

Teenagers' response to self- and other-directed anti-smoking messages

A cross-cultural study

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While the de-marketing of smoking among teenagers has received wide attention in the literature, few have examined the issue of whether messages should be uniform across cultures. Globally, the vast majority of anti-smoking messages are based on fear appeals to the negative effects on the (potential) smoker him/herself. This research suggests that such a global strategy may be suboptimal. Specifically, while ads portraying the negative consequences of smoking to *oneself* may work for teens from individualist cultures, they are less effective in collectivist cultures. In contrast, messages orientated towards the adverse effects on *other* people are more effective in collectivist environments. Given the astronomical amounts spent on anti-tobacco advertising, this finding offers significant advantages for creating effective anti-smoking messages.

Introduction

The costs of smoking in terms of health degradation, falling productivity and increased stress on healthcare systems are widely acknowledged (Barnum 1994; Andrews *et al.* 2004). Globally, more than 1.2 billion people aged 15 and over are daily smokers. Based on current trends, around 50% of all lifetime tobacco users will die from smoking-related

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diseases (GTRN 2006). Not surprisingly, Petty and Cacioppo (1996) assert that smoking is one of the most important social problems to which marketing scholars should turn their attention.

For several reasons, the majority of the marketing research efforts that have answered this call focus on adolescents (e.g. Pechmann *et al.* 2003; Andrews *et al.* 2004). First, most smokers begin at a young age. In the US, it has been determined that over 90% of smokers light their first cigarette before the age of 18 (US DHHS 1994), while the American Lung Association (2006) estimates that, every day, 6000 American youths smoke for the first time. Trends in other parts of the world reflect similar patterns (Choe *et al.* 2004). Furthermore, several studies indicate that teens are more receptive to tobacco advertising than adults (Pollay *et al.* 1996).

In May 2003, the World Health Organization (WHO) adopted an international treaty for tobacco control. Among other measures, the treaty obliges the 192 member states of the WHO to implement anti-smoking advertising campaigns (WHO 2003). Given numerous instances where global advertising has not been the most effective avenue (Keegan & Green 2003, p. 441), a pressing question is whether one nation can readily copy another nation's successful anti-tobacco advertising strategy. More specifically, accounting for the role of adolescence, we ask the question: 'Do youth in different countries respond in the same way to anti-smoking messages and appeals?' (Wakefield *et al.* 2003a). Even within a single country, the effectiveness of anti-smoking messages is called into question (Siegel & Biener 2000; Farrelly *et al.* 2002; Friend & Levy 2002). Obviously, with governments and industry spending literally billions of dollars, it is incumbent upon marketing researchers to point the way for making the most efficient use of these expenditures.

This paper addresses whether universal anti-smoking ads are optimal for teens by comparing adolescents' response to different anti-smoking print ads in an experiment across nine culturally diverse countries. The advertisements studied differ on one particular yet extremely important dimension: their self- vs other-directed character. Self-directed messages warn about the *personal* dangers of smoking, such as death, heart disease, strokes and cancer, while other-directed ads stress the implications of smoking for *others*. Policy-makers in both the United States and the European Union have systematically clung to a markedly self-directed ad strategy. In a pool of 150 anti-smoking ads, Pechmann and Reibling (2006, p. 907) found only an absolute minority to have a social character. Moreover, these ads typically stressed social disapproval of smoking behaviour rather than the health implications of smoking to other non-smokers.

Also, only a few of the required labels on tobacco products in the EU and US warn of the consequences of smoking to others (e.g. 'Passive smoking harms those around you, especially children' (European Commission 2004)), and often only tangentially so (e.g. 'Smoking ... may result in ... premature birth and low birth weight' (US DHHS 2000, p. 167)). The question arises whether such a self-directed approach is optimal and, if so, whether it can safely be applied in other countries as well. The current authors believe a crucial determinant in this respect is consumers' level of individualism/ collectivism (Hofstede 2001), or the relative weight attached to personal vs group interests. Therefore, the present study examines the moderating impact of these cultural characteristics on teens' response to self- vs other-directed anti-smoking messages.

Literature review and hypotheses

Many previous researchers have investigated the role of advertising in preventing the onset of smoking among teens. Previous work has shown that anti-tobacco advertising targeting adolescents can curb intent to smoke and smoking prevalence (e.g. Pechmann *et al.* 2003; Wakefield *et al.* 2003a; Andrews *et al.* 2004), nullify the impact of cigarette advertising or smoking scenes in movies (Pechmann & Shih 1999; Pechmann & Knight 2002) and evoke negative thoughts about peer smokers (Pechmann & Ratneshwar 1994; Pechmann & Knight 2002). At the same time, several recent studies fail to find a relation between youth-orientated anti-tobacco advertising and reductions in smoking prevalence (see Farrelly *et al.* 2002; Friend & Levy 2002). For example, Siegel and Biener (2000) find anti-smoking messages in magazines and newspapers to be ineffective. In a meta-analysis of eight large anti-smoking programmes, Wiehe *et al.* (2005) found that only one study showed a decreased smoking prevalence. In fact, there is anecdotal evidence that some anti-smoking campaigns actually increase intent to smoke (Zuckerbrod 2001).

Few of the above studies, however, analyse the relationship between *specific* message characteristics and effectiveness. Those that do (e.g. Goldman & Glantz 1998; Pechmann *et al.* 2003; Wakefield *et al.* 2003b) typically rely on available TV commercials, creating the possibility of a confound due to ad execution (voice, music, shocking images, etc.) or previous exposure that may mislead researchers as to the message characteristics' true effects. In this paper, we experimentally manipulate the self- vs other-directed character of anti-smoking messages. Below, the paper first discusses the literature relating to this message characteristic,

and then explains why and how the moderating effect of individualism/collectivism is accounted for.

Effects of self- vs other-directed outcomes on ad effectiveness

A modest stream of literature has developed around the effectiveness of self- vs other-directed public service announcements (PSAs). Whereas self-directed messages portray the consequences to the one who engages in the hazardous behaviour (e.g. fatal accident due to drinking and driving), other-directed ads emphasise the dangers to others (e.g. serious injury to passengers).¹ Research by Elkind (1967) generally supports the idea that adolescents feel less vulnerable to self-directed threats because they have created a 'personal fable' that they are immortal. Instead, adolescents are more sensitive to other-directed consequences, as they care more about what others think of their behaviour (so-called 'imaginary audience' cognitions). The work by Wakefield *et al.* (2003b), Goldman and Glantz (1998) and Pechmann *et al.* (2003) indeed indicates that anti-tobacco TV ads showing second-hand smoke effects (an other-directed caution) tend to lead to a more positive appraisal of the ad among teenagers than ads referring to self-directed health consequences. However, King and Reid (1989), who studied PSAs designed to discourage drinking and driving among young adults, found that self-directed and other-directed threats are equally persuasive.

The role of individualism/collectivism

One problem with the aforementioned studies on anti-smoking PSAs is that they build on the implicit assumption of a global, monolithic youth segment. Even the cross-national research by Wakefield *et al.* (2003b) includes only the similar cultural environments of the US, Britain, and Australia, and not surprisingly does not find any systematic differences in ad response. Presumably, the effectiveness of self- and other-directed anti-smoking ads may differ across cultural environments. This paper studies teenagers with heterogeneous cultural backgrounds, and operationalises cultural diversity through the construct of individualism/collectivism.

¹ Note that this distinction does not necessarily coincide with the difference between social and physical threats (see Evans *et al.* 1970; Schoenbachler & Whittler 1996; Goldman & Glantz 1998; Wakefield *et al.* 2003b). In principle, both self-directed and other-directed messages can have a social as well as a physical character. For example, social disapproval can be considered a self-directed consequence as it involves a negative consequence to the one who engages in the risky behaviour.

According to Hofstede (2001, p. 225), individualism refers to ‘a society in which the ties between individuals are loose: everyone is expected to look after him/herself and her/his immediate family only’. Individualists pursue personal independence, pleasure and achievement, and value individual expression and personal time (Hofstede 2001). Alternatively, collectivism refers to ‘a society in which people from birth onwards are integrated into strong, cohesive in-groups, which throughout people’s lifetime continue to protect them in exchange for unquestioning loyalty’ (Hofstede 2001, p. 225). Collectivists have an emotional dependence on the group, and value reciprocation of favours, a sense of belonging and respect for tradition. It has been shown that the individualism/collectivism dimension explains a significant share of cross-national variance in consumer behaviour (Hofstede 2001, p. 243; de Mooij and Hofstede 2002; de Mooij 2003). For example, individualists are more likely to possess a home or life insurance, and invest relatively more in their individual health.

The scant research that addresses the relationship between individualism and advertising effectiveness has yielded contradictory results. Han and Shavitt (1994) find that ads stressing individualistic benefits work better in individualist countries, and that ads focusing on family or group benefits are more effective in collectivist countries. In contrast to these findings, results by Aaker and Williams (1998) indicate that, in individualist cultures, ‘altruistic’ emotions (e.g. empathy) are more persuasive than ‘ego-centered’ emotions (e.g. pride) due to the formers’ relative novelty; the opposite holds in collectivist cultures. In Laroche *et al.*’s (2001) article – one of the very few that compares anti-smoking advertising effectiveness across different cultures – the authors use Rogers’ (1983) Protection Motivation Model to show that physical threat ads are more effective (in terms of change in attitude towards smoking) in the individualist society of Canada than in the collectivist Chinese culture. Unexpectedly, ads with social disapproval threats have no effect on Chinese subjects but are effective with Canadians. These unanticipated results, combined with the authors’ focus on physical vs social disapproval threats, the limited number of countries included, and the fact that sample subjects were exclusively male students, warrant additional research.

In contrast with authors like Elkind (1967) and Goldman and Glantz (1998), who tend to suggest a single advertising strategy to target adolescents, we posit that the cultural dimension of individualism/collectivism moderates teenagers’ response to self- and other-directed anti-smoking ads. In line with Han and Shavitt (1994), we contend that the

effectiveness of self-directed anti-smoking ads will increase as the cultural level of individualism rises. By definition, teens that score high on individualism are more sure of themselves, make decisions without consulting others, and are interested in personal accomplishments. Therefore:

H1: Self-directed consequence ads will be more effective among teens with an individualist orientation.

Conversely, individuals who live in collectivist societies look to other members of their group and community for behavioural cues and acceptance. If their actions as an individual are detrimental to the group, they will subordinate their own desires. Following Han and Shavitt (1994), we thus expect that:

H2: Other-directed consequence ads will be more effective among teens with a collectivist orientation.

Methodology

Below we discuss the sample characteristics, the design of our research instruments, the measures used and the modelling approach in detail.

Sample

Our sample consisted of 2145 currently enrolled high school students, 14–17 years old, from the Midwestern United States and metropolitan areas of eight other countries: Austria, Belgium, Finland, Italy, Kazakhstan, Russia, Slovenia and Uzbekistan. These countries were selected with an eye towards diversity on socio-economic and cultural measures; in particular, these nations are spread across the individualism/collectivism continuum (Hofstede 2001). Another crucial criterion was the availability of reliable research assistants in the countries chosen, so as to guarantee consistent research instruments and data collection procedures. A summary of country characteristics and sample features is found in Table 1.

The last column of Table 1 shows the average individualism score per country as measured in the student sample (see Table 2 for the exact multi-item scale). The parenthetical numbers are the predicted values from a simple linear regression of our individualism score on Hofstede's (2001)

Table 1 Country characteristics

Country	Sample size	GNI/capita (\$)*	Individualism/collectivism	
			Hofstede's score (2001)	Average student sample factor score (adjusted to Hofstede's scale)
US	234	35,100	91	0.67 (87)
Italy	264	25,300	76	0.45 (78)
Finland	263	25,400	63	0.03 (61)
Austria	365	28,200	55	-0.01 (60)
Slovenia	192	17,700	N/A	-0.02 (59)
Uzbekistan	192	1,590	N/A	-0.09 (56)
Russia	222	7,800	39	-0.25 (50)
Belgium	204	28,100	79	-0.30 (46)
Kazakhstan	209	5,500	N/A	-0.34 (46)

* World Development Indicators, World Bank, July 2003; figures for 2002, PPP basis

Table 2 Measures

Construct/items	Cronbach's alpha
<i>Attitude towards the Ad (Aad)</i>	
How would you best describe the advertisement?	
Good ... Bad	0.831
Like ... Dislike	
Interesting ... Boring	
Appealing ... Unappealing	
(adapted from Mitchell & Olson 1981)	
<i>Attitude towards Smoking (Asmoke)</i>	
Smoking cigarettes is:	
Good ... Bad	0.830
Appealing ... Unappealing	
Pleasant ... Unpleasant	
Positive ... Negative	
(adapted from Mitchell & Olson 1981)	
<i>Intent to Smoke (Intent)</i> (Definitely no/Definitely yes)	
In the future, you might smoke one puff or more of a cigarette	
You might try out cigarette smoking for a while	0.925
If one of your best friends were to offer you a cigarette, you would smoke it	
(Source: Pierce <i>et al.</i> 1996)	
<i>Individualist/Collectivist (IndCol)</i> (Strongly disagree/Strongly agree)	
My personal accomplishment is less important than group success	0.773
I prefer not to be responsible for my own decisions	
Groups make better decisions than individuals	
US	0.852
Italy	0.673
Finland	0.733
Austria	0.783
Slovenia	0.770
Uzbekistan	0.776
Russia	0.754
Belgium	0.831
Kazakhstan	0.774

measure ($R^2 = 0.389$ on six countries). Interestingly, with the exception of Belgium, our sample measure is highly correlated with Hofstede's ratings, corroborating its construct validity.

Stimuli and survey

An artist was contracted to develop two anti-smoking print ads consisting of a headline and a black and white illustration. The headline in the first ad ran 'Smoke and Get Sick', thus representing the self-directed consequence condition. The second ad, with the headline 'Smoke and Make Others Sick', represented the other-directed consequence condition. Because the other-directed consequences of smoking are almost by definition physical (as opposed to psychological), both messages contain fear appeals pertaining to *health* issues (cf. Pechmann *et al.* 2003; see also King & Reid 1989).

The English headlines were translated into the requisite foreign languages and then back-translated by bilingual natives. Every effort was made to ensure correct transmission of words and concepts. In order to increase the realism of our stimuli, each ad was embedded in a story adapted from a local newspaper. These stories related a recent news event in some foreign country, and did not have any connection with the anti-smoking ad.

The experiment took place in the high school students' classes. Each student received one manipulation (i.e. one ad and its corresponding story) and was instructed to read only the story – no attention was drawn to the ad on the page. Pre-tests indicated that students would finish reading the story in approximately seven minutes. After ten minutes, the copies were collected and a questionnaire – which had been subjected to the same translation procedure and quality control as the ads – was distributed.

First, the questionnaire asked students to recall the name of the country that was mentioned in the story they had to read. Since the ads were combined with different stories pertaining to different countries, this enabled the researchers to determine which ad the students had seen. Next, the students were asked their attitudes towards the ad and its message, their attitudes about smoking, intent to smoke and demographics.

Measures

Three criterion constructs were measured to examine ad effectiveness: Attitude towards the Advertisement (Aad), Attitude towards Smoking

(Asmoke), and Intent to Smoke (Intent). The items corresponding to each construct are listed in Table 2. The first two measures are adapted from Mitchell and Olson (1981), while Intent is taken from Pierce *et al.* (1996). The moderating construct Individualism (IndCol) was operationalised as a three-item seven-point Likert scale. Given the substantial differences in context and audience characteristics between Hofstede's (2001) work and the current study, it was deemed necessary to develop a separate scale for the current study.

The reliability of the adopted scales was established using Cronbach's alpha (see Table 2). Note that almost all alpha values are 'respectable or better', i.e. higher than 0.7 (DeVellis 2003). Even the somewhat lower alpha score for the individualism scale in Italy (0.67) is still 'acceptable' (DeVellis 2003, p. 95). The validity of each of the scales was tested with confirmatory factor analysis (CFA) (Joreskog & Sorbom 1993). Convergent validity was tested by examining the *t*-values of the Lambda-X Matrix (Bagozzi 1981). Ranging from 16.43 to 37.72, all values were well above the 2.00 level specified by Kumar *et al.* (1992), indicating high convergent validity. Discriminant validity was examined by setting the individual paths of the Phi Matrix to 1 and testing the resultant model against the original (Gerbing & Anderson 1988). The high *D*-squared statistics (Joreskog & Sorbom 1993) implied that the confirmatory factor model fitted significantly better than the constrained model for each construct.

Measure invariance was tested with multi-group confirmatory factor analysis. Configural invariance was established by the consistent pattern of significant loadings between countries and the fit of the CFA. Full metric invariance was not established, nor expected, in a model of this magnitude (Steenkamp & Baumgartner 1998). As suggested by Horn (1991, p. 125) and Steenkamp and Baumgartner (1998), metric invariance is 'a condition to be striven for, not one expected to be fully realized'.

Model

While several theories are used to examine the effects of anti-smoking ads on consumers, there is little agreement on modelling in the literature. The theoretical model used in this research is adapted from Aaker and Stayman (1990), and Mackenzie *et al.* (1986), among others. It presumes that Attitude towards the Advertisement (Aad) has a direct effect on Attitude towards Smoking (Asmoke) (DeBono & Omoto 1993), which, in turn, affects Intent to Smoke (Intent) (Theory of Reasoned Action, see Ajzen &

Fishbein 1980). Indeed, Aad plays a critical role in the ultimate effectiveness of an ad (Andrews *et al.* 2004). In fact, research has shown that consumer likeability for an ad may be the single best discriminator of advertising effectiveness (Latour & Snipes 1996). In line with Mackenzie and Lutz (1989), the current paper therefore investigates the impact of advertisement design on Aad, which mediates the advertising effects on Asmoke and Intent. In particular, it studies the effects on Aad of self- vs other-directed anti-smoking ads across various levels of individualism.

The study uses structural equation modelling (SEM) in LISREL 8.53 to estimate the relations between the different constructs. To allow for interaction between Individualism and the manipulation variable (self- vs other-directed), the analysis was run in two groups: those students confronted with the self-directed ad and those exposed to the other-directed ad (see Figures 1 and 2).

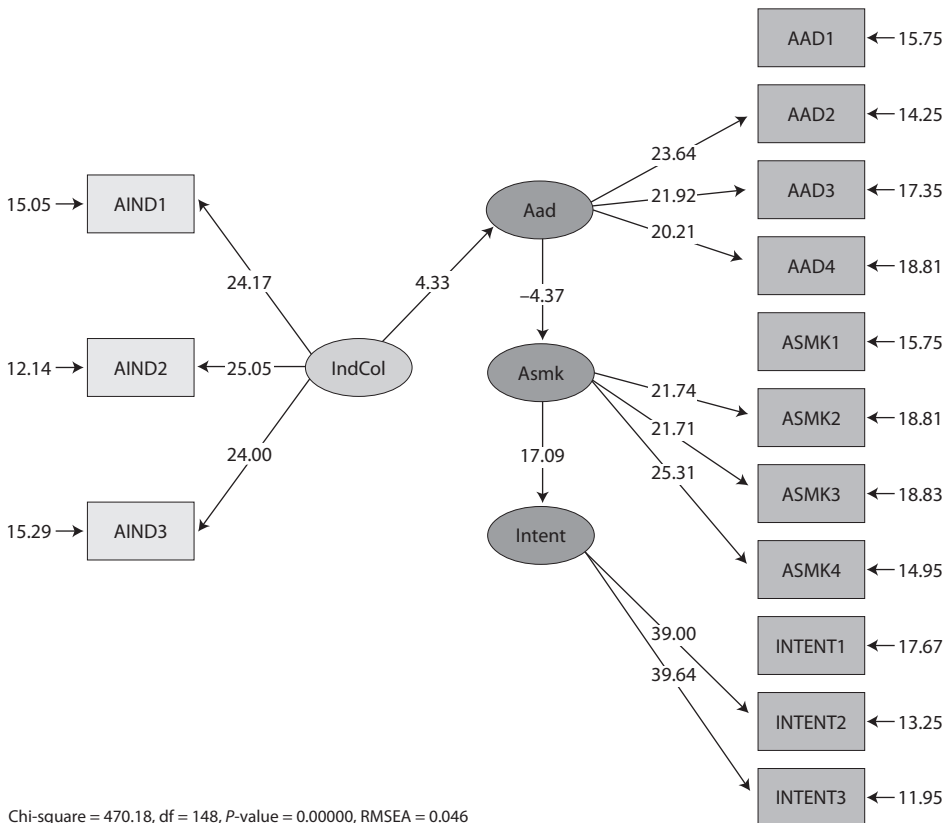


Figure 1 Self-directed consequence ad

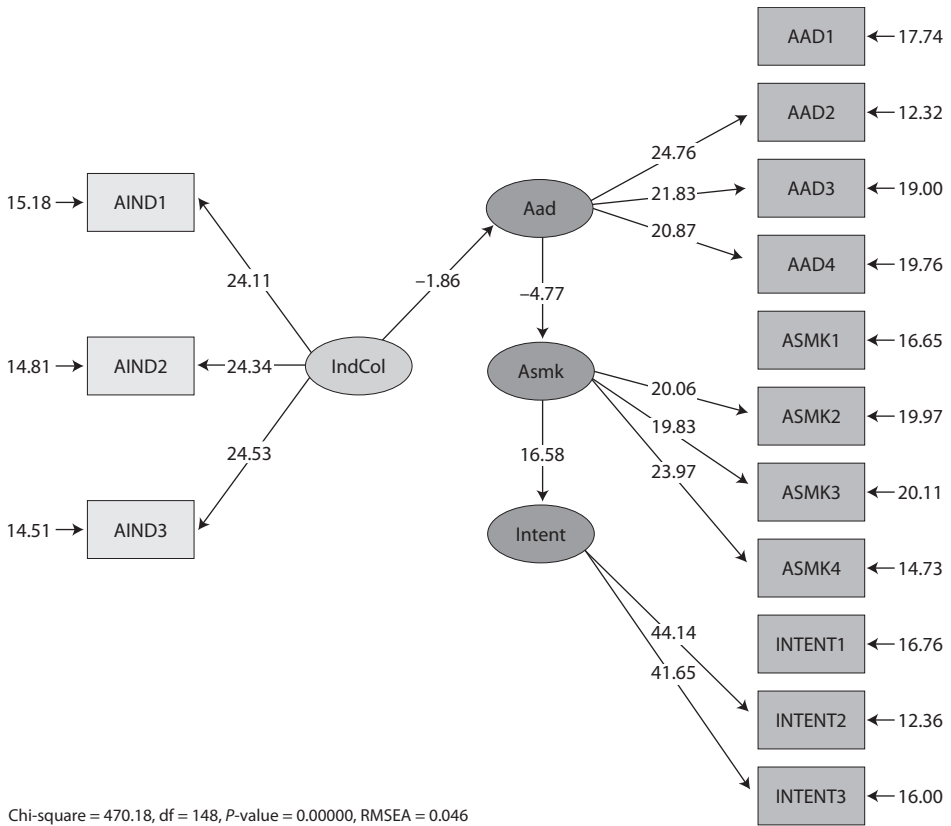


Figure 2 Other-directed consequence ad

In this case, a two-group SEM model is analogous to a MANOVA model; although the presentation and statistics are different, the parallel remains. In this model, the experimental manipulation is the type of ad – self- vs other-directed consequences, whereas the endogenous variables are Aad, Asmk and Intent. A further parallel exists in treating the individual/collectivist measure as a covariate, with the ability to interact with the main factor (e.g. self- vs other-directed ad). Obviously, the advantage of an SEM model in this case is that the procedure not only allows for testing of the main and interactive effects, but also more properly models the endogenous paths – as well as treating the variables as latent, reflective constructs.

Results

The estimation results are shown in Figures 1 and 2. As could be expected given the sample size, the chi-squared statistic was significant. The other performance measures suggest that our model describes the data well within acceptable limits, as shown in Table 3. The RMSEA was well below the 0.08 cut-off values suggested by Browne and Cudeck (1993). In addition, the GFIs from both groups and the CFI were above the commonly recommended 0.90 limit (Lichtenstein *et al.* 1992). In addition, the squared multiple correlations for structural equations are 37% for Intent; being analogous to an *R*-squared interpretation, it is considered that this is relatively high for a single exposure to a single advertisement.

As can be seen in the results for self-directed ads shown in Figure 1, there is a positive and significant association between individualism and Aad (one-tailed, $t = 4.33$). This indicates that individualist people tend to respond more favourably to ads portraying self-directed consequences than do collectivist people – thus supporting H1. This would be analogous to testing the coefficient of an interactive term (factor self-directed X individualism) in a MANOVA.

In Figure 2, presenting the results for other-directed ads, the association between individualism and Aad is negative and significant at the 0.05 level (one-tailed, $t = -1.86$). This lends support to H2, and suggests that, compared to individualists, people with a collectivist attitude are more likely to react favourably to ads that highlight the other-directed consequences of smoking. This would be analogous to testing the coefficient of an interactive term (factor other-directed X individualism) in a MANOVA.

To test these hypotheses more formally, the gamma values on the Individualist–Collectivist/Attitude towards the Ad path were set equal between groups. The chi-squared difference of 20.11 is significant at the 0.01 level, indicating once more that ads featuring the self-directed (other-directed) consequences of smoking tend to be more successful among individualists (collectivists). This can be seen by the positive effect of IndCol on Aad in the case of the self-directed ad (Figure 1) and the negative effect in the other-directed ad (Figure 2). This would be analogous to testing the coefficient of an interactive term (total factor X individualism) in a MANOVA.

Table 3 Model fit

Chi-squared	470.18
RMSEA	0.046
CFI	0.98
NFI	0.98
RFI	0.97

Finally, in all cases, the total effects from Individualist/Collectivist on Intent were significant and in the expected direction. Thus the ad type not only affects Aad, but also Asmoke and Intent. In both models, the more positive response evoked by the ad (Aad), the less positive people's attitude towards the act/smoking, as indicated by the negative paths in both figures between Aad and Asmoke. In addition, those with a less positive attitude towards smoking had less intent to smoke, as indicated by the positive paths between Asmoke and Intent in both figures.

Implications for public policy and marketers

While studies in different countries have shown that advertising can help reduce teen smoking, not all campaigns have met with unqualified success (Farrelly *et al.* 2002; Wakefield *et al.* 2003a). The research reported here provides an explanation for these inconsistencies by showing that certain anti-smoking messages perform better in some countries than in others. In particular, the study demonstrates that ads emphasising the implications to the smoker (e.g. 'smokers die younger') are more effective in individualist countries, while ads portraying the consequences to people other than the smoker (e.g. 'second-hand smoking kills') work better in collectivist cultures. Teenagers, despite superficial similarities in age, behaviour and other variables, are decidedly not a homogeneous global segment.

A logical implication of this result is that the use of a standardised ad campaign, whether to save money or because of a quasi-governmental edict, is not the best course of action to solve the problem of teen smoking. Individual reactions to the consequences portrayed in the ads vary by culture, which precludes using standardised ads in fundamentally different cultures in various countries. The waste of money inherent in ineffectively designed ads is obvious. Behavioural changes are not achieved, and the costs involved in ad preparation and presentation are possibly for naught. It is imperative, therefore, that ads be constructed that reach both types of teen audiences – individualist and collectivist – rather than using a monolithic approach ostensibly designed to save money through standardisation. In a country with a culturally heterogeneous population, this may even lead to a dual approach whereby both self- and other-directed advertisements are used simultaneously.

These managerial guidelines gain importance only when observing that the majority of ads aimed at curbing teen smoking are usually designed to point out the detrimental effects of smoking to the individual smoker. For example, consider the warning labels found on cigarette packages in the

US and EU. There are four different American warnings, two of which pertain to personal outcomes and hence have an individualist slant: 'serious risks to your health' and 'lung cancer, heart disease, emphysema ...'. Only one of the four describes consequences to others: 'fetal injury, premature birth and low birth weight'. Given the fact that the US has one of the highest individualist scores in Hofstede's (2001) as well as the current research, it would seem to follow that most or all of the messages would be aimed at individual consequences.

However, the situation for the ever-expanding and therefore increasingly heterogeneous EU is more complex. The sample used in this study has several EU nations represented, with individualist/collectivist scores ranging from 79 for Italy down to 55 for Austria – relatively individualistic in the first case and relatively collectivist in the latter. Looking at Hofstede's (2001) maps, it can be seen that Greece and Portugal are more collectivist than Austria, while Britain, the Netherlands and Denmark are similar to Italy. This implies that ads that represent only self-directed consequences are unlikely to be effective in many countries in the EU. Nevertheless, of the 14 cigarette warnings proposed by the EU, seven refer to self-directed consequences (die younger, heart disease and stroke, causes cancer, serious disease, killing yourself, smoking kills/can kill, and male sexual impotence) and only three show other-directed consequences (harms your baby, harms those around you, kills half a million people each year in the EU) (EU Directives 01/37/EC and 92/41/EEC). Given the degree of collectivist behaviour present in the EU, it is surprising that more of the ads do not reflect other-directed consequences. The results reported here suggest that common themes for the entire EU will not be the most effective strategy. Rather, other-directed consequence ads should be provided for collectivist nations and self-directed consequence ads for individualist countries.

The results of this study present interesting opportunities for extensions into similar health-threatening behaviours exhibited by teens. For example, ads relating to drug use and irresponsible alcohol consumption may closely parallel the results found in this study. Similarly, attitudes towards reckless driving, environmentalism and unsafe sexual behaviour might be more likely to be altered by using a tailored ad approach. Such future research would be a fruitful area of study. If the findings hold in these other subjects as well, development of more effective public service announcements and other ads to curb undesirable teen behaviour would be enhanced.

Limitations and future research

As with any study, this one often engenders more questions than answers. For instance, it has not addressed other variables that affect intent to smoke. Chief among these from an experimental perspective is social disapproval. Future studies may test whether social disapproval is more likely to curb teen behaviour than physical threat. This would be especially true on the individualist/collectivist dimension, where one would expect collectivist individuals to be acutely sensitive to social disapproval. However, a previous study by Laroche *et al.* (2001) produced the surprising results that a collectivist group of students was not affected by ads portraying social disapproval. Such an outcome demands more investigation.

Another fruitful area of study would be to determine whether the effects shown are more likely to be short term or long term. Individuals may, over time, be more susceptible to social pressure, even though their culture and nature are inherently individualist. Few studies of any sort have addressed the issue of short-term vs long-term threat, and none has included individualist/collectivist variables in their study. This concern over the long-term effectiveness of the ad message is crucial (Wiehe *et al.* 2005).

It would also be desirable to extend the results of this research to de-marketing other socially undesirable behaviours of teens, such as drinking, drug use and unprotected sex. Theoretically, there is reason to believe that collectivist cultures will respond better to other-directed advertisements, while the opposite is true for individualists – especially in the same context of social de-marketing of adolescent behaviours. However, there is enough contradictory empirical evidence to suggest that differences in these activities may elicit different responses to different ad executions. Thus this issue needs to be ironed out by further research before the results of this study are applied to other areas.

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