpectedly, neither the awareness nor the internalization of thinness pressures was related to smoking status, and this was true even when controlling for participants' self-reported weight. Controlling for weight should be interpreted cautiously, because the measure used here was not a true continuous variable, and this relation should be examined in future research. Nonetheless, these results offer support for the hypothesis that media exposure is related to women's decisions about smoking in a negative way. Women who read fashion and entertainment magazines are exposed to a number of cigarette advertisements; most of these portray women who exceed social standards of beauty and appear to be having marvelous lives in a number of domains (Boyd, 1996–7). Furthermore, such depictions may lead women to believe that smoking is an acceptable form of achieving or maintaining an unrealistically thin body. Thus, it is not surprising that exposure to the advertisements in these magazines, as well as the general values espoused by the magazines themselves, would be associated with smoking.

Furthermore, the finding that skepticism about such advertisements is *negatively* related to smoking underscores the relevance of media influences to women's decisions about smoking. Women who have developed skepticism about these ads are likely to have a critical consciousness about the smoking industry as a whole, and are less likely to be manipulated by media pressures on them. Clearly, causality cannot be inferred from the data, and we cannot determine whether magazine exposure and low levels of skepticism about tobacco advertising lead to smoking or whether smoking leads to them, without conducting a prospective, longitudinal study (Levine & Smolak, 1996). Furthermore, it is possible that some third variable, such as self-esteem, appearance insecurity, or self-objectification, may be a cognitive personality style that acts as a causal factor driving the relation between these variables. The association between these variables and smoking in this young sample, however, does suggest there is an important relation between the media and women's decisions about smoking that warrants further study. One point of caution is that, although cigarette ads in women's magazines promote a thin ideal, that is not the only value they emphasize. Young women smokers may be responding to other aspects of the advertisements, such as "having it all." The specific nature of ads that are appealing to women also should be studied further so that public health campaigns can address the particular features of cigarette advertising that women find attractive.

It is interesting that attitudes toward thinness—both those perceived in society in general and those internalized by the individual—were not associated with smoking status in the logistic regression. It is possible that this is due to particular characteristics of the sample studied. Women in this study are fairly homogeneous with regard to age and social class status. Women from this cohort were raised knowing the dangers of cigarette smoking all their lives, and they were also raised in a period when other options for weight control, such as exercise, were readily available and encouraged in girls. More than half the women indicated that they exercised for weight control at least twice a week, and there was no difference on this by smoking status. These results suggest that, although women may connect smoking with thinness, that is not the main reason for them to smoke. In fact, when a subset of these women smokers were queried as to reasons they began smoking, they indicated smoking for social reasons significantly more than for weight control.[2] It will be important to examine these relations in a sample of women that is older and heavier, and where smoking as a means of weight control may be more prevalent. However, reasons for smoking initiation and maintenance may be distinct.

Among smokers, smoking for weight control was predicted by internalization of social pressures for thinness, believing that smoking is an acceptable form of weight control, and low levels of feminist consciousness, but awareness of thinness pressures, exposure to thinness-depicting magazines, tobacco advertising skepticism, and being White had no effect. These results were obtained even when controlling for participants' actual weight. It was surprising that magazine exposure and tobacco ad skepticism were not associated with smoking for weight control. It is possible that women may not be reading the same magazines currently as they were when they became smokers. We do not know whether they were exposed to more thinness-depicting magazines during the time of smoking initiation.

Alternatively, young women who smoke for weight control may be a particularly "thinness schematic" group. That is, thinness is a highly salient personal construct and goal, as evidenced by the importance of internalized thinness pressures in predicting weight control smoking. These women do not perceive a greater social pressure for thinness, but they have internalized the pressure to a greater extent than women for whom smoking is less of a weight control strategy. These attitudes, combined with valuing the weight-suppressing factors of cigarette smoking and lacking a feminist consciousness that includes a critique of the objectification of women's bodies, may create a situation in which thinness and the idea of smoking for weight control are constantly salient. In this case, exposure to thinness-depicting magazines, with the consequence of viewing many extremely thin models, diet plans, and so on,

may not be as important in the decision to smoke to control weight. Similarly, tobacco ad skepticism may not serve as a buffer for women smokers who are already extremely weight concerned. Instead, weight control smokers may be characterized as those women whose particular attitudes (valuing thinness, believing smoking is acceptable to control weight, believing in the innate nature of stereotypical gender roles and discrimination) are so strong that other factors have little importance in their reasons for smoking.

Women who use smoking as a weight control strategy may be at particular risk for continued smoking. It has been found that women who use smoking as a form of weight control tend to eat more and engage in more disordered eating during periods of abstinence from smoking than women smokers who do not smoke for weight control (Pomerleau et al., 1993). Although conflicting findings have been presented (Gourlay, Forbes, Marriner, Pethica, & Mcneil, 1994; Gritz, Berman, Read, Marcus, & Siau, 1990), there is also evidence that women who smoke to control their weight may be less likely to be successful at smoking cessation (Meyers, Klesges, Winders, Ward, Peterson, & Eck, 1997), and women with strong concerns about postcessation weight gain are less likely to be ready to quit (Pomerleau, Zucker, & Stewart, 2001). Thus, it is particularly important that smoking cessation programs be sensitive to the needs of weight control smokers. The current results suggest that such programs will need to address a key aspect of women's internalization of sexist culture—that is, their desire to be thin in order to win social approval regardless of the health consequences. Activism that contributes to changing both women's and men's emphasis on objectifying women will certainly be necessary to change the underlying social values that lead women to engage in known health risks in order to be thin. Our study suggests that, in the meantime, however, there are a number of strategies that may promote smoking cessation for women on an individual level. In addition to developing plans to avoid weight gain after quitting, direct efforts to increase women smokers' level of feminist consciousness may also be helpful in emphasizing aspects of female self-worth other than thinness and in exposing the tobacco industry's manipulation of women.

In addition, we can draw some inferences from this study about techniques that may be useful in public health campaigns. In particular, teaching advertising skepticism may be an effective technique, particularly in preventing smoking initiation. Counter-advertising campaigns that satirize cigarette ads reach large numbers of people and can teach tobacco ad skepticism by employing many of the same strategies as tobacco advertisers, but then exposing cigarette smoking as deadly (Cortese, 1999). Anti-smoking ads that satirize smoking's effect on body shape might help to counter the idea, among smokers who are weight concerned, that smoking is an acceptable means of weight control. In addition to reaching current smokers, these kinds of advertisements may have widespread effects in helping stem smoking initiation among young people. Similarly, raising women's feminist consciousness may help them resist the temptation to focus on the value of a thin female body as their most important goal.

The generalizability of this study may be limited by its highly selective sample. It is important to understand correlates of smoking in college women, particularly because of their high rates of disordered eating and the fact that smoking relates to these problems. We are studying a group of women, however, who have limited variance in age, social class, and intensity of smoking. It will be informative to study the kinds of relations described in this paper in more diverse samples of women.

In particular, it is critically important to consider the role of social structure, such as race/ethnicity. Although this sample consisted of over one-quarter people of color, diversity within that group made it impossible to test whether the model holds for different groups of women of color. In this study, where we were forced to collapse ethnic groups, we were really examining the effect of being White, as opposed to looking for more subtle ethnic differences. Furthermore, because the sample was stratified on ethnicity within smoking status, we could not include ethnicity as a variable predicting smoking status. We were able to include ethnicity as a predictor of smoking for weight control among smokers, but we did not find that being White was a significant factor in smoking for weight control. This is somewhat surprising given that different groups of people of color tend to be less concerned about thinness than White people, and thus might not be expected to use smoking as a weight control strategy to the same extent (Crago, Shisslak, & Estes, 1996; Harris, 1994; Pomerleau, Zucker, Namenek Brouwer, Pomerleau, & Stewart, in press). It is likely that complicated sociocultural factors contribute to ethnic differences in body concerns and smoking, and it is possible that the way ethnicity was defined in this sample made it difficult to examine those questions. Based on the data presented here, we cannot tell whether African American, Latina, Asian American, and Native American women may differ from each other, as well as from European Americans. Furthermore, SES and ethnicity may be confounded, and because our sample was primarily middle-class, we cannot address this issue here. This is a particularly important area of future study and public health action.

Finally, this study was correlational in nature. Although we documented that certain variables, such as beliefs about smoking and weight, and tobacco ad skepticism, relate to smoking, we cannot infer any causal directionality. For instance, it is possible that tobacco ad skepticism helped prevent smoking initiation by making women more resistant to the messages in cigarette ads. It is also possible that once a woman becomes a smoker her feelings about tobacco companies and ads change—she may feel more warmly toward them and less skeptical of them. Prospective, longitudinal studies and studies that examine what factors facilitate the transition from experimenter to

smoker, and smoker to ex-smoker, that can begin to tease apart causal influences, are a crucial next step in this research.

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NOTES

1. Due to the low prevalence of people of color and individuals who identify with feminism in the Introductory Psychology participant pool (Twenge & Zucker, 1999), we chose participants to maximize diversity on those dimensions. Because we purposely created a sample that was diverse in terms of ethnicity and feminist identity, both within the nonsmoking and smoking groups, however, we could not then use being White or feminist consciousness as variables in hypothesis 1 to predict smoking status. Thus, those variables were included only in hypothesis 2.
2. This question was only included during one semester of data collection; thus, we do not have the information from all participants.

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