

Role of Personality in Response to Fear Appeal Advertisements on Oral Hygiene

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ABSTRACT

In this world of extremely fragmented markets, there is a need to recognise the importance of understanding customers to achieve effectiveness of marketing activities. It is logical that different people have different and unique responses for different types of advertisements according to their characteristics and they may react most positively when exposed to advertisements that match their personality. Fear appeal ads, as a tactic of persuasion, influence such attitudes and behaviour of customers. The purpose of this study is to investigate whether different personality traits influence the responses to fear appeal advertisements. The present study uses five individual differences personality variables like openness to experience, conscientiousness, extraversion, agreeability, and neuroticism/stability to study the responses to fear appeal advertisements on oral hygiene. The results show that there is a significant relationship between agreeableness, extraversion and seriousness towards gingivitis and bad breath whereas there is a significant relationship between openness and seriousness towards tooth decay.

Keyword: Fear Appeal, Personality, Oral Care

No two individuals are the same. They differ in their needs, tastes, preferences, likings, and also responses to stimuli. Understanding the needs, tastes etc. of the consumers is a very difficult task for the marketers. But it is the first and basic step for a marketer to succeed in this extremely diverse market. After identification of the needs and tastes of the consumers, the next task for the marketers is informing the consumers that the product which has the right mix of the consumers' expectation is available in the market. Marketers try to inform and persuade the consumers through advertising. There are different types of advertisements like humour appeal advertisements, celebrity endorsements, fear appeal advertisements etc. Each type is suited to a specific type of product and a specific group of consumers. Consumers respond differently to the different types of advertisements. They react positively to advertisements which match their personal characteristics like social status, personality, family life cycle etc.

Fear appeal advertisements are mostly used when there is a need to create awareness about something. Normally, public service announcements use fear appeal tactic to influence the attitude and behaviour of consumers. The purpose of this study is to investigate whether different

personality traits influence the response to fear appeal advertisements on oral hygiene.

REVIEW OF LITERATURE

The effectiveness of various forms of communication is still a major research topic among marketing professionals. Past researches have focused on using specific types of emotional appeals to communicate (Stayman, Aaker & Bruzzone, 1989). Edell and Burke (1987) have studied the effects of emotional appeals on brand attitudes and also purchase intentions. Aaker and Bruzzone (1981) have found that emotional affect is the central reason for consumers' perceptions and reactions to advertisements.

There are different types of emotions like happiness, sadness, fearfulness etc. Even though most of the advertisements carry happiness or humour appeal, the effectiveness of fear appeals cannot be shrugged off. In Aristotle's Rhetoric, fear is defined as "a pain or disturbance due to a mental picture of some destructive or painful evil in the future". The fear emotion motivates action and marketers use this to develop marketing communication to facilitate attitude and behaviour change.

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Fear Appeal

Understanding the role of fear appeals in marketing practice requires an in-depth understanding of the fear emotion prior to the development of any marketing intervention. A fear appeal may be defined as a persuasive message that attempts to arouse the emotion of fear by depicting a personally relevant and significant threat and then following by outlining recommendations presented as feasible and effective in deterring the threat. The appeal illustrates the association between an undesired activity and its undesired consequences.

Fear appeals play an important role in persuasion and they can have a significant effect on the behaviour by motivating individuals to find ways to remove the threat presented and the depicted danger (Tanner, Hunt & Eppright, 1991). Another study by Arnold (1985) confirms that an individual is more likely to be persuaded to attitude change if that individual is emotionally aroused in comparison to purely rational communication. Ultimately fear appeals can be useful in inducing change in behaviour because such appeals highlight the risks in individuals dealing with performing or not performing the recommended actions (Murry-Johnson, Witte, Patel, Orrego, Zuckerman, Maxfield & Thimons, 2004).

Even though many researches done in the past show that fear appeals motivate behaviour change across a variety of behaviour among audiences, researchers and practitioners continue to contend that fear appeals backfire. Different models have been proposed to describe the cognitive and emotional effects of fear appeals.

Some early studies provided evidence of a negative, linear relationship such that decreasing levels of fear (i. e., lower levels of aroused fear) resulted in more persuasion (e. g., Goldstein, 1959; Janis & Feshbach, 1953). The curvilinear model (Janis, 1967; Ray & Wilkie, 1970) explained that higher levels of fear enhance persuasion up until some critical point; however, once this critical point is exceeded the level of fear becomes too great and defensive avoidance reactions are likely to result, with subsequent rejection of the message more likely to occur. Some empirical support exists for the curvilinear view with studies indicating that fear is positively associated with both message acceptance and message rejection (Lewis, Tay & Watson, 2003). The Parallel Response

Model (Leventhal, 1970) and the Protection Motivation model (Rogers, 1983) found that cognitive and emotional variables play an important role in fear arousal and thereby either conforming to the recommended actions or following counterproductive actions.

Generally, these 'newer' models adopted a greater focus on the role of cognitive factors as opposed to a specific focus on the role of fear. The Parallel Response Model (Leventhal, 1970) maintained that there were two separate paths to persuasion: an emotional 'fear control response' and a cognitive 'danger control response'. Of the two paths, the cognitive response, by controlling the danger or threat, was more likely to promote protective behaviour (i. e., adoption of the message's recommendations) as opposed to the emotional response which involved controlling the fear by either maladaptive means such as minimising the threat (i. e., rationalising the risk) or rejecting the message. However, the model failed to clearly specify the circumstances under which danger control or fear control responses would be initiated (Witte & Allen, 2000).

Kim Witte (1992) explains that every individual evaluates the components of a message in relation to his or her prior experiences, culture, and personality characteristics. Thus, the same fear appeal may produce different perceptions in different people, thereby influencing subsequent outcomes.

Even after more than fifty years of study on fear appeal, published researches still describe it as confusing (LaTour, Snipes & Bliss, 1996). Witte (1992) found the reasons for the confusion pertaining to the use of fear appeal advertising in social marketing. The first reason pertains to the use of similar but conceptually different terms, fear and threat that produce different outcomes. The second reason is that not much importance is given to understand individuals' reaction to fear appeals as well as to understand when and why fear appeals fails and when and why fear appeals work. Added to this, social threat advertisements may be considered unethical, even when used for socially beneficial causes.

However, the use of fear appeal in social advertising and public service advertisements have increased because of the increase in various social problems and behaviour prevailing in the society today. Arthur and Quester (2003)

found that there is no relationship between the amount of fear an advertisement generates and its perceived ethicality. Tay, Ozanne and Santiono(2000) suggest that utilisation of fear appeals should be segment specific as fear appeals have been found to influence various population segments differently. Segmentation can be based on a variety of variables like age, gender, social status, personality etc.

The Big Five Personality

A personality trait is a characteristic way in which an individual perceives, feels, believes or acts. The past two decades have seen a surge in the personality research after the emergence of a consensus understanding that traits are well organised within five broad domains i. e. the Big Five model (Goldberg, 1990) comprising extraversion, neuroticism, openness to experience, agreeableness, and conscientiousness. These five domains encompass numerous more narrower, more context specific facets in a hierarchy of individual differences constituting the patterns of traits across individuals (John & Srivastava, 1999). The Big Five is now viewed as the first and only scientific consensus in personality psychology after the publication of the NEO-PI –R five factor inventory by Costa & McCrae in 1985.

Extraversion is characterised by positive emotions, the tendency to seek out stimulation and the company of others. Extraverts enjoy being with people and are often perceived as full of energy. Neuroticism is the tendency to experience negative emotions, such as anger, anxiety or depression. Neurotic individuals are emotionally reactive and vulnerable to stress. They are more likely to interpret ordinary situations as threatening and minor frustrations as hopeless difficulties. Openness to experience is a general appreciation of art, emotion, imagination, curiosity and a variety of experience. They tend to be compared to closed people, more creative and more aware of their feelings. Conscientiousness is a tendency to show self-discipline and aim for achievement. The trait shows a preference for planned rather than spontaneous behaviour. Conscientious individuals avoid trouble and achieve high levels of success through purposeful planning. Agreeableness is a tendency to be compassionate and cooperative rather than suspicious and antagonistic towards others. Agreeable individuals value getting along with people. They are generally considerate and willing to compromise their interest to others.

Oral Hygiene

Oral hygiene consists of proper brushing and flossing daily. The purpose of oral hygiene is to minimise any etiological agents of disease in the mouth. The primary focus of brushing and flossing is to remove and prevent formation of plaque which consists mostly of bacteria. As the amount of bacterial plaque increases, the tooth is more vulnerable to dental diseases. Oral hygiene is probably more effective at preventing gum disease (periodontal disease) than tooth decay. However, as tooth decay and bad breath are also general dental diseases of most of the people, it should also be given much importance. These can also be prevented by good oral care and food habits. Prevention of dental diseases has always been a long standing interest of the dental profession. Vogel, Morante, Ives and Diamond (1977) in their study found that there is strong effect of personality traits on oral health and health related behaviours. Shanker, Mohamed, Hegde and Arun Kumar (2013) in their study on personality and oral hygiene found that there is clinical correlation between the different personality traits and gingival health status of the respondents which was not statistically significant. In their study they used the Eysenck personality groups of psychoticism, extroversion and neuroticism.

This study makes an attempt to analyze the effect of personality on the response to fear appeal advertisements on dental hygiene.

METHODOLOGY

The total number of respondents for the study was 250. Among the 250 respondents, 143 were male and 107 were female. This study was conducted on youths belonging to the age group between 18 years and 35 years using structured questionnaire. 160 respondents belong to the age between 18 and 20 years and 90 respondents belong to the age group of 21 and 35 years. The questionnaire was divided into two parts. The first part consists of questions based on the demography of the respondents and 30 questions from the NEO-PI-R personality inventory. Then the respondents were shown a set of three advertisements which depicted gingivitis in the tooth gum area, tooth decay and bad breath as a result of bad oral care. Then, in the second part of the questionnaire, the respondents were asked to respond to a few sets of scales including perception of seriousness of gingivitis, tooth decay and bad breath (Forsell, Sjogren, Kullberg, Johansson, Wedel

and Hoogstraate, 2011).

NULL HYPOTHESIS

Ho1: There is no significant relationship between personality and oral hygiene after viewing the advertisement.

Ho2: Respondents with different personality characteristics differ in their seriousness to oral hygiene

after viewing the advertisement.

ANALYSIS AND INTERPRETATION

To systematical understand the dependencies and correlation among the personality statements and to extract the basic variables, exploratory factor analysis is used. In the exploratory factor analysis, principle component analysis is applied for the extraction of the

Table 1: The Result of the Exploratory Factor Analysis on Personality

| <i>Factors</i> | <i>Statements</i> | <i>Factor loadings</i> | <i>Eigen Values</i> | <i>Variances Extracted</i> | <i>KMO Value</i> |
|-------------------|---------------------------------------|------------------------|---------------------|----------------------------|------------------|
| Openness | I am ingenious, a deep thinker | .767 | | | 0.648 |
| | I am original, come up with new ideas | .665 | | | |
| | I am curious about many things | .597 | 3.805 | 16.551 | |
| | I am inventive | .584 | | | |
| | I prefer work that is routine | -.555 | | | |
| | I like to play with ideas | .549 | | | |
| Extraversion | I am talkative | .730 | | | |
| | I generate lot of enthusiasm | .709 | | | |
| | I tend to be quiet | -.559 | 3.130 | 13.6155 | |
| | I have an assertive personality | .539 | | | |
| | I am outgoing sociable | .474 | | | |
| | I am sometimes shy | -.420 | | | |
| Agreeableness | I am helpful & unselfish | .761 | | | |
| | I tend to find fault with others | -.643 | | | |
| | I have a forgiving nature | .608 | 2.781 | 12.097 | |
| | I am trustworthy | .573 | | | |
| | I am considerate & kind to everyone | .531 | | | |
| Neuroticism | I am moody sometimes | .760 | | | |
| | Remain calm in tense situations | .599 | | | |
| | I worry a lot | .517 | 2.761 | 12.010 | |
| | I get nervous easily | .462 | | | |
| | I am relaxed handle stress well | -.458 | | | |
| | I remain calm in tense situations | -.408 | | | |
| Conscientiousness | I am a reliable worker | .705 | | | |
| | I tend to be lazy | -.663 | | | |
| | I persevere until task is finished | .585 | 2.641 | 11.488 | |
| | I am careless sometimes | -.510 | | | |
| | I do a thorough job | .481 | | | |
| | I do things efficiently | .470 | | | |

factors. Varimax rotation method is used for rotating the matrix. Factors with Eigen value of more than one only are taken for analysis and statements with loading factor less than .40 are suppressed.

The result of the Bartlett’s test of sphericity shows that the correlation between the variables under each factor is significantly strong, that is justified with the statistically significant value of 0.000 and chi-square value of 3020.

Of the 30 statements, 29 statements are grouped into five factors as shown in Table 1. The KMO value of 0.648 is more than the acceptable range and the total variances explained by the factors is 65.76 percent. The first factor consists of six statements with factor loadings ranging from 0.767 to 0.549. The total variance explained by this factor is 16.551 percent. The six statements grouped in this factor explain the openness personality characteristics and so named openness.

The second factor consists of six statements with factor loadings ranging from 0.730 to 0.420. The total variance explained by this factor is 13.615 percent. The six statements grouped in this factor explain the extraversion personality characteristics and so named extraversion. The third factor consists of six statements with factor loadings ranging from 0.761 to 0.531. The total variance explained by this factor is 12.097 percent. The six statements grouped in this factor explain the agreeableness personality characteristics and so named agreeableness. The fourth factor consists of six statements with factor loadings ranging from 0.760 to 0.408. The total variance explained by this factor is 12.010 percent. The six statements grouped in this factor explain the Neuroticism personality characteristics and so named Neuroticism. The fifth factor consists of six statements with factor loadings ranging from 0.705 to 0.470. The total variance explained by this factor is 11.488 percent.

The six statements grouped in this factor explain the conscientiousness personality characteristics and so named conscientiousness.

Table 2 shows the result of correlation test used to study the relationship between the big five personality traits and the seriousness towards oral hygiene after viewing the advertisement. It is found that agreeableness and extraversion personality traits have a significant positive relationship with the seriousness towards gingivitis and bad breath whereas openness personality traits have a significant negative relationship with the seriousness towards tooth decay. Conscientiousness personality trait does not influence the seriousness towards gingivitis, tooth decay or bad breath. So, there is a relationship between certain personality traits and seriousness to oral problems.

To test the hypothesis that respondents with different personality characteristics differ in their seriousness to oral hygiene after viewing the advertisement, one-way ANOVA tests is used. The five factors of personality are clustered to find in which personality segment the respondents belong to. The number of clusters is found to be five clusters using the hierarchical cluster after doing the dendrogram analysis. The K means cluster is then used to segment the total respondents in the five clusters. The mean values of the five clusters are as shown in Table 3.

It is inferred from Table 3 that the personality of the respondents in the first cluster is dominated by the openness personality characteristics with a mean value of 4.72; so it is taken as the openness personality cluster. The personality of the respondents in the second cluster is dominated by the extraversion personality characteristics with a mean value of 4.32, so it is taken as the extraversion personality cluster. The personality of the respondents in the third cluster is dominated by the agreeableness

Table 2: The Relationship between Personality and Seriousness to Oral Problems

| <i>Personality traits</i> | <i>Gingivitis</i> | | <i>Tooth decay</i> | | <i>Bad breath</i> | |
|---------------------------|----------------------------|------------------------|----------------------------|------------------------|----------------------------|------------------------|
| | <i>Pearson Correlation</i> | <i>Sig. (2-tailed)</i> | <i>Pearson Correlation</i> | <i>Sig. (2-tailed)</i> | <i>Pearson Correlation</i> | <i>Sig. (2-tailed)</i> |
| Agreeableness | .258 | .000 | .008 | .898 | .228 | .000 |
| Conscientiousness | .068 | .287 | .070 | .270 | .090 | .157 |
| Openness | .104 | .099 | -.184 | .004 | .103 | .106 |
| Extraversion | .266 | .000 | -.058 | .362 | .470 | .000 |
| Neuroticism | .107 | .090 | .100 | .113 | .008 | .895 |

Table 3: The Final Personality Clusters

| <i>Personality factors</i> | <i>1</i> | <i>2</i> | <i>3</i> | <i>4</i> | <i>5</i> |
|----------------------------|----------|----------|----------|----------|----------|
| Agreeableness | 2.29 | 2.80 | 4.28(I) | 2.85 | 3.40 |
| Conscientiousness | 3.26 | 2.81 | 3.41 | 2.62 | 4.21(I) |
| Openness | 4.72(I) | 3.37 | 3.18 | 2.25 | 3.05 |
| Extraversion | 3.63 | 4.32(I) | 3.42 | 2.13 | 3.12 |
| Neuroticism | 3.55 | 3.02 | 3.20 | 4.04(I) | 3.27 |

personality characteristics with a mean value of 4.28, so it is taken as the agreeableness personality cluster. The personality of the respondents in the fourth cluster is dominated by the neuroticism personality characteristics with a mean value of 4.04, so it is taken as neuroticism personality cluster. The personality of the respondents in the fifth cluster is dominated by the conscientiousness personality characteristics with a mean value of 4.21, so it is taken as the conscientiousness personality cluster.

One-way ANOVA test applied to different personality clusters show large F values and 0.000 significance value which shows that there is significant difference between the personality clusters.

The number of respondents falling in each personality cluster is shown in Table 4. Of the 250 respondents 93 respondents show agreeable personality characteristics, 55 show extraversion personality characteristics, 50 show conscientiousness personality characteristics, 36 show openness personality characteristics, and 16 show neuroticism personality characteristics.

Table 4: The Number of Respondents in each Personality Cluster

| <i>Personality</i> | <i>Number of respondents</i> |
|--------------------|------------------------------|
| Openness | 36.000 |
| Extraversion | 55.000 |
| Agreeableness | 93.000 |
| Neuroticism | 16.000 |
| Conscientiousness | 50.000 |
| | 250.000 |

To study whether the respondents with different personality characteristics differ in their seriousness to oral hygiene, one-way ANOVA is used. Also, Duncan post-hoc analysis is used to identify which segment of the respondents differs in their seriousness to oral hygiene.

Table 5: One-way ANOVA for Personality and Seriousness to Oral Problems

| <i>Personality and oral care</i> | <i>F</i> | <i>Sig.</i> |
|----------------------------------|----------|-------------|
| Seriousness about gingivitis | 5.466 | .000 |
| Seriousness about tooth decay | .846 | .497 |
| Seriousness about bad breath | 5.447 | .000 |

Table 5 shows that respondents with different personality characteristics show difference in their seriousness about gingivitis and bad breathe whereas for tooth decay there is no significant difference between respondents of different personality characteristics.

From Table 6, it can be inferred that respondents of different personality segments fall in three subsets for both gingivitis and bad breathe. Respondents with neuroticism and extraversion personality characteristics fall in one subset and those with conscientiousness personality fall in another subset explaining significant difference between them for gingivitis. For bad breathe, respondents with neuroticism personality characteristics fall in one subset, and those with extraversion and openness personality characteristics fall in another subset and those with conscientiousness personality characteristic fall in the third subset explaining the significant difference between them.

Respondents with conscientiousness personality show the highest seriousness for gingivitis and bad breathe whereas the respondents with neuroticism personality characteristics show the least seriousness for gingivitis and bad breathe.

DISCUSSION

From the findings of the study, it is found that some personality traits and seriousness towards oral care are associated. Also, individuals with different personality characteristics show different level of seriousness towards oral care.

Table 6: Duncan Post Hoc Personality and Seriousness to Oral Problems

| Personality Cluster | N | Gingivitis | | | Bad breath | | |
|---------------------|----|------------|------|------|------------|------|------|
| | | 1 | 2 | 3 | 1 | 2 | 3 |
| Neuroticism | 16 | 3.88 | | | 3.50 | | |
| Extraversion | 55 | 4.09 | | | | 4.20 | |
| Openness | 36 | 4.19 | 4.19 | | | 4.14 | |
| Agreeableness | 93 | | 4.56 | 4.56 | | 4.45 | 4.45 |
| Conscientiousness | 50 | | | 4.64 | | | 4.76 |
| Sig. | | .140 | .074 | .692 | 1.000 | .235 | .212 |

Akhigbe, Koleoso, Akpata and Omoregie (2008) found that emotionality, high anxiety, bodily discomfort, discomfort in social situations, loss of interest in usual activities etc. are factors which influence a person to be more serious about dental care. The personality traits which are characterised by being with people or giving importance to social interactions should show seriousness towards bad breath as otherwise it may prove difficult for them to socialize. Extraversion personality is characterised by positive emotions and is more likely to be associated with the feeling of euphoria with the environment they were in. Since bad breath may affect this euphoria of being with people, this personality may be associated with showing seriousness towards bad breath. Also, agreeableness personality is characterised with valuing getting along with people, so this personality may be associated with showing seriousness about bad breath which may affect them being with people.

Regarding respondents with different personality characteristics showing seriousness towards oral care, it is those with conscientiousness personality who show the maximum seriousness and neuroticism individual who show the least seriousness. Since conscientious individuals avoid trouble and achieve high levels of success through purposeful planning, they try to avoid problems with meticulous planning. This may be suitable for oral care also as found from this study. Conscientious individuals show utmost seriousness towards oral care so that they can plan ways of avoiding problems related to bad oral care. Even though, neurotic individuals are emotionally reactive and are more likely to interpret ordinary situations as threatening and minor frustrations as hopeless difficulties, here in this study, they don't show too much of stress and are not scared of bad oral care as seen from the post hoc table values. Neurotic individuals are showing fear control response as explained in parallel

response model, where individuals try controlling the fear by either maladaptive means such as minimizing the threat or rejecting the message. Here, neurotic individuals try to control the fear by rejecting the message about problems on bad oral care so that they feel safe and comfortable.

In conclusion, personality of the individuals does influence their response to fear appeal communication on oral care. This study focuses only on their personality variables and their influence on response to fear appeal communication specifically on oral care which can be extended to other products also. The study is done only on youths and this limited sample diversity in this study could account for the difference in the findings. Only five personality variables taken from big five personality are used in this study which can also include self-esteem variable in the future research.

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