IMPACT OF FEAR APPEALS IN A CROSS-CULTURAL CONTEXT

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The purpose of the present study was to examine the influence of culture on fear, using the protection motivation model as a basic theoretical framework. A 2 x 2 between-subjects experiment was conducted in the United States and in France. Participants were first shown a high-threat or low-threat advertisement. They were then asked to complete a questionnaire designed to measure fear, maladaptive coping, and purchase intention. A two-way multivariate analysis of covariance was used to test the hypotheses.

Results indicated that compared to a low level of threat, a high level induces greater fear and leads to a higher likelihood of purchasing the advertised product. However, no significant differences were found between French and U.S. subjects fear. Exploratory findings suggest that adaptive, instead of maladaptive, coping could play a mediating role between fear and purchase intention. The theoretical and managerial implications of the findings are discussed, and suggestions regarding the design of future fear appeals studies are provided.

INTRODUCTION

Ferment in health, political, social, economic, technological, and environmental arenas today presents an array of serious issues. For instance, pestilences (such as AIDS) are a bane in numerous developing countries. Right-wing political parties have become increasingly popular in parts of Europe and elsewhere, raising concerns about the potential for declining civil liberties in those nations. Many metropolitan areas the world over are becoming increasingly overpopulated thus straining local government budgets and infrastructures. Financial shocks are widespread, as the erstwhile economic good times have given way to fiscal failures, as well as recessionary and even deflationary pressures. Cloning and biotechnology raise the specter of Frankenstein-like entities if such scientific opportunities are misused. And global warming, oil tanker spills, and excessive pollution have contributed to degradation of human and non-human ecosystems.

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Arguably, then, today's dynamism fosters myriad fear-inducing threats that are real, that are upon us, and that have dramatic influence. Fear is a frequently experienced phenomenon of individuals and can arise in the face of major or minor circumstances. Aware of this, some advertisers utilize communications designed to cause fear in the target audience, which hopefully will lead individuals to respond in the manner desired by the advertisers. Rather than emphasizing the benefits of using a product or service, fear appeals "inform consumers of the risks of using a product or of not using one" (Assael 1995, p. 728).

Emotional appeals play an important role in persuasion. In fact, a persuasive message has been found to be more likely to lead to attitude change if the receiver is emotionally aroused rather than if he/she is exposed to a more rational communication (Arnold 1985). Extant work investigating the effect of emotion-arousing messages has concentrated its efforts on fear appeals that have been shown to lead people to engage in salutary behaviors (Breckler 1993). In fact, fear is widely used in persuasive communications to promote healthy behaviors and to develop social awareness con-

cerning such issues as road safety or environmental issues (Das, de Wit and Stroebe 2003; Girandola 2000; Ruiter, Verplanken, De Cremer and Kok 2004; Witte and Allen 2000). And advertisements portraying fear lead to better recall than more cheerful ads or messages with no emotional content (LaTour, Snipes and Bliss 1996).

The use of fear appeals in persuasive messages has been extensively researched in the past five decades, and numerous models have been presented to explain the process. Fear appeal models, however, have been chiefly developed by Western scholars and tested in Western-based samples. Maheswaran and Shavitt (2000) stress the importance of validating theoretical frameworks in other cultures in order to increase their robustness. Lavack (1997) has called for a need to examine the effectiveness of fear appeals across different cultures. Investigations of fear appeals in cross-cultural situations, though, are virtually nonexistent.

Past research in cross-cultural advertising has focused mainly on one facet of cultural variation, individualism-collectivism. But Maheswaran and Shavitt (2000) argue that other dimensions of cultural variability also deserve attention. One is uncertainty avoidance. *Uncertainty avoidance* has been conceptualized as the extent to which a culture is anxious about uncertain situations and therefore establishes structure to avoid experiencing this continuous threat (Hofstede 1980). The dimension of uncertainty avoidance seems particularly relevant to the study of fear appeals owing to its association with an increased need for security.

An understanding of cultural differences is essential to communicate effectively to consumers from different cultural backgrounds. In the present study, France and the United States were chosen as target countries to represent opposite ends of the uncertainty avoidance continuum. Because these two Western countries share similar political, social, economic, and value systems (Biswas, Olsen and Carlet 1992), marketers may incorrectly perceive them as comparable, which could ultimately lead to ineffective advertising campaigns.

The aforementioned limitations of prior work on the impact of fear appeals in advertising led to the present investigation. The objectives of this study are two-fold: (1) to examine the impact of the level of fear on consumer responses, and (2) to assess whether culture is an antecedent of fear in the persuasive process. The balance of the paper reviews germane literature and develops hypotheses, describes the method, reports the results, and offers implications.

LITERATURE REVIEW

The effects of fear arousal on attitude change have been debated extensively over the past 40 years. The first study on this issue concluded that a *low level* of fear arousal induced more conformity to the recommendations in the message since high fear arousal communications increased defensiveness and produced resistance to persuasion (Janis and Fesbach 1953). Some subsequent studies confirmed this negative relationship (Janis and Terwilliger 1962), but others argued for a curvilinear relationship, where moderate levels of fear arousal are more effective than low or high (Janis 1967; Janis and Leventhal 1968). Most studies, however, have indicated that increases in the level of fear arousal are generally associated with greater persuasion (for reviews, see Boster and Mongeau 1984; Sutton 1982).

A Model of Fear

In order to determine the effectiveness of fear appeals across cultures, a model of the antecedents and consequences of fear is proposed in Figure 1. The model is derived from the work of Rogers (1983) and Tanner, Hunt and Eppright (1991), where the central role of fear is recognized, and bears resemblance to the work of Schoenbachler and Whittler (1996) (which examined teenagers' reactions to fear appeals in drug prevention public service announcements). In accordance with Rogers' reasoning, Tanner et al. (1991) argue that high fear is *evoked* when

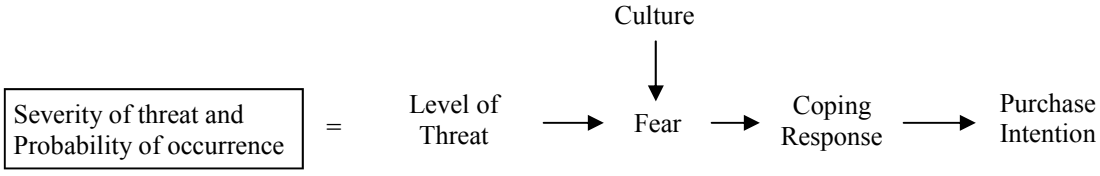
threat appraisal is high (i.e., when severity of the threat and probability of occurrence are perceived to be high). Fear is also predicted to be a mediator between the level of threat (i.e., threat appraisal) and coping response (i.e., coping appraisal process).

The level of threat is predicted to influence the level of fear aroused. In fact, research has found that the higher the severity of the threat and the higher the probability of occurrence, the greater the fear experienced (Tanner, Hunt and Eppright 1991). Fear is assumed to affect the extent to which certain coping responses are adopted, which in turn influences behavioral intention. Coping response refers to the cognitive process where the individual generates thoughts about dealing with the reality of the threat (or not dealing with it).

Rational problem solving is the possible adaptive strategy in response to a threat and is defined as seeking information about the preventive behavior and making plans to remedy the problem (McCrae 1984). A threat can cause an individual to engage in either adaptive or maladaptive coping responses. Adaptive coping refers to having thoughts about how to deal with the fear and overcome the threat effectively. Prior empirical work, though, has determined that adaptive coping is not directly elicited by fear. In other words, past findings indicate that fear does *not* influence the development of an adaptive cognitive response; rather, it affects the likelihood of considering a maladaptive coping response (Ho 2000).

In the present context, maladaptive coping will refer to thoughts about not directly managing the threat but instead resorting to defense mechanisms such as avoidance, fatalism, or wishful thinking to handle the situation. Avoidance is related to the denial of the threat, whereas fatalism refers to the acceptance of a stressful event as unchangeable because the individual feels that nothing can be done anyway. On the other hand, wishful thinking is described as the reliance on unrealistic solutions, such as hoping for a miracle. Furthermore, previous studies on fear appeals have suggested that hopelessness is also a reaction manifested by some individuals when exposed to a threatening message (Higbee 1969; Rogers 1983). Defense mechanisms can be perceived as adaptive from a psychological perspective, since they are known to reduce distress (Rippetoe and Rogers 1987). Such coping responses, though, tend to be seen as maladaptive in the context of health promotion and disease prevention, as they represent a threat to physical well-being.

FIGURE 1
Proposed Model for the Study



A recent study (Ho 2000) observed that fear and coping mediate the relationship between level of threat and behavioral intention. More specifically, the emotion of fear is triggered by the perceived severity of the threat and the perceived vulnerability (likelihood of occurrence). Consequently, the more severe the threat is perceived to be and the more vulnerable a person feels to that threat, the higher the fear experienced by that individual. Subsequently, the greater the fear experienced, the less likely a person is to display maladaptive coping. This might be explained by the fact that a fearful

individual will realize that maladaptive thoughts will not be effective in overcoming the threat.

Hence, fear is predicted to be negatively related to maladaptive coping, which will then affect one's intention to perform the behavior recommended in the persuasive message. The lower the maladaptive coping, the more likely the individual will follow the recommendations. In essence, the higher the fear, the lower the maladaptive coping, and the higher the intention to purchase the product advertised to reduce the threat. Studies using Tanner, Hunt and Eppright's (1991) model have only focused on messages designed to convince individuals to adopt protective-health *behaviors* (Ho 2000; Lavack 1997; Schoenbachler and Whittler 1996). The present investigation will build on past research by applying the model in an advertising context where the goal is to persuade the consumer to buy a specific *product*.

The foregoing discussion leads to the following hypotheses:

H_1: Compared to a low level of threat, a high level of threat will induce a higher level of fear.

H_2: The higher the level of fear, the lower the maladaptive coping.

H_3: As maladaptive coping decreases, purchase intention for the advertised product increases.

Cultural Differences in Uncertainty Avoidance

Hofstede conducted a survey about the values of employees and managers from different national subsidiaries of IBM Corporation in 53 countries (Hofstede 1980). Four distinct dimensions emerged that discriminated across cultures: individualism-collectivism, power distance, masculinity-femininity, and uncertainty avoidance. A fifth factor, long-term/short-term orientation, was added later when a different questionnaire was developed by Chinese scholars (Chinese Culture Connection 1987). In the context of the present study, uncertainty avoidance is the sole dimension considered because it is particularly relevant to the study of fear appeals; the remaining four are not especially pertinent to fear appeals.

According to Hofstede (1991, p. 113), uncertainty avoidance is defined as "the extent to which the members of a culture feel threatened by uncertain or unknown situations." Individuals within the culture try to avoid those situations by establishing rules and rituals to control social behaviors to ensure that the continuous threat of unpredictability is somewhat overcome. As such, people living in high uncertainty avoidance countries are expected to experience less fear. Members from high uncertainty avoidance cultures, such as France, are less likely than their counterparts (such as the United States) to take risks and to accept deviant behavior and dissent (Lustig and Koester 1998). Moreover, they are more resistant to innovation, rely more on expert knowledge, and tend to be more worried about the future. On the other hand, members of low uncertainty avoidance countries define achievement more in terms of recognition than security and are less fearful of failure (Hofstede 1980).

In addition, high uncertainty avoidance cultures are characterized by higher levels of anxiety and stress. In fact, a strong positive correlation has been found between a country's uncertainty avoidance score in the IBM studies and Lynn's (1975) country anxiety scores. Lynn studied country-level medical and other related statistics to compute an anxiety score for 18 different countries. In a high uncertainty avoidance culture, anxiety is released through the expression of aggressiveness and other emotions, which is socially acceptable in these cultures (Hofstede 1991).

Uncertainty Avoidance and Fear

Izard (1971) conducted a study to examine the attitudes toward emotions in seven different

countries. At the time, no interpretation of the findings had been advanced. Years later, Gudykunst and Ting-Toomey (1988) analyzed Izard's (1971) data using Hofstede's (1980) dimensions of cross-cultural variability. The results revealed that uncertainty avoidance was negatively correlated to dreading fear. According to Gudykunst and Ting-Toomey (1988), the acceptance of aggressive behavior in high uncertainty avoidance cultures might constitute an explanation of why fear is experienced to a lesser degree in such cultures.

Furthermore, Wallbott and Scherer (1986) studied antecedents of emotions across cultures. Their analysis revealed that novel situations constituted an antecedent of fear for respondents from a low uncertainty avoidance country but not for those from a high uncertainty avoidance culture. The rationale underlying this result is that in high uncertainty avoidance cultures, formal rules for interaction are developed, thus novel situations should not arouse fear. Likewise, because such cultures have institutions and structures to deal with fear, people "may tend not to recognize this emotion [fear], or attenuate attributions of intensity when expressed or perceived (Matsumoto 1989, p. 95). Schimmack (1996) conducted a study in which judges from different cultures were asked to recognize facial expressions of emotions. The results indicated that judges from cultures high on uncertainty avoidance were less accurate in their recognition of fear, which tends to lend support to Matsumoto's (1989) assertion.

Thus, high uncertainty avoidance cultures have developed mechanisms to prevent anxiety that can be evoked in the presence of unexpected events. As such, fear is experienced at a lower degree. As noted earlier, the lower the level of fear, the higher the likelihood to produce maladaptive cognitive responses. Therefore, because members of high uncertainty avoidance cultures experience fear with less intensity than those of low uncertainty avoidance cultures, they should be more likely to generate a maladaptive coping response. Based on the previous arguments, the following hypotheses are posited:

H_4: At a high level of threat, individuals from a high uncertainty avoidance culture will report lower levels of fear than individuals from a low uncertainty avoidance culture.

H_5: At a high level of threat, members of high uncertainty avoidance cultures will exhibit more maladaptive coping than members of low uncertainty avoidance cultures.

METHOD

In order to test the hypotheses, an experiment was conducted in the United States and in France. Male and female college students from both countries were exposed to an advertisement intended to arouse either a low or high level of fear. Their coping responses to the threat were measured along with their intention to buy the advertised product.

Subjects

According to Hofstede's (1980) findings, the United States is considered a relatively low uncertainty avoidance culture, whereas France is relatively high on this dimension. Therefore, these two cultures were chosen to examine the impact of uncertainty avoidance on the effectiveness of fear appeals.

In the context of this study, participants had to be similar in terms of background characteristics in order to make valid cross-cultural comparisons. Van de Vijver and Leung (1997) note that college students from different cultures are often used in cross-cultural studies because they seemingly possess similar background characteristics. Consequently, participants in this investigation consisted of college students from two universities, one in France and a large Midwestern university in the United States. A total of 200 (100 U.S. and 100 French) students were recruited as a convenience sample at the exit of a classroom after dismissal of the class. Out of

the 200 questionnaires, six were discarded when data from an entire scale were missing or if the nationality of the respondent was neither American nor French.

A total of 193 students, 100 Americans and 93 French, constituted the sample for the analyses. Statistical tests were conducted to determine whether any differences existed between gender, school year, age, and father's occupation in the French and U.S. subsamples. Significant differences were found for sex, school year, and age. So, these variables were ultimately treated as covariates.

Experimental Design

A 2 x 2 factorial design was used to determine the effects of two between-subjects variables on fear, maladaptive coping response, and purchase intention (dependent variables). The independent variable was threat appeal (high vs. low). Culture (France vs. United States) was a blocking variable. Subjects were assigned to a block according to their culture and were randomly assigned to a low-threat or high-threat treatment.

Procedure

The study was presented to participants as an effort to develop an advertisement for a new sunscreen. They were then exposed to either a low or high threat print advertisement. Results from a pre-test indicated that the high and low threat ads were credible and that college students from both countries were not familiar with the advertised brand. Sunscreen was selected as the focal product owing to the results of the pre-test, its protective qualities (i.e., potential for mitigating fear), and its common use among the target population (college-aged students).

After exposure to the ad, participants completed a questionnaire containing measures of fear, coping responses, and purchase intention, as well as scales of variables known to influence the intensity of the relationship between fear and purchase intention (i.e., sensation-seeking, self-esteem, and product usage). Moreover, a manipulation check of the high versus low threat was included in the questionnaire. Also, subjects provided demographic information about their age, gender, nationality, year in school, and father's occupation. At the conclusion of the experiment subjects were debriefed, and the researcher corrected any false information about the disease that was presented in the advertisement.

The questionnaire was translated into French using the translation-backtranslation method. This technique consists of translating items into another language and then backtranslating them into the original language by a different translator (Van de Vijver and Leug 1997).

Variables

One independent variable was manipulated in the experiment: threat appeal (high vs. low), while culture served as a blocking variable. The dependent variables included in this study were fear, coping response, and purchase intention.

Independent Variable. Consistent with protection motivation theory (Rogers 1983), threat level was manipulated according to the *severity* of the threat and the *probability of occurrence* of the threat perceived by the participant. The manipulation was adapted from Rippetoe and Rogers (1987), who examined the use of fear appeals to convince women to perform breast self-examinations in order to prevent the development of breast cancer.

As noted earlier, two versions of the sunscreen advertisement developed for the pre-test were used. The high threat advertisement contained vivid descriptions of skin cancer and its consequences (severity of threat) and emphasized the susceptibility of college students to it (probability of occurrence). The low threat commercial described skin cancer as a less severe illness with few consequences and emphasized its rarity among college students. Both

versions of the advertisement then presented the new product as a way to prevent development of the disease.

Dependent Variables. Fear arousal was measured using Maddux and Rogers' (1983) six mood adjectives: frightened, tense, nervous, anxious, uncomfortable, and nauseous. Also, five items that Rippetoe and Rogers (1987) subsequently added to their scale to prevent respondents' guessing the underlying concept being measured were also utilized. Subjects rated the extent to which each adjective characterized their current state on a 9-point Likert-type scale ("not at all to very much"). Responses were then summed to produce a single index of fear for each subject.

Coping response was measured using McCrae's (1984) and Ripptoe and Rogers' (1987) operationalization. McCrae's (1984) findings indicated that when faced with a threat, individuals are more likely to use *fatalism* and *wishful thinking* as coping responses. In addition to these two maladaptive responses, consistent with the work of Rippetoe and Rogers (1987), *avoidance* and *hopelessness* were included due to their appropriateness as a response to a health threat. Thus, the present scale is composed of four distinct maladaptive coping responses. Likert-type items (7-point scale) were used for each coping response, and a mean score was calculated (Rippetoe and Rogers 1987).

Behavioral intention was operationalized as the intention to purchase the product described in the advertisement. Purchase intention was measured using three 7-point items anchored by very likely/very unlikely, probable/improbable, and possible/impossible. The scale, taken from Yi (1990), has been used in other consumer-related research (Lacher and Mizerki 1994; Lafferty and Goldsmith 1999).

Covariates. Three specific characteristics of an individual have been found to alter the relationship between fear and persuasion. According to Zuckerman (1978), *sensation seeking* refers to individuals' varying need for arousal. High sensation seekers have been found to be unconvinced by a high threat message (Witte and Morrison 1995), whereas low sensation seekers are more easily influenced (Schoenbachler and Whittler 1996). To assess sensation seeking, a shorter version of Zuckerman's (1978) Sensation Seeking Scale was administered to subjects (Madsen et al. 1987).

Self-esteem is another factor that has been found to affect the persuasive process of an advertisement using fear appeals. In fact, past research has indicated that compared to low self-esteem individuals, high self-esteem subjects manifest increased behavioral intention with increases in fear (Ramirez and Lasater 1977). To measure this variable, subjects completed Rosenberg's Self-Esteem Scale (1965).

Although sunscreen is a commonly used product, some people might not be in the habit of putting on lotion prior to exposure to the sun. The extent to which individuals use sunscreen could influence their intention to buy the product. Items designed to measure *product usage* were thus employed to control for individual differences. A three-item, 7-point, Likert-type scale was developed by the author to assess the frequency of sunscreen usage.

ANALYSIS AND RESULTS

Manipulation Checks

To assess the effectiveness of threat manipulation, two different scales (Rippetoe and Rogers 1987) were used: a four-item scale for *perceived severity* of skin cancer and a three-item scale for *probability of occurrence* of the disease. One-way ANOVA was performed to examine whether subjects' responses on these two scales varied across conditions (high vs. low threat). A successful manipulation would mean high scores on both the severity and the probability of occurrence scales for respondents in the high threat condition and low scores for those in the low threat group.

For the severity scale, a significant difference in the correct direction was found between the high and the low threat conditions ($_{low}$=4.33, $_{high}$=4.91, $F_{1,192}$=10.05, p<.002), thus indicating an effective manipulation. No statistically significant result (p>.05), however, was obtained on the probability of occurrence manipulation (using either ANOVA or MANOVA procedures), thereby suggesting that this manipulation was not effective. Thus, one of the two fear components demonstrated a successful manipulation.

Relationships between Covariates and Dependent Variables

Pearson correlations were computed to determine whether the proposed covariates (sensation seeking, self-esteem, and usage, as well as the demographic covariates age, gender, and year in school) were associated with the dependent variables. The results indicated that self-esteem, usage of sunscreen, and year in school were significantly correlated (p<.05) with at least one dependent variable. Consequently, these three variables were used in subsequent analyses. Sensation seeking, age, and gender, however, were not included, owing to their statistical insignificance (p>.05) with the dependent variables.

TABLE 1a
Mean Values for Fear, Maladaptive Coping and Purchase Intention

Dependent Variables	Level of Threat		Culture	
	Low	High	USA	France
Fear	2.71	3.52	3.12	3.11
Maladaptive Coping	3.27	3.17	3.09	3.37
Purchase Intention	3.51	3.95	3.80	3.66

TABLE 1b
MANCOVA Results for Relationships with Fear

Source	Wilk's Lambda	F	Hypothesis df	Error df	Significance
Threat	.92	5.57	3	185	<.01
Culture	.94	3.89	3	185	.01
Threat x Culture	.98	1.37	3	185	.25

Hypothesis Test Results

A two-way MANCOVA was employed to test most of the hypotheses. Cronbach's alpha for all the measures exceeded 0.70. Table 1a presents the mean values for the dependent variables: fear, maladaptive coping, and purchase intention. Findings for MANCOVA appear in Table 1b.

H_1 predicted that a high level of threat would induce more fear than a low level of threat. Consistent with the hypothesis, the MANCOVA generated a statistically significant main effect for the level of threat (λ=.92, $F_{1,185}$=5.57, p< .01). Univariate results revealed that the higher the level of threat, the greater the fear ($_{low}$=2.71, $_{high}$=3.52, $F_{1,187}$=13.01, p<.001), thus lending support to H_1.

Hypothesis 2 proposed that fear would be negatively related to maladaptive coping, while Hypothesis 3 posited that there would be a negative relationship between maladaptive coping and purchase intention. Regression analysis results (Table 2a) indicated that fear is not a significant predictor of maladaptive coping (p>.05). Consequently, there is no support for Hypothesis 2. Similarly, as illustrated in Table 2b, there is no significant relationship between maladaptive coping and purchase intention (p>.05); so, H_3 is rejected.

The fourth and the fifth hypotheses pertained to the effect of culture on fear and maladaptive coping, respectively. It was predicted that at a high level of threat, people from high uncertainty avoidance countries would report lower levels of fear (H_4) and generate more maladaptive coping responses (H_5) than individuals from low uncertainty avoidance cultures. Because the two-way interaction effect between level of threat and culture was not statistically significant (Table 1b; λ=.98, $F_{3,185}$=1.37, p>.05), neither H_4 nor H_5 is supported. Nonetheless, univariate results showed that the pat-

TABLE 2a
Regression Results for Fear Predicting Maladaptive Coping

Variable	Unstandardized Coefficient		Std. Coefficient		
	B	SE	â	t	Sig.
Fear	.083	.048	.125	1.736	.085
Self-esteem	-.120	.172	-.050	-.693	.489
Use	-.091	.040	-.165	-2.284	.023
Year in School	-.001	.106	-.0008	-.012	.991

$R^2 = .043$, $F_{4,189} = 2.118$, $p > .082$

TABLE 2b
Regression Results for Maladaptive Coping Predicting Purchase Intention

Variable	Unstandardized Coefficient		Std. Coefficient		
	B	SE	â	t	Sig.
Maladaptive Coping	.017	.097	.013	.179	.858
Self-esteem	-.293	.230	-.090	-1.296	.205
Use	.190	.054	.250	3.514	<.001
Year in School	-.221	.142	-.108	-1.552	.122

tern of interaction was consistent with the prediction for maladaptive coping (see Figure 2).

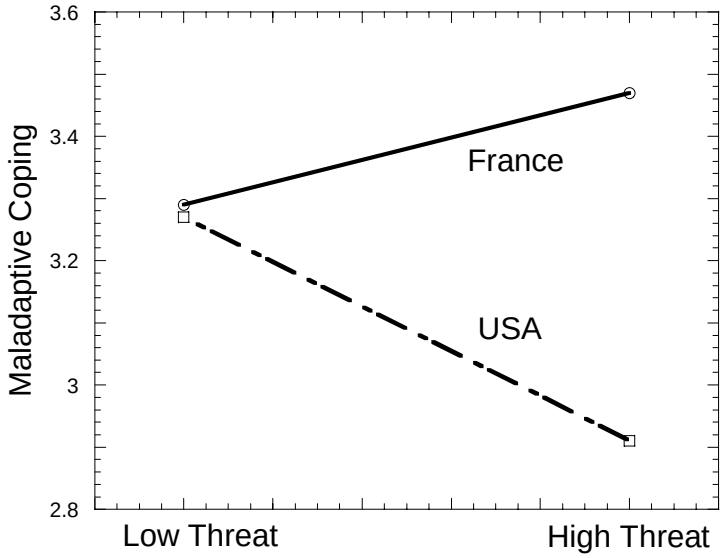
Post-hoc Analysis

As discussed earlier, adaptive coping has not been found to be related to fear in past research. Given that this study's maladaptive coping findings were not significant, and thus not supportive of the hypotheses, relationships between fear and adaptive coping, as well as between adaptive coping and purchase intention, were examined. Identical analyses to those conducted for the maladaptive coping variable were performed. Moreover, MANCOVA was performed to test for main and interaction effects with adaptive coping as a dependent variable.

Mean values for the main effects of the independent variable (level of threat) and the blocking variable (culture) on adaptive coping are reported in Table 3a. In addition, results from the MANCOVA analysis are shown in Table 3b. A statistically significant main effect for level of threat was found (Ë=.93, $F_{3, 184}$=4.97, p<.01). Univariate results indicated that there was a main effect for the level of threat on fear ($F_{1, 186}$=13.01, p<.001) and on purchase intention ($F_{1, 186}$= 4.86, p<.05), but not on adaptive coping ($F_{1, 186}$=1.95, p>.16). Furthermore, MANCOVA generated a significant interaction effect between threat and culture (Ë=.95, $F_{3, 184}$=3.23, p<.05). Univariate findings showed a significant interaction effect between threat and culture for adaptive coping ($F_{1, 186}$=9.77, p<.002), but not for fear ($F_{1, 186}$=1.11, p>.29) nor for purchase intention ($F_{1, 186}$=.23, p>.63).

The relationships between fear and adaptive coping as well as between adaptive coping and purchase intention were investigated using regression analyses (Table 3c). Fear was found to be positively related to adaptive coping

FIGURE 2
The Interaction Effect of Uncertainty Avoidance and Level of Threat on Maladaptive Coping



(â=.355, t=5.261, p<.001), and adaptive coping was significantly and positively associated with purchase intention (â=.287, t=4.128, p<.001). Because these two relationships were statistically significant, the relationship between fear and purchase intention was tested. Given that the findings revealed that fear was a significant predictor of purchase intention (â=.283, t=4.082, p<.001), a fourth regression was conducted to test for the mediation effect of adaptive coping (which is consistent with the proposed effect of the maladaptive coping variable illustrated in Figure 1). Baron and Kenny (1986) suggest that mediation is present if the effect of the independent variable on the dependent variable is reduced when the mediator is entered in the equation. Consistent with this condition, when the influence of fear and adaptive coping on purchase intention was examined, the fear coefficient value was smaller (â=.207, t=2.855, p<.001) relative to the one obtained in the third regression. Therefore, this demonstrates that adaptive coping mediates the relationship between fear and purchase intention.

DISCUSSION AND IMPLICATIONS

Effect of Threat

Consistent with the hypothesis, a high level of threat induced more fear than a low level. This is compatible with a basic tenet of protection motivation theory (Rogers 1983). The few advertising studies using the protection motivation theory as their basic framework (e.g., Schoenbachler and Whittler 1996; Tanner et al. 1991) have been mostly concerned about consumers' intentions to adopt a healthy behavior (e.g., usage of a condom). The focus in the present work, though, was on buying intentions for a specific health-related *product*. Therefore, this study makes a contribution to the literature of fear appeals in advertising owing to its focus on product-, rather than idea-related, advertising.

Effect of Culture

Cultures high in uncertainty avoidance were proposed to be less fearful relative to those that are low in uncertainty avoidance. In other words, in a high threat condition, French people were hypothesized to be less fearful than their

TABLE 3a
Mean Values for Adaptive Coping

Dependent Variable	Level of Threat		Culture	
	Low	High	United States	France
Adaptive Coping	4.29	4.54	4.33	4.50

TABLE 3b
MANCOVA Results for Fear, Adaptive Coping, and Purchase Intention

Source	Wilk=s Lambda	F	Hypothesis df	Error df	Significance
Threat	.93	4.97	3	184	<.01
Culture	.97	1.95	3	184	.12
Threat x Culture	.95	3.23	3	184	.02

TABLE 3c
Regression Analysis Results for Mediation Effect of Adaptive Coping

Regression	Independent Variable(s)	Dependent Variable	â	p-value	R^2	$F_{1,192}$	p-value
1	Fear	Adaptive Coping	.355	.000	.126	27.681	<.001
2	Adaptive Coping	Purchase Intention	.286	.000	.082	17.041	<.001
3	Fear	Purchase Intention	.283	.000	.080	16.666	<.001
4	Fear Adaptive Coping	Purchase Intention	.207 .212	.005 .004	.119	12.913	<.001

American counterparts; no significant difference, though, was obtained. This prediction was based on Hofstede's (1980) work on cultural dimensions. Because Hofstede collected his data nearly three decades ago, his classification could be less appropriate now. Indeed, national characteristics are subject to change as political, economic, and social changes shape society (Fernandez, Carlson, Stepina and Nicholson 1997). Consequently, French and U.S. values may be more compatible today than at the time of Hofstede's study; thus, consumers from both countries may display similar reactions to a fear-inducing persuasive message.

On the other hand, the nature of the threat as well as the subjects' age group could account for the non-significant findings. In fact, U.S. college students frequently expose themselves to ultra-violet rays without excessively worrying about the consequences. A vivid example is the popularity of tanning salons in the region where the study was conducted. Consequently, the skin cancer threat possibly was not as potent a threat as expected for the U.S. respondents in the current study.

Interestingly, although the results were not statistically significant, the interaction between threat and culture on maladaptive coping supported the prediction: At a high level of threat, French consumers exhibited more maladaptive coping than U.S. participants. In light of these findings, the impact of nationality could work directly at the coping stage instead of influencing fear, as previously hypothesized. In other words, even though no difference emerged in the expression of fear, people from the two countries under study seemed to cope with the threat using distinctly different approaches.

Relationships between the Dependent Variables

Fear was expected to have a negative effect on maladaptive coping, which was subsequently supposed to be negatively related to purchase intention. Although these predictions were developed based on an established model in the field of fear appeals, no statistical support was found. As discussed earlier, a mediation effect of maladaptive, and not adaptive, coping has been demonstrated in past health-promotion research (e.g., Ho 2000; Rippetoe and Rogers 1987).

One possible explanation for the unexpected outcome in the current study may be the content of the persuasive message used in the experiment. If the fear-arousing message had outlined the ineffectiveness of maladaptive coping modes in overcoming the threat, conceivably maladaptive coping could play a mediating role in the relationship between fear and behavioral intention. However, in the context of the present study, owing to the limited space in a print advertisement, only the threat, followed by an *adaptive* behavior (buying the advertised sunscreen), were presented. Consequently, the readers were not led to focus on the maladaptive coping responses.

The influence of fear on adaptive coping and the impact of adaptive coping on purchase intention were explored. The results showed that fear was positively related to adaptive coping, which, in turn, had a positive effect on purchase intention. A test of the mediating effect of adaptive coping was also conclusive. Therefore, these findings suggest that the nature of the mediator could vary according to the content of the persuasive message. Likewise, examining adaptive coping instead of maladaptive coping in the context of advertising may be particularly appropriate.

Implications

The findings of this research suggest several theoretical as well as managerial implications. Although challenging previous studies, the mediation effect of adaptive coping demonstrated in this study represents a contribution to the protection motivation theory literature. Researchers should not assume that maladaptive coping is necessarily the mediator involved. As discussed above, if the persuasive message does not highlight the inadequacy of maladaptive coping, there is no reason to believe that this would be a crucial variable influencing the relationship between fear and purchase intention.

Despite the fact that some studies have previously applied the protection motivation model in the advertising field, none has examined the purchase intention of a specific product. In fact, prior studies were mostly concerned about using fear appeals in an advertisement to predict the intention to perform a healthy behavior. Therefore, the influence of the level of threat on purchase intention found in this study constitutes additional support for the applicability of protection motivation theory in the marketing domain.

This latter finding also has implications for advertising practitioners. If properly used, fear appeals can prompt consumers to buy the advertised product. However, before launching an advertising campaign presenting some kind of threat, marketers should conduct research to determine whether this strategy is suitable for their target audience as well as the product type.

Although cross-cultural research has often emphasized the importance of adopting different advertising strategies according to the target country, the results of this study indicate that fear appeals seem to be effective in both France and the United States when the communication is directed at young people for health-related products. This standardization would represent tremendous cost reductions for practitioners interested in marketing their product in either country.

Limitations and Future Research

Some limitations of this study emerge from the control of variables that an experimental setting makes possible. Because control of internal validity was a primary concern, the external validity of the findings may be somewhat affected. In fact, when exposed to an advertisement in an actual context, people might not pay as much attention as when they are asked to evaluate one specific advertisement. Moreover, the absence of articles in a magazine or of other advertisements does not reflect reality. Future studies should attempt to place the ad in a short version of a magazine, for instance.

As discussed above, level of threat was manipulated according to the severity of the threat and the subject's perceived probability of occurrence of the threat (vulnerability). The results of the manipulation checks, however, indicated significant differences for severity across the two conditions but not for vulnerability.

Although some potential confounding factors were included in the analysis, others should be considered in future research, such as the amount of prior knowledge about the threat. An attempt was made, in the pretest, to create fictitious scenarios to remove any extraneous influence of knowledge, but subjects appeared to be skeptical of the contrived situations. Research effort should be directed at exploring the fear induced by novel threats. Similarly, respondents' perceptions of the skin cancer threat may have been muted owing to political unrest the western world is currently experiencing.

In addition, the findings of this study are restricted to the student population, specific target product, and print advertisements. As mentioned earlier, young people might be less fearful and less health conscious than other age groups. Research should attempt to replicate the results with different populations and other types of products. Because fear appeals have been mostly examined in the health-promotion context, empirical effort is needed to determine whether fear could influence the purchase intention of hedonic products, for example. The effectiveness of fear appeals in other types of media should also be investigated.

Findings of the present research indicated that adaptive coping (and not maladaptive coping) was a mediator between fear and purchase intention, which does not support results in past studies. One explanation advanced to account for this result is concerned with the extent to which the persuasive message emphasizes the ineffectiveness of maladaptive coping. This represents an interesting avenue for future research. Despite the fact that no significant differences in fear were found between French and U.S. consumers, valuable information was gained from these results. An important direction for future research is exploring the application of fear appeals, and more specifically, the protection motivation model in other cross-cultural settings. Finally, this study focuses on the fear induced by the advertisement itself rather than fear generated by the context (i.e., by a television program in which a commercial could be embedded). Future studies should investigate this promising line of research.

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