The role of social influence and smoker identity in resistance to smoking cessation

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Reference


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The role of social influence and smoker identity in resistance to smoking cessation

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153 secondary school students, all smokers, were either exposed to a strongly anti-smoking message originating from a high status source (persuasive message condition) or not (control condition). A questionnaire then measured a set of variables concerning several aspects of tobacco consumption (i.e., smoker identity, attitude, subjective norm, perceived lack of behavioural control, smoking behaviour, and intention to give up smoking). First, regression analysis shows that the smoker’s identity plays a direct and important role in explaining current smoking behaviour and the intention not to smoke, even when other variables are controlled. Second, analyses of variance indicate that smokers with a strong identity as a smoker are defensively motivated when confronting a persuasive attempt – i.e. their perception of friends’ support to smoke increases. Finally, partial correlations show that the relationship between smoker identity and intention to give up smoking is mediated by this defensive motivation. Taken together, these results suggest that smoker identity is an important factor in explaining smoker’s intention to give up smoking and, when antitobacco campaigns are salient, smoker identity can affect other variables which can reverse antitobacco efforts.

Key words: Smoking behaviour, intention to quit smoking, smoker identity, social influence, defensive motivation

Since the discoveries about the link between tobacco consumption and the risk of getting lung cancer (Doll & Hill, 1950), health authorities have developed information campaigns to make people aware and to lead them to decide not to smoke (e.g. WHO, 1988, 1993). These campaigns, focusing mostly on health-related information and people’s skill training (cf. Chassin, Presson & Sherman, 1990), seem to have a wide impact and to result in the information being assimilated. In fact, several studies have confirmed that people are becoming increasingly aware of the consequences of cigarette smoking both for smokers (e.g. Brownson, Jackson, Thompson, Wilkerson, Davis, Owens & Fisher, 1992; GVDGSP, 1993; USDHHS, 1989) and with respect to the passive exposure of non-smokers (cf. Brownson et al., 1992; USDHHS, 1986).

Nevertheless, the problem seems to remain unresolved so far as behaviour is concerned. On the one hand, the rate of initiation of smoking among adolescents seems to be increasing again (cf. WHO, 1997; ISPA, 1997), after reaching a plateau in the 1970s and remaining stable through the 1980s (cf. Lynch & Bonnie, 1994). On the other hand, even though some studies show that a proportion of smokers succeed in giving up smoking (the number of ex-smokers varies between 10% and 25% of the population, depending on the country considered, e.g., ISPA, 1997; MIPNSD, 1995; USDHHS, 1989), in European countries the number of current smokers remains at over 30% of the population (e.g. Etter, Perneger & Ronchi, 1997; ISPA, 1997; MIPNSD, 1995), and the majority of smokers are not willing to give up smoking. For instance,

1 This research program was supported by the Fonds National de la Recherche Scientifique, Switzerland. We are grateful to Juan Fabra for his help in collecting data.
in Switzerland, 74% of smokers are in the precontemplation stage (cf. Etter et al., 1997), i.e., they are not seriously thinking about quitting within the next 6 months (see Prochaska, DiClemente & Norcross, 1992).

Thus, smokers acknowledge anti-tobacco information, but they do not integrate it into their individual action systems – i.e., smoking behaviour is resistant to change – and the efficacy of antitobacco campaigns still needs to be improved. Of course, several factors can account for this resistance. One important factor seems to be the meaning that smoking behaviour has for the regular smoker. In fact, antitobacco actions and social regulations have achieved a significant impact, but at the same time they have enhanced the social categorisation between smokers and non-smokers, i.e., they have strengthened the salience of smoker identity. Thus, one aspect that antitobacco campaigns should nowadays take into account – the focus of the present article – is the role of smokers’ identity as a significant factor in explaining smokers’ resistance to change (i.e., in explaining some of the campaigns’ failure). The present study analyses two different roles that smoker identity can play in the resistance to give up smoking: smoker identity as a factor predicting the intention not to give up smoking (direct path), and, when smokers face antitobacco persuasive messages, smoker identity as a factor predicting intention to give up smoking via other variables accounting for defensive goals (indirect path).

Smoking behaviour as an identity-related stake

The early development of smoking behaviour is grounded in psychological-social and cultural factors (cf. Chassin et al., 1990) and has to be analysed as related to the construction of an identity. Smoking can be considered as a routine behaviour or a habit that contributes to building a part of a person’s identity (cf. Chassin, Piliavin & Callero, 1988); it locates smokers in the social field by placing them within a visible social category, i.e., that of smokers, which determines a strong feeling of group belonging. It has thus been observed that smokers show a strong identification with their category (Echebarria, Fernández & Gonzalez, 1994).

According to this reasoning, smoker identity – i.e., feelings of being a smoker or being identified with smokers as a group – should be related to smoking behaviour. The role of identity in predicting smoking behaviour has already been highlighted in explaining adolescent initiation into smoking (e.g., Burton, Sussman, Hansen, Johnson & Flay, 1989), smoking behaviour (Biddle et al., 1985), the success or failure of clinical programs aiming at leading smokers to quit their habit (Shadel, Mermelstein & Borrelli, 1996), and maintenance of abstinence from smoking (Shadel & Mermelstein, 1996). For instance, smokers for whom smoking was an important part of their identity had a relatively lower probability of maintaining their abstinence whereas smokers who were high in abstainer self-concept had a stronger probability of being abstinent three months after the treatment ended (Shadel & Mermelstein, 1996). Therefore, one can expect that smoker identity would also be related to smoking behaviour and to smokers’ intention to give up smoking.

Smoker identity as a direct predictor of intention to give up smoking

It is nowadays well accepted that behaviours under volitional control are predicted from an intention, or willingness, to perform the behaviour (Fishbein & Ajzen, 1975; for critical analyses of variables moderating this effect, see Gollwitzer, 1993). Since intentions are assumed to capture the motivational factors that influence a behaviour, one first step in changing behaviour is therefore changing intention to perform this behaviour. The Theory of Reasoned Action (Fishbein & Ajzen, 1975) postulates two independent determinants of an intention to perform a behaviour: the attitude toward the behaviour concerns the person’s evaluation of his or her performing the behaviour (e.g., “Giving up smoking is good (or bad) for me”), the normative component, or subjective norm, refers to people’s perception of the extent to which others who are important to them think they should perform the behaviour (e.g., “My friends think that I should give up smoking”). Finally, with the aim of extending the theory to behaviours that are not totally under a person’s control, the Theory of Planned Behaviour (Ajzen, 1991) introduced a third variable, perceived behavioural control, which refers to people’s perception of the ease or difficulty of performing the behaviour (e.g., “I don’t feel able to give up smoking”). To briefly summarise this model, the more favourable the person’s attitude and the norm regarding the behaviour and the greater the person’s perceived behavioural control, the more likely the person will intend to perform the behaviour.

In spite of the strong overall support for this model (cf. Ajzen, 1991; Kraus, 1993), for example in explaining both adolescents’ initiations into tobacco consumption (cf. Chassin et al., 1990) and smokers’ intentions to give up smoking (Eiser, Van der Pligt, Martin & Sutton, 1983; Fishbein, 1980, 1982), several variables such as prior behaviour (Triandis, 1980, Bentler & Speckart, 1981), personal normative beliefs (Parker, Manstead & Stradling,
and people's identity (Biddle, Bank & Slavings, 1987) have been considered as important factors in predicting behavioural intentions, independently of variables considered in the model. People's identity can affect behaviour for two reasons (Biddle et al., 1985). First, people may need to conform to their self-concept, as a way to make their behaviours consistent with the aspects that are relevant for self-definition (Heider, 1958). Difference between group phenomena and interpersonal phenomena assumed by Social Identity Theory (SIT; cf. Abrams & Hogg, 1990; Tajfel & Turner, 1986) can offer a second explanation for the identity-behaviour relationship. People will be motivated either to maintain a social identity and the behaviours related to it or to change it. SIT considers that the extent to which people define themselves in terms of a self-inclusive social category, i.e., identify themselves as members of their social group (e.g., as smokers), determines their tendency to act in terms of their group membership. Therefore, SIT would predict that the more people identify themselves as smokers the more they will act as smokers and the less committed they will be to giving up smoking.

Some studies show that identity independently contributes in predicting behavioural intentions (e.g., Charrg et al., 1988; Granberg & Holmeng, 1990; Sparks & Shephard, 1992).

For instance, in a study of blood donation, Charrg et al. found that role identity—a set of characteristics or expectations that is simultaneously defined by a social position in the community and becomes a dimension of an actor's self (p. 304; e.g., "Blood donation is an important part of who I am")—explained intention to donate blood in the next six months when the effect of attitudes and subjective norms was controlled. In addition, it appeared that the predictive power of role identity increased with increments in the frequency of blood donation. In another study, it was observed that self-identity (i.e., identification as a "green consumer") contributed to the explanation of intentions (i.e., intention to consume organic vegetables) even when past behaviour was included in the regression equation. This result led the authors to conclude that "although we thought it feasible that self-identity might be inferred from past behavior and thereby might act merely as a surrogate for the influence of behavioral habits, self-identity was shown to contribute an effect independent of that contributed by past behavior" (Sparks & Shephard, 1992, 393–396; see also Granberg & Holmeng, 1990).

On the basis of these considerations, one can anticipate that smoker identity will play a role as a direct predictor of smoking behaviour and intention to give up smoking. Therefore, we expect to observe a positive relationship between the strength of smoker identity and smoking behaviour and a negative relationship between the strength of smoker identity and intention to give up smoking, even when the effect of attitude, subjective norm, and perceived behavioural control have been controlled.

Smoker identity as an indirect predictor of intention to give up smoking

SIT also assumes that people are not just motivated to maintain a social identity but that they are motivated to achieve a positive social identity—through group enhancement. Thus, it has been observed that people typically evaluate their own group more positively than an outgroup, and explain their behaviour in a more flattering way than they do for outgroup's behaviour. Since membership of a high status group (e.g., the non-smoker group) gives a positive social identity and high self-esteem whereas membership of a low status group (e.g., the group smokers) provides a negative social identity and low self-esteem—low status group members would be motivated to restore a positive identity. Defensive motivation can operate through different cognitive and behavioural strategies. Identity can be improved by cognitive action (i.e., negative restructuring e.g., smokers' over-evaluation of pleasure in smoking) or social creativity (e.g., positive representation of themselves compared to non-smokers), collective action (e.g., demanding tolerance and recognition for their group), or individual action that leads individuals to quit the group and join a more valued one (e.g., social mobility, such as smokers giving up smoking and becoming ex-smokers).

In addition, SIT predicts that increments in social identification with the group will increase the collective action strategy (e.g., Simon et al., 1998) but decrease the individual action strategy. In-group bias is thus expected to be greater among a high identified category members than among low identified ones. Salience of identification with a group is one of the most important factors determining whether individuals will defend their current social identity rather than change it as a means of defending personal identity. In fact, the more strongly the individual identifies with a group, the more that individual will be concerned with defending social identity (e.g., maintaining a positive image of social group). Conversely, the less an individual identifies with a group, the more that individual will be motivated to leave the group and achieve a new and more positive social identity within a highly valued group.

These considerations allow us to predict a second role for identity in explaining behavioural intentions: behavioural intention can be affected by identity via other mediator variables that allow people to enhance social identi-
At this point, Terry & Hogg (1996) proposed that the role of other variables—i.e., norms—in attitude–behaviour relationship can be usefully reconceptualised from the perspective of social identity. In two studies the authors observed that the influence on intention of the perceived norms of a behaviourally relevant reference group was greater among subjects who identified strongly with the group. The opposite pattern of results was observed for personal determinants of intentions. The effect on intention of perceived behavioural control (study 1) and attitude (study 2) appeared to increase at low rather than at high levels of group identification. The authors interpreted these results as consistent with identity/self-categorisation theories: social, rather than personal, determinants of behavioural choice are likely to have the most impact on behavioural choice for subjects for whom membership in the group is psychologically important. In other terms, these results suggest that identity can affect intentions by increasing the perceived norm supporting the behaviour.

Thus, one can consider that the weight of subjective norms in explaining intention will be greater when contextual factors enhance the threat to a person’s behaviour or identity. For instance, since recourse to social support can be regarded as an identity-protection strategy to the extent that it serves as a heuristic for the social validity of one’s position (cf. Chaiken, 1980; Festinger, 1950; Turner, 1991), smokers highly identified with the smoker group can increase the perception of social support for smoking as a way of enhancing smoking behaviour. Furthermore, social support has been shown to allow individuals to resist change (cf. Allen, 1975) and it can be expected that increasing perceived social support will lead smokers to decrease their intention to give up smoking. One may expect therefore that increases in perceived support for smoking—i.e., subjective norm—can mediate the effect of smoker identity on the intention not to give up smoking, i.e., smokers with a strong identity as a smoker can resist the pressure to quit smoking by increasing the perceived support for their smoking.

The question then arises as to which factors in the social context can encourage activation of such defensive motivation. One factor activating defensive motivation could be the salience of a social categorisation in the social context—i.e., a defensive reaction can occur when the context accentuates categorisation between smokers and non-smokers (Echebarria et al., 1994; Falomir, Munguía & Pérez, 1999). It is noticeable that most anti-smoking campaigns tend to make this categorisation salient. Another factor increasing defensive motivation would be the salience of a persuasive message arguing against tobacco consumption. In fact, smokers are increasingly the targets of major campaigns against not only tobacco but also their behaviour and their identity (reflected in slogans such as: “I ♥ non-smokers” or “Kiss a non-smoker, feel the difference”). A particular feature of attempts to change behaviour and attitudes related to important self-concepts is that the target is being motivated to preserve them (Chaiken, Giner-Sorolla & Chen, 1996). If one accepts that anti-smoking campaigns seek an impact partly by questioning and stigmatising the identity of smokers, i.e., seeking to convince them of the unreasonable and illegitimate character of their behaviour, this raises the possibility that smokers will be aroused to defend their identity and, consequently, their behaviour.

In fact, it has been observed that smokers are defensively motivated when they are exposed to a persuasive message arguing against tobacco consumption (Falomir & Munguía, 1999). In this study smokers and non-smokers were exposed (or not) to an antitobacco message (cf. Pérez & Munguía, 1990) based on either an optional rhetoric—i.e., giving smokers the freedom of choice—or an imperative rhetoric—i.e., not giving smokers the freedom of choice. Results showed that smokers are particularly motivated to defend their identity as smokers (i.e., holding an attitude more favourable to tobacco consumption and defining the smokers’ image less negatively) when the message was based on an imperative rhetoric than when it is built around an optional rhetoric, or when they are not exposed to any message. Furthermore, such a defensive motivation was also related to a decrease in their intention to give up smoking. As expected, and supporting the identity-related processes, this defensive motivation was not observed in non-smokers. It could thus be argued that defining oneself as a smoker is a factor enhancing the protection of identity and behaviour, and obstructing the process of change. According to this reasoning, one can expect that smokers with a strong smoker identity will react to a persuasive message in a more defensive way than smokers with a weak smoker identity.

One way of testing these ideas involves exposing (or not) smokers with a weak or strong smoker identity to an antitobacco message. Three main hypotheses can be advanced. First, smoker identity will predict present smoking behaviour even when attitude, norms, and perceived behavioural control are controlled. Second, smoker identity will predict intention to give up smoking even when attitude, norms, perceived behavioural control, and present smoking behaviour are controlled. Third, we predict that people with a strong smoker identity will be particularly motivated to defend their behaviour and identity—e.g., increasing perceived support from friends for their smoking—when they are exposed to a persuasive message. Furthermore, the impact of smoker identity on intention to give up smoking will be mediated by such a defensive motivation.

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Method

Participants

153 Spanish secondary school students (85 women and 68 men; median age: 16.7 years) all smokers, took part voluntarily in the study. They had been smoking for at least one year ($M = 3.19$ years, $SD = 2.32$), and their average consumption was 10.09 cigarettes per day ($SD = 5.36$). Average consumption was increasing for 29.4% of them, decreasing for 13.1%, and was stable for 57.5%. Finally, 57.6% of them had tried to give up smoking (unsuccessfully) at least once.

Procedure

The study consisted in completing an anonymous questionnaire including different questions and was presented as an inquiry about tobacco consumption. The questionnaire was administered by the teacher during their Art course. All answers to the questions were to be given on 7-point scales, and use of the scales was explained orally to the participants.

Experimental manipulation

Participants were randomly assigned to experimental conditions. In the control condition (without persuasive message; $n = 80$) subjects just answered different questions (cf. measures). In the experimental condition (with a persuasive message; $n = 73$), before answering the questionnaire, subjects were exposed to a strongly anti-smoking message originating from a high status source ("a group of university professors"). The message was presented as "an analysis of the socio-economic reasons why people smoke", describing smokers as toys manipulated by the tobacco industry (i.e., by its advertising), victims of the over-productive society that created them an artificial need to smoke, and thus serving the interests of the tobacco industry (cf. Pérez & Mugny, 1990).

Measures

Answers to three items were averaged to form the measure of smoker identity. Two questions investigated self-concept ("To what extent do you feel you are a real smoker?"), and ("To what extent do your friends see you as a real smoker?") and another social identification ("To what extent do you identify with smokers?"). The response scale endpoints to the three items were marked 1 = "a little" and 7 = "a lot" ($\alpha = .83; M = 4.54, SD = 1.47$).

The measure of present smoking behavior has been constructed on the basis of the answers to two previously standardised items (cf. participants section): "How many cigarettes do you smoke a day (average)?" (cigarettes), "Since when have you been smoking?" (in years; standardised scores: $r = .377; p < .001; M = 0.0, SD = 83$; cf. Biddle et al., 1985).

The measure of attitude towards giving up smoking consists of a classical semantic differential on a 7-point scale (Osgood, Suci, and Tannenbaum, 1957), and was formed by the answers to the question "What do you think about giving up smoking?": "I like it - I don't like it", "It's good - It's bad", "I'm in favour - I'm against", "It's unpleasant - It's pleasant" and "It's inadequate - It's adequate". After inverting the last two items, the five scales were averaged. Higher value means that smokers are more against giving up smoking, i.e., they prefer to continue to smoke ($\alpha = .76; M = 3.47, SD = .76$).

The measure of subjective norm was constructed by averaging four items, two measuring the perceived friends pressure to give up smoking or support to smoke ("How many of your friends prefer that you give up smoking?", 1 = none and 7 = all, reversed items, "How many of your friends prefer that you smoke?", 1 = none and 7 = all), and two other items measuring friends' perceived norm ("How many of your friends think that giving up smoking is good?", 1 = none, 7 = all, inverted item, "How many of your friends think that smoking is good?", 1 = none, 7 = all). A higher value means that smokers perceived in their pairs a higher support to continue to smoke ($\alpha = .68; M = 3.11, SD = 1.30$).

The index of perceived lack of behavioral control over tobacco consumption was computed averaging the items: "How much do you feel that nicotine dependence would impede you in giving up smoking?" (1 = nothing at all, 7 = completely), "How much do you feel that habit would impede you in giving up smoking?" (1 = nothing at all, 7 = completely), "Do you feel able to give up smoking?" (1 = I feel unable, 7 = I feel able; inverted item). A higher value means that smokers perceive low control over giving up smoking ($\alpha = .69; M = 4.00, SD = 1.43$).

The index of "intention to give up smoking" was computed by averaging the items: "Do you intend to give up smoking soon?" (1 = no, 7 = yes; $M = 4.60, SD = 2.19$), "Do you intend to give up smoking one day?" (1 = no, 7 = yes; $M = 6.16, SD = 1.31$), "Do you intend to reduce your cigarette consumption?" (1 = no, 7 = yes; $M = 5.69, SD = 1.72$). This index ($\alpha = .69; M = 5.49, SD = 1.39$) constituted the principal dependent variable.

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Results

The direct impact of smoker identity

Correlations between the variables are given in Table 1. To test the hypothesis that smoker identity significantly increases the explanation of present behaviour accounted by the other variables, a hierarchical regression analysis was run. In the first step, present smoking behaviour was regressed on attitude, subjective norm, and perceived control. In the second step, smoker identity was added to the equation. Results are presented in Table 2. In the first step, attitude and perceived lack of control accounted for a significant proportion of the explained variance (respectively, $\beta = 181$, $p < 0.05$ and $\beta = 313$, $p < 0.001$), but subjective norm did not. In the second step smoker identity contributed significantly to an increase in the explained variance ($\beta = 326$, $R^2_{\text{change}} = 0.91$, $F_{\text{change}} = 17.95$, $p < 0.001$). Consistent with other findings (e.g., Biddle et al., 1985), smoker identity contributes to the explanation of smoking behaviour even when the effect of other variables is controlled in the regression equation: reported smoking behaviour increases as smoker’s identity strengthens.

To test the hypothesis that smoker identity significantly increases the explanation of intention to give up smoking accounted by the other variables, another hierarchical regression analysis was performed: attitude, subjective norm, perceived lack of control, and present smoking behaviour were entered in the first step, and smoker identity was entered in the second step. Results are presented in Table 3. In the first step, attitude, subjective norm and present smoking behaviour accounted for a significant proportion of the explained variance (beta-weights of $-188$, $-350$ and $-187$ respectively), but perceived lack of control did not. In the second step smoker identity contributed significantly to an increase in the explained variance ($\beta = -207$, $R^2_{\text{change}} = 0.32$, $F_{\text{change}} = 6.43$, $p < 0.05$). Together with attitude and subjective norm, smoker’s identity appears to explain intention to give up smoking: intention to give up smoking decreases as smoker’s identity strengthens.

One important aspect of these findings is the fact that identity seems to reflect more than smoking behaviour (cf. Sparks & Shepherd, 1992). However, since the correlation between the two variables is significant ($r = 0.49$, $p < 0.001$), it seems likely that identity will be partly inferred from behaviour (cf. Chang et al., 1988): the greater the intensity of smoking behaviour the stronger the smoker’s identity. To test the complementary hypothesis that the effect of smoker identity on the intention to give up smoking is greater when smoking behaviour is well established, two sets of hierarchical analyses were performed for people with light- or heavy-smoking behaviour. In each analysis, intention to give up smoking was regressed on attitudes, subjective norm, perceived lack of control (step 1), and smoker identity (step 2). Results are presented in Table 4. As regards light smokers (average 6.09 cigarettes per day, and average two years smoking) in the first step only subjective norm contributed to explaining the variance ($\beta = -0.487$, $p < 0.001$), and in the second step smoker identity did not increase the variance explained. As regards heavy smokers (average 14.15 cigarettes per day, and average four years smoking), in the first step both attitude and subjective norms were good predictors of intention ($\beta = -3.46$, $p < 0.01$, and $\beta = -2.16$, $p < 0.001$).

Table 1: Correlation coefficients between the variables (N = 153)

<table>
<thead>
<tr>
<th></th>
<th>Subjective norm</th>
<th>Perceived lack of control</th>
<th>Present behaviour</th>
<th>Smoker identity</th>
<th>Intention to quit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>122</td>
<td>-023</td>
<td>165***</td>
<td>-128</td>
<td>-262***</td>
</tr>
<tr>
<td>Subjective norm</td>
<td>-</td>
<td>-031</td>
<td>-062</td>
<td>099</td>
<td>361***</td>
</tr>
<tr>
<td>Perceived lack of control</td>
<td>-</td>
<td>-</td>
<td>311***</td>
<td>351***</td>
<td>058</td>
</tr>
<tr>
<td>Present smoking behaviour</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>409***</td>
<td>-201***</td>
</tr>
<tr>
<td>Smoker identity</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>282***</td>
</tr>
</tbody>
</table>

* $p < 0.05$, ** $p < 0.01$

Table 2: Summary of regression of present smoking behaviour on attitude, subjective norm, perceived lack of control, and identity (N = 153)

<table>
<thead>
<tr>
<th></th>
<th>$\beta$</th>
<th>$R^2$</th>
<th>$F$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>181***</td>
<td>0.138</td>
<td>0.089</td>
</tr>
<tr>
<td>Subjective norm</td>
<td>-074***</td>
<td>0.197</td>
<td>0.132</td>
</tr>
<tr>
<td>Perceived lack of control</td>
<td>313***</td>
<td>0.244</td>
<td>0.001</td>
</tr>
<tr>
<td>Smoker identity</td>
<td>-326***</td>
<td>0.1745</td>
<td>224</td>
</tr>
</tbody>
</table>

Step 1: $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Step 2: $p < 0.001$; *** $p < 0.001$

* Standardised coefficients in step 2

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Table 3. Summary of regression of intention to give up smoking on attitude, subjective norm, perceived lack of control, present smoking behaviour, and identity (N = 153)

<table>
<thead>
<tr>
<th>Step 1</th>
<th>β</th>
<th>β*</th>
<th>ΔR²</th>
<th>ΔF</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude</td>
<td>-188**</td>
<td>-173*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective norm</td>
<td>-350***</td>
<td>-336***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived lack of control</td>
<td>-015</td>
<td>037</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Present smoking behaviour</td>
<td>-187*</td>
<td>-120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>Smoker identity</td>
<td>-207*</td>
<td>032</td>
<td>6.43*</td>
<td>247</td>
<td>9.68***</td>
</tr>
</tbody>
</table>

* p < 05; ** p < 01; *** p < 001
* Standardised coefficients in step 2

Table 4. Summary of regression of intention to give up smoking according to intensity of smoking behaviour

<table>
<thead>
<tr>
<th>Step 1</th>
<th>β</th>
<th>β*</th>
<th>ΔR²</th>
<th>ΔF</th>
<th>R²</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light smokers (N = 77)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>-058</td>
<td>-060</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective norm</td>
<td>-487***</td>
<td>-483***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived lack of control</td>
<td>-003</td>
<td>046</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>Smoker identity</td>
<td>-104</td>
<td>008</td>
<td>81</td>
<td>251</td>
<td>6.05***</td>
</tr>
<tr>
<td>Heavy smokers (N = 76)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>-346**</td>
<td>-295**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective norm</td>
<td>-216*</td>
<td>-197*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perceived lack of control</td>
<td>-079</td>
<td>030</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 2</td>
<td>Smoker identity</td>
<td>-264*</td>
<td>265</td>
<td>6.24*</td>
<td>265</td>
<td>6.41***</td>
</tr>
</tbody>
</table>

* p < 10; ** p < 05; *** p < 01; **** p < 001
* Standardised coefficients in step 2

p < 05), and in the second step identity contributed to an increase in the explained variance ($\beta = -264$; $R^2_{\text{change}} = 265$, $F_{\text{change}} = 6.24$, p < 02). Thus, these results confirm those of previous research supporting the relationship between behaviour and identity.

The indirect effect of smoker identity on intention to give up smoking

Since in the experimental condition smoker identity was measured after reading the antitobacco message, a precautionary ANOVA was performed to test for a possible effect of experimental induction upon smoker identity. No differences were found (F1, 151 = 0.01, p < 97) suggesting that perception of oneself as a smoker was not influenced by experimental induction.

To test the impact of smoker identity and experimental induction on mediator variables a categorical variable was computed from the smoker’s identity separating weak-identity smokers ($M = 3.36$) and strong-identity smokers ($M = 5.76$) on the basis of the median (4.67). Univariate analyses of variance were conducted with smoker identity (weak vs. strong) and experimental induction (control vs. persuasive message) as independent variables, on five dependent variables: attitude, subjective norm, perceived lack of control, present smoking behaviour and intention to give up smoking.

First, analyses of variance showed three main effects of smoker identity, which reproduce the correlations in Table 1: smokers with a strong identity, compared to those with weak identity, perceive a greater lack of behavioural control (respectively, $M = 4.51$ and $M = 3.50$, $F1,149 = 21.17$, p < 001), smoke more cigarettes ($M = 12.31$ and $M = 7.97$ cigarettes per day), have been smoking for longer ($M = 3.89$ and $M = 2.56$ years of consumption; mean for standardized measures: $M = 0.34$ and $M = -0.34$, $F1,149 = 31.60$, p < 001), and express less intention to quit ($M = 5.08$ and $M = 5.86$, $F1,149 = 12.69$, p < 001). In another way, the more strongly that subjects feel they are smokers, the more they smoke and the more they reduce the perception of group permeability (related to capacity to give up smoking) and the intention to change behaviour.

As regards attitudes against giving up smoking, analyses also show an interaction effect ($F(1,149) = 4.22$, p < 05; see Table 5). Only one condition differs significantly from the others: the attitude in favour of giving up smoking is greater when the persuasive message is presented to smokers with weak smoker identity. This result shows that the persuasive message has an influence on at-
Table 5: Means of variables as a function of smoker identity and experimental conditions; SD in brackets

<table>
<thead>
<tr>
<th>Smoker identity:</th>
<th>Control</th>
<th>Strong</th>
<th>Persuasive message</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Week 42</td>
<td>Strong 38</td>
<td>Week 36</td>
</tr>
<tr>
<td>Attitude</td>
<td>3.54a</td>
<td>3.50a</td>
<td>3.19a</td>
</tr>
<tr>
<td></td>
<td>(61)</td>
<td>(77)</td>
<td>(79)</td>
</tr>
<tr>
<td>Subjective norm</td>
<td>3.11a</td>
<td>2.70a</td>
<td>2.97a</td>
</tr>
<tr>
<td></td>
<td>(1.33)</td>
<td>(1.27)</td>
<td>(1.27)</td>
</tr>
<tr>
<td>Perceived lack of control</td>
<td>3.58a</td>
<td>4.62a</td>
<td>3.43a</td>
</tr>
<tr>
<td></td>
<td>(1.31)</td>
<td>(1.31)</td>
<td>(1.30)</td>
</tr>
<tr>
<td>Present smoking behaviour</td>
<td>-0.20b</td>
<td>0.33b</td>
<td>-0.49a</td>
</tr>
<tr>
<td></td>
<td>(0.78)</td>
<td>(0.76)</td>
<td>(0.47)</td>
</tr>
<tr>
<td>Intention to quit</td>
<td>5.98c</td>
<td>5.17b</td>
<td>5.74a</td>
</tr>
<tr>
<td></td>
<td>(1.00)</td>
<td>(1.54)</td>
<td>(1.06)</td>
</tr>
</tbody>
</table>

Row means with different subscripts differ significantly; *p < 0.05

Table 6: Correlations and partial correlations among the smoker’s identity and the intention to quit as a function of experimental conditions

<table>
<thead>
<tr>
<th>Controlling for</th>
<th>-</th>
<th>Attitude</th>
<th>Subjective norm</th>
<th>Perceived lack of control</th>
<th>Cigarettes smoked per day</th>
<th>Years of smoking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control condition</td>
<td>-302**</td>
<td>-336a</td>
<td>-365**</td>
<td>-264a</td>
<td>-309**</td>
<td>-305**</td>
</tr>
<tr>
<td>Persuasive message condition</td>
<td>-259b</td>
<td>-319</td>
<td>-163</td>
<td>-280a</td>
<td>-274b</td>
<td>-260a</td>
</tr>
</tbody>
</table>

*p < 0.10; *p < 0.05; **p < 0.01

Attitude only if subjects feel that being a smoker contributes minimally to the definition of their identity whereas when smoker identity is strong the persuasive attempt does not reduce attitude against giving up smoking. This result suggests that identity plays a role in immunising strong identity smokers from the persuasive attempt.

Concerning the subjective norm, analyses show a main effect of experimental condition and the interaction effect between the two independent variables on subjective norm (respectively, F(1,149) = 4.06, p < 0.05, and F(1,149) = 7.14, p < 0.008). The means are presented in Table 5. Subjects perceive higher support from friends for their smoking when they are confronted with the persuasive message (M = 3.31) than when they are not confronted with it (M = 2.90), but this effect is significant only in smokers with a strong identity (F(1,150) = 10.81, p < 0.001). These results suggest that when confronted with the persuasive message smokers with strong identity appear to be motivated to cope with a threat to their identity and thus they overestimate the social support for their behaviour. Conversely, smokers with a weak smoker identity do not need to find support within their group of friends since they have no identity involvement and they do not seem to feel threatened.

To test the hypothesis that intention to give up smoking is predicted by smoker identity via the mediator variables, two sets of partial correlations have been performed for the control and the persuasive message conditions. In each analysis, smoker identity and intention to quit were correlated while controlling for attitude, subjective norm, perceived lack of control and smoking behaviour (cigarettes smoked per day and years smoking separately). Correlations are presented in Table 6. When the control condition is considered, the correlation between smoker identity and intention to give up smoking (r = -0.202, p < 0.05) is not significant. When the persuasive message condition is examined, the correlation between smoker identity and intention to give up smoking (r = -0.493, p < 0.05) becomes significant. In this case, the effect of subjective norm (r = -0.319) is controlled, and lowers marginally when the effect of attitude is controlled (r = -0.329, p < 0.05). No other variable contributes to decrease the relationship between identity and intention.

2 In fact, results from hierarchical regression analyses performed separately for the control and persuasive message conditions, and introducing attitude, subjective norm, perceived control, and present behaviour on the first step, and smoker’s identity on the second step, support these effects. When the control condition is considered, smoker identity contributes significantly to increase the variance explained by the other variables (β = -338, R² change = 0.091, F change = 9.90, p < 0.01). Identity becomes here the strongest predictor of intention (attitude’s β = -3.17, p < 0.01; norm’s β = -3.15, p < 0.01; per-
Discussion

The results of this study confirm previous findings about the relationship between smoker identity and smoking behaviour (Biddle et al., 1985), even when the impact of attitudes, subjective norm, and perceived lack of behavioural control is controlled in the regression equation. They also show that smoker identity contributes to the prediction of intention to quit smoking, even when the impact of the other variables is controlled. Furthermore, it was shown that smoker identity contributes to a decrease in the impact of the anti-tobacco message on smokers' attitude towards giving up smoking, and an increase in perceived support of friends for continuing to smoke. Finally, the relationship between smoker identity and intention to quit appears to be mediated by a depressive motivation to preserve smoking behaviour and smoker identity.

These results, considered together with results from the analysis of variance, suggest that smoker identity accounts directly for intention to give up smoking and, when focusing on the persuasive message from an expert source arguing against tobacco consumption, this relationship is mediated by other variables characterising smokers' defensive motivation. When smokers with a strong feeling of being smokers are exposed to a persuasive message, their perception of the support of friends for their continuing to smoke increases in order to justify their lower rather than raised intention to quit smoking. Furthermore, and compared with those with a weak identity as smokers, those with a strong identity seem to be immunised against the persuasive attempt—i.e., they hold an attitude favouring smoking consumption.

Several aspects of the present study are relevant to our discussion of these findings. It has been observed that the weight of attitudes and norms in predicting behavioural intentions is moderated by several variables (for a review see Kraus, 1995; Trafimow, 1999). These variables include direct experience with the behaviour (Sherman, Presson, Chassin, Bensenberg, Corty & Olshavsky, 1982), strength of identification with the group (Terry & Hogg, 1996), salience of the private or collective aspects of the self (Ybarra & Trafimow, 1998), and past behaviour (Chang et al., 1988). Some of the results observed in this study led us also to consider smoking behaviour—i.e., duration and intensity of the behaviour—as moderator variables in predicting intention to give up smoking. Behavioural intention is mostly under normative control for lighter smokers, whereas it is under not only normative but also attitudinal and identity control for heavier smokers. A way of demonstrating this is to determine for both kind of smokers the increase in $R^2$ due to one variable while controlling for the other two variables (see Ybarra & Trafimow, 1998). When considering lighter smokers, the increase in $R^2$ due to the norm was significant ($\Delta R^2 = 0.25$, $\Delta F = 22.92, p < .001$), whereas the increases in $R^2$ due to the attitude and identity were not significant (respectively, $\Delta R^2 = 0.03, \Delta F = 3.4, n.s.$, and $\Delta R^2 = 0.06, \Delta F = 6.6, n.s.$). This means that the contribution of subjective norm is greater than that of attitude (a difference in $R^2$ of 0.23) or identity (a difference in $R^2$ of 0.29). When considering heavier smokers, the increase in $R^2$ due to the norm was only marginally significant ($\Delta R^2 = 0.36, \Delta F = 3.61, p < .07$), whereas the increases in $R^2$ due to attitude and identity were significant (respectively, $\Delta R^2 = 0.07, \Delta F = 7.60, p < .007$, and $\Delta R^2 = 0.06, \Delta F = 6.84, p < .02$). This means that the contribution of subjective norm is slightly weaker than that of attitude (a difference in $R^2$ of 0.04) and that of identity (a difference in $R^2$ of 0.03). These results lend support to a developmental analysis of the factors affecting smoking behaviour (Chassin et al., 1990; Leventhal & Cleary, 1980): at early stages of smoking, behavioural intention seems to be better predicted by social or normative factors, but once adolescents become more involved in their smoking role, behavioural intention seems to be increasingly predicted by more internal factors such as attitude and self-concept.

Another aspect of such a developmental approach concerns the identity dimensions that should be considered. In the present study the measure of smoker identity included both self-concept and social identification aspects. It would be useful to establish the differential contribution of these two identity-related dimensions at different stages of smoking behaviour. Since we have observed that social factors contribute in the early stages of smoking behaviour, one can hypothesise that at this time social identity—i.e., identification with smokers—will be a better predictor of intention to give up smoking than at later stages. Conversely, in later stages of smoking the importance of social identification would lessen and, therefore, a major or exclusive role would be played by the self-concept dimension—i.e., perceiving oneself as a smoker. Since the participants in the present study were young people, both social identification and smoker's self-concept are not surprisingly highly correlated, and together they contribute to explaining smoking behaviour and intention to give up smoking. Unfortunately, one limitation of this study is that participants were late-adolescent smokers. Future research is therefore needed to test whether both

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dimensions are also correlated at later stages of smoking behaviour and whether their contribution to the explanation of both defensive motivation and behavioural intentions varies according to age group.

Another important issue to be considered is the relationship between identity and amount of smoking. On the one hand the results showed that smoker identity is related to smoking behaviour, and that smoker identity only predicts intention to quit smoking for smokers with a high level of smoking behaviour. These results suggest that smoker identity is at least partially inferred from smoking behaviour. On the other hand, the results also showed that smoker identity contributes to the explanation of behavioural intention even when present smoker behaviour (i.e., number of smoked cigarettes per day) is controlled. This result was confirmed both by regression analysis and partial correlation analyses, and suggests that identity is something more than behaviour (Sparks & Shepherd, 1992) – i.e., it is more than a matter of how much nicotine is consumed. We would argue that the amount of smoking behaviour obviously contributes to the smoker self-concept, but that it is not the only factor influencing such an identity. Other individual (e.g., behavioural choice, or ethnocentrism, Perreault & Bourhis, 1999) and social (e.g., salience and importance of social categories, Tajfel & Turner, 1986) factors may also contribute to the development of such a self-concept.

Since the relationship between perceived behavioural control and self-efficacy seems to be well established in the smoking behaviour literature (e.g., De Vries & Backbier, 1994; Eisler et al., 1985; DiClemente, Prochaska & Gilbertini, 1985), one surprising result observed in the present study is that perceived lack of control contributes to the prediction of smoking behaviour but does not contribute to explaining intention to give up smoking. This result is all the more surprising when one considers that the three items measuring perceived lack of behavioural control focus on capacity to give up smoking rather than on smoking behaviour. A possible explanation is that the perceived control measures employed in the present study are related to physiological and psychological dependence and that they are therefore related directly to behaviour, i.e., to smoking behaviour and to attempts to give up smoking. Ajzen’s theoretical approach considers that perceived behavioural control can account directly for behaviour, i.e., an effect that would not be mediated by person’s intentions (cf. Ajzen, 1991). One possible explanation for the lack of effect of this variable would thus be that intentions do not mediate the relationship between perceived control and quitting. Since the present study did not include measures of actual attempts to give up smoking, future research is needed in order to shed light on this relationship.

Another important issue that still demands to be explained is how to determine when smokers will be motivated to seek a more valued identity via a strategy of social mobility, renouncing their smokers’ status, and when instead they will be more motivated to defend it. The answer needs to take into account the dynamics of social influence. Most anti-smoking campaigns have been, and many of them continue to be, inspired by the principle of conformity (Leventhal & Cleary, 1980), in using high status sources (i.e., health or educational authorities, experts in the domain of health), who are assumed to increase the informational dependence of smokers (cf. Deutsch & Gerard, 1955) The logic is that if sources are more credible they can act as a result enhance smokers’ recognition of the negative consequences of smoking, leading them to give up the habit. If this strategy seems at first glance to represent an advantage in convincing smokers to stop smoking, nevertheless some studies show that this can be transformed into a handicap, since the persuasive constraint associated with the influence of high status sources can motivate smokers to protect their identity (cf. Falomir et al., 1999). Therefore, high status sources have to overcome persuasive constraint (e.g., arguing in a flexible or optional style rather than in a rigid or imperative one, Falomir & Mugny, 1999; or leaving to smokers the freedom to smoke rather than imposing it; Falomir, Mugny & Pérez, 1996) in order to achieve an impact on smokers.

In conclusion, even if the observed results need to be considered with caution given the correlational and cross-sectional nature of the data, and limitations in some measures, the results of the present study suggest that smoking intervention campaigns may have a greater impact if they meet the specific identity needs of smokers. The identity-related aspects of consumption are increasingly addressed as regards adolescents initiation into smoking behaviour (e.g., Barton et al., 1982; Burton et al., 1989; Mosbach & Leventhal, 1988), the success of smoking cessation programs (Shadel et al., 1996), and success in maintaining abstinence (Shadel & Merzelstein, 1996). The present study suggests that identity concerns should also be addressed with respect to adolescents’ decisions to quit smoking. Put another way, avoiding making the smoker’s identity a central feature of adolescent self-definition, and considering specific identity needs of smokers once identity as smoker has been established, are worthwhile aspects to be addressed by anti-smoking campaigns.

References


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