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**ENVIRONMENTAL CONCERN- A FEAR APPEAL IN ADVERTISING**

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**Abstract**

The purpose of this paper is to examine the effectiveness of the fear appeal tactic in advertising to impact attitudes and behavioral intentions regarding environmental responsibility. The theory of planned behavior is used to frame this study, and the results are compared to determine if there is more of an impact on concerned people than on non-concerned people. The results of the study showed support for the claims that the fear appeal creates anxiety and has an impact on attitudes, that the fear appeal creates anxiety and has an impact on behavioral intentions, and that attitudes have an impact on behavioral intentions. Regarding the difference between groups, concerned people did appear to show more of an impact than non-concerned people in terms of behavioral intentions, but not with regard to level of anxiety or attitudes.

**Key words:** fear appeal, environmental responsibility, Attitudes, intentions

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**Introduction**

Fear appeals in advertising are intended to elicit fear by confronting consumers with a threat, for this reason, it may also call as 'threat appeals' (Hartman, 2014). In general, the threat creates concern for one's own physical or psychological well-being, the well-being of others, or relationships with others (Brooker, 1981). Concerns about unexpected errors, (Cohrane, 2005) the threat of developing a sleeping disorder, (Kim, 2012) and rapid change in behavior, such as quitting smoking (Manyiwa, 2012) or engaging in safe sex practices (LaTour, 1989), effect of fear appeals in condom ads evoking the threat of AIDS infection and found that a fear appeal was highly effective in leading subjects to purchase the advertised condom (Truckman-Johnson, 1990) and so on. So many researchers have continuously studied the effect of fear appeals since the 1950s (Witte, 2000) and their studies have utilized similar research designs and researchers manipulated the intensity of the fear appeal (e.g. none vs. low vs. high) and measured outcomes (attitude, intention, and behavior) against the persuasiveness of the message, message sender, or medium. Finally studies have confirmed an effectiveness of fear appeals to persuade and influence behavioral intention under certain circumstances (Leshner, 2010). (Strong, 1993) argued that the stronger the fear appeal in an ad for a product, the stronger the purchase intention is induced.

(LaTour M. S., 1996) Tested the effectiveness of ads for stun-guns employing either fear-based or testimonial-based appeals and found that the fear appeal led to a more favorable attitude toward the brand and higher intention to purchase the advertised product than the testimonial. Several meta-analysis studies also support the positive effect of fear appeals on behavior (Boster, 1984); (Sutton, 1982); (Witte, 2000). Considered together, the extant literature suggests that the stronger the intensity of a fear appeal, the greater change is observed in attitude, intention, and behavior. The extended parallel process model (Witte K. , 1992) explains the underlying mechanism of the effect of the fear appeal on an ad's effectiveness. Individuals initially evaluate the threat expressed by an advertising message, if an individual believes the threat is serious and that he or she is susceptible to it, then he or she will appraise whether the recommended solution is efficacious. Once the solution is considered efficacious, the individual is motivated to follow the solution, develop a favorable product attitude, and be more likely to purchase the related product. Interestingly, fear appeals in advertising can also negatively affect consumers' attitude toward the advertising itself. (Bates, 2016), (Moore, 1996), (Schuhwerk, 1995) explain that once the fear aroused by an ad message exceeds certain intensity, an individual avoids the message and the avoidance generates a negative attitude toward the advertising. In addition (Petty, 1996), (Witte K. , 1992) posits that an excessive fear appeal could suppress individual responses, if an individual determines that fear is too intense, he/she tends to focus on eliminating the fear through denial, defensive avoidance, and reactance (Witte, 2000) instead of complying with the recommended behaviors. The effects of fear appeals have been tested in various contexts, condom use for AIDS prevention (Hill, 1988); (Brooker G. , 1981), drug prevention (Schoenbachler, 1996), skin cancer (Maciejewski, 2004) anti-smoking (Laroche, 2001) environmental protection (Hartmann, 2013); (Hartmann P. V., 2014); (Kim M.-J. a., 2015)

(Kim M.-J. a., 2015), (D' Souza, 2005), (Krugman, 1965) Reveals that severity, response efficacy, and self-efficacy were significant predictors affecting intention to behave in environmentally friendly ways to prevent climate change. (Greenwald, 1984), (Hartmann, 2013) indicates that severity, coping efficacy, and fear response had a significant influence on intentions to use green electricity and to avoid nuclear power. (Hartmann P. V., 2014) , (Chang, 2012), (Sherif, 1965) found that perceived threats in environmental advertising positively impacted consumers' intention to purchase.

### **Objective of the study**

To examine the effectiveness of the fear appeal tactic in advertising to impact attitudes and behavioral intentions regarding environmental responsibility.

### **Hypotheses of the study**

*H1: A fear appeal advertisement will create anxiety and have an impact on attitudes toward environmental responsibility.*

*H2: A fear appeal advertisement will create anxiety and have an impact on intentions to behave in environmentally responsible ways.*

*H3: Attitudes toward environmentalism have an effect on intentions to behave in environmentally responsible ways.*

*H4: The impact of a fear appeal advertisement will be greater among concerned people than non-concerned people*

### **Methodology**

The technique for this study utilized a one-ad quasi-experimental design, the pre and post-surveys consisted of questions adapted from the Environmentally Responsible Consumers which examines five dimensions 1) the opinions and beliefs dimension, 2) the awareness dimension, 3) the willingness to act dimension, 4) the attitude dimension, 5) and the knowledge dimension. A convenience sample of 210 participants was collected for this study. A set of cross-tabulations was administered; statistical analyses were calculated in SPSS software to validate the reliability of each section of the instrument to determine whether or not each scale was actually measuring what it was supposed to be measuring. A factor analysis and reliability analysis were run on the items in each section of the survey to determine the total variance explained and the Cronbach's Alpha, or internal consistency.

### **Limitations of the Study**

Since the focus of the study was to measure the difference in the level of impact between the group of concerned people and the group of non-concerned people, and not focused on measuring the difference between a fear appeal and a neutral advertisement, it was determined that the one-ad quasi-experimental design would suffice. So, although one advertisement was enough to conduct this study, it is still noteworthy as a limitation that there was no control group for comparison purposes. A major factor in the ultimate design decision was the amount of time allotted to prepare and complete this study. There was not sufficient time to create and validate a second advertisement for use in a control group. Most notably, the scale measuring perceived behavioral control did not meet the standard for internal consistency required for exploratory research, and therefore cannot be said to have computed reliable results. The results of this study cannot be generalized across all media, as only the print medium was tested. Testing multiple types of media may provide a more cohesive understanding of how to effectively employ the fear appeal tactic.

**Reliability Analysis****Table 1****Instrument validation**

	<b>Cronbach's Alpha</b>	<b>Total Variance Explained</b>
Awareness/Knowledge	.52	68%
Normative Beliefs	.86	78%
Perceived Behavioral Control	.38	62%
Negative Emotions	.95	70%
Positive Emotions	.86	56%
Anxiety	.90	77%

A reliability analysis of Awareness/Knowledge calculated a Cronbach's Alpha of 0.516 for this scale, and a factor analysis determined that it accounted for 68% of the total variance explained, for Normative Beliefs the scale was 0.86, and the total variance explained was by the scale was 78%, for Perceived Behavioral Control the Cronbach's Alpha was 0.38, and the total variance explained was 62%. For Negative Emotions the Cronbach's Alpha for this scale was 0.95, and in running a factor analysis on these items, it was calculated that they accounted for 70%, for Positive Emotions the Cronbach's Alpha for this scale was 0.86, and the total variance explained computed in a factor analysis was 56% for Anxiety the Cronbach's Alpha for this scale was computed to be 0.90, and accounted for 77% of the total variance explained. Hence, all of the scales were validated for acceptable internal consistency and reliability.

***H1: A fear appeal advertisement will create anxiety and have an impact on attitudes toward environmental responsibility.***

**Table 2****Regression (H1)****Impact of Anxiety on Attitudes toward Environmental Responsibility**

Model	Unstandardized Coefficients	Standardized Coefficients	t	R	R Square	Sig.	Model
	B	Std. Error	Beta				
Anxiety	.227	.098	.216	2.318	.216a	.047	.022

*a. Dependent Variable: my involvement in environmental activities today will help save the environment for future generations*

*a. Predictors: (Constant), anxiety*

The Cronbach's Alpha for these four items was 0.90, showing high internal consistency, from factor analysis it was determined that the items grouped on the instrument to measure attitudes were, in fact, not all measuring the same construct. "My involvement in environmental activities today will help save the environment for future generations." With anxiety as the independent variable, and attitudes as the dependent variable, the results from table 2 of the analysis showed a positive correlation between the variables with a Beta coefficient of 0.216, and a significance of 0.022. The R square was lower than preferable at 0.047. The results of this study supported H1 showing a statistically significant positive correlation between the experience of anxiety and the formation or reinforcement of attitudes toward environmental responsibility. However, the value of the R square in this equation, 0.047, was relatively low which suggests that

anxiety may not be the only predictor effecting attitudes.

**H2: A fear appeal advertisement will create anxiety and have an impact on intentions to behave in environmentally responsible ways.**

**TABLE 3:  
REGRESSION (H2)**

**Impact of Anxiety on Intentions to Behave in Environmentally Responsible Ways**

Model	Unstandardized Coefficients	Standardized Coefficients	t	R	R Square	Sig.	Model
	B	Std. Error	Beta				
Anxiety	.242	.046	.449	5.267	.449a	.201	.000

a. Dependent Variable: Behavior

a. Predictors: (Constant), anxiety

The results of a linear regression analysis of H2 provided significant support of this hypothesis (see Table 3). The behavioral intentions scale on the instrument beginning with, “If offered, I would attend environmental/conservation group meetings.”, and ending with, “I would consider owning a reusable canteen to avoid using plastic bottles.” The regression analysis demonstrated a positive correlation between these two variables, with a Beta coefficient of 0.449, and a statistical significance of 0.000. The R square value for the analysis was 0.201. The significance of this hypothesis from the regression analysis was 0.000, were directly impacted by the anxiety they experienced during their exposure to the fear appeal advertisement. In addition, the power of prediction (R square) between anxiety and behavioral intentions was computed to be 20%, which suggests that anxiety is an accurate predictor in the formation or reinforcement of behavioral intentions.

**H3: Attitudes toward environmentalism have an effect on intentions to behave in environmentally responsible ways.**

**TABLE 4  
REGRESSION (H3)**

**Impact of Attitudes on Intentions to Behave in Environmentally Responsible Ways**

Model	Unstandardized Coefficients	Standardized Coefficients	t	R	R Square	Sig.	Model
	B	Std. Error	Beta				
Attitude	.164	.046	.321	3.556	.321a	.103	.001

a. Dependent Variable: Behavior

a. Predictors: (Constant), my involvement in environmental activities today will help save the environment for future generations

To test H3, the single line item for measuring attitudes selected in analyzing H1 was utilized as the independent variable, and the factor created for measuring behavioral intentions

in analyzing H2 was the dependent variable. In running a linear regression analysis, H3 was supported with a statistical significance of 0.001, a Beta coefficient of 0.321, and an R square value of 0.103 (see Table 4). The statistics show that the power of a participant’s attitudes to predict the formation of intentions to behave in an environmentally responsible manner is 10%, and there was almost no statistical doubt as to the accuracy of this claim. Therefore, H3 was supported.

**H4: The impact of a fear appeal advertisement will be greater among concerned people than non-concerned people.**

**TABLE 5**  
**ONE-WAY ANOVA (H4)**  
**Difference in Anxiety, Attitudes, and Behavioral Intentions between Concerned people and Non-concerned people**

		Sum of Squares	Df	Mean Square	F	Sig
My involvement in environmental activities today will help save the environment for future generations.	Between Groups	3.682	1	3.682	2.693	.104
	Within Groups	117.591	86	1.367		
	Total	121.273	87			
How anxious did the ad make you feel?	Between Groups	.727	1	.727	.477	.492
	Within Groups	131.045	86	1.524		
	Total	131.773	87			
If offered, I would participate in a community recycling program.	Between Groups	4.545	1	4.545	4.666	.034
	Within Groups	83.773	86	.974		
	Total	88.318	87			

To quantify the data in order to compare between the group of concerned people and the group of non-concerned people, a One-way Analysis of Variance (ANOVA) (see Table 6). The results were computed using a single item from each of the three scales, as opposed to using the factors created for anxiety and behavioral intentions. The single item used for anxiety was: “How anxious did the ad make you feel?” The single item used for attitudes was consistent with the item used throughout the computation of results which was: “My involvement in environmental activities today will help save the environment for future generations.” The single item used for behavioral intentions was: “If offered, I would participate in a community recycling program.” The statistical significance for the difference between concerned people and non-concerned people in terms of anxiety was 0.492, in terms of attitudes was 0.104, and in terms of behavioral intentions was 0.034.

The ANOVA results for the difference in the level of anxiety experienced from the fear appeal treatment between the concerned people and the non-concerned people in this study was not statistically significant. It was also determined that there was no significant difference between these two groups in terms of the impact the fear appeal treatment had on the attitudes to which they subscribe regarding environmentalism. However, a significant difference was found between the two groups with regard to their intentions to behave in environmentally responsible ways. In looking more closely at the single item used to quantify this construct (“If offered, I would



participate in a community recycling program.”), 37 concerned people responded positively, 4 were neutral, and 3 responded negatively, while 29 non-concerned people responded positively, 12 were neutral, and 3 responded negatively. So, while H4 was not supported in terms of anxiety and attitudes, it was supported in that concerned people did demonstrate more of an impact in their intentions to behave with environmental responsibility than did non-concerned people.

**TABLE 6**  
**REGRESSION (NORMATIVE)**  
**Impact of Normative Beliefs on Intentions to Behave in Environmentally Responsible Ways**

Model	Unstandardized Coefficients	Standardized Coefficients	t	R	R Square	Sig.	Model
	B	Std. Error	Beta				
Normative	.069	.019	.321	3.556	.321a	.103	.001

a. Dependent Variable: Behavior

a. Predictors: (Constant), Normative

**TABLE 7**  
**REGRESSION (PBC)**  
**Impact of Perceived Behavioral Control on Intentions to Behave in Environmentally Responsible Ways**

Model	Unstandardized Coefficients	Standardized Coefficients	t	R	R Square	Sig.	Model
	B	Std. Error	Beta				
PBC	.080	.026	.285	3.113	.285a	.081	.002

a. Dependent Variable: Behavior

a. Predictors: (Constant), PBC

As for the theory of planned behavior, all three constructs proposed by the theory (attitudes, normative beliefs, and perceived behavioral control) (See Table 6 & 7) were determined to be predictors of the formation of behavioral intentions. The only aspect of the theory not supported by this study was that perceived behavioral control would outweigh the other two constructs, but this was not completely reliable since the perceived behavioral control scale was found to be unreliable.

## Conclusion

The purpose of this study was to examine the fear appeal tactic in advertising to determine its effectiveness regarding environmental responsibility, and to compare the level of impact between concerned people and non-concerned people. The findings of this study showed support for the first three hypotheses, and showed partial support for the fourth hypothesis. Specifically, it was found that anxiety was created by the fear appeal advertisement, and that anxiety had an impact on participants' attitudes and intentions to behave with environmental responsibility, and the attitudes participants subscribed to did have an effect on their behavioral intentions. With regard to the fourth hypothesis, it was found that the group of concerned people was more heavily

impacted with respect to their behavioral intentions than the group of non-concerned people, but this was not the case with respect to their attitudes or the level of anxiety they experienced. However, the overall concept and design of this study was valid and produced significant results. Improvements upon the limitations and flaws in this study, and explorations into different directions in which to expand this type of study in the future, should produce more reliable, useful, and interesting results.

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