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Araştırma Makalesi / Research Article

Evaluation of Celebrity Endorsement Effectiveness Within the Context of Vampire Effect by Using Eye Tracking Technique*

Gizem Tokmak Danışman[1] , Ramazan Aksoy[2]

Abstract

The first step for an advertisement to be effective is to attract attention. To attract attention, advertisers generally prefer to use celebrities or attractive models as human message sources. However, this situation may be risky as these human message sources attract all the attention on them and thus overshadow other advertising elements and create vampire effect. In this research, vampire effect was examined by using eye tracking and questionnaire techniques together. Results show that as the fixation duration to celebrity and unknown model with similar attractiveness score to the celebrity in the advertisements increased, brand recognition rate decreased by 47.8 %. Thus, the research result promoted vampire effect assumption.

Keywords: *Vampire effect, eye tracking, celebrity endorsement, advertising effectiveness.*

Reklamlarda Ünlü Kişi Kullanımının Etkinliğinin Vampir Etkisi Kapsamında Göz Takip Tekniğiyle Değerlendirilmesi

Öz

Bir reklamın etkinlik sağlamak için ilk basamağı, dikkat çekmektir. Dikkat çekmek için reklamcılar genellikle beşeri mesaj kaynağı olarak ünlü kişi veya çekici modelleri kullanmayı tercih etmektedirler. Oysaki bu durum, söz konusu beşeri mesaj kaynaklarının tüm dikkati üzerlerinde toplaması ve böylece diğer reklam unsurlarını gölgede bırakıp vampir etkisi oluşturması sebebiyle riskli olabilmektedir. Bu araştırmada vampir etkisi, göz takibi ve anket teknikleri bir arada kullanılarak incelenmiştir. Elde edilen sonuçlar, reklamdaki ünlü kişiye ve ünlü kişiyle benzer çekicilik skoruna sahip tanınmamış modele odaklanma süresi arttıkça, marka tanıma oranının 47.8 % oranında azaldığını göstermiştir. Böylece, araştırma sonuçları vampir etkisi varsayımını desteklemiştir.

Anahtar Sözcükler: *Vampir etkisi, göz takibi, ünlü kişi kullanımı, reklam etkinliği.*

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[1] Corresponding Author (Sorumlu Yazar), Res. Assist., Zonguldak Bulent Ecevit University, Faculty of Economics and Administrative Sciences, Department of Business, gizem.tokmak@beun.edu.tr , https://orcid.org/0000-0002-5855-6728

[2] Professor, Zonguldak Bulent Ecevit University, Faculty of Economics and Administrative Sciences, Department of Business, ramazanaksoy@beun.edu.tr , https://orcid.org/0000-0002-6205-8334

INTRODUCTION

Advertisers generally prefer to use human message sources such as celebrities or attractive/unknown models to transfer their advertisement messages and to easily attract audiences' attentions. However, these human message sources may capture all or most of attention and by doing so, they may block the other ad elements' visibility. Human message sources may be very effective in transferring ad messages to the audiences in the way that companies want them to be understood or they may be very harmful for ad effectiveness by creating vampire effect.

Vampire effect occurs when any attention getting elements except from product, brand and text message capture all or most of the attention and overshadow the other ad elements in this way. Due to the fact that audiences pay most of their attention to these attention getting elements, in other words to these "vampires" in ads, they do not or hardly recall/recognize product/brand in the advertisements. Thus, the advertising (ad) effectiveness decreases. Celebrities and attractive models are the human message sources in advertisements which have high possibility to create vampir effect because of their attractiveness and popularity. Thus, advertisers must be careful in choosing human message sources in ad campaigns.

Celebrities are the most frequently used human message source in advertisements (Atay, 2011). Thus, celebrities' effect on ad effectiveness is one of the main concern among both marketing theoreticans and practitioners. The studies (e.g., Dom *et al*., 2016; Kuvita and Karlicek, 2014; Fleck *et al*., 2012; Biswas *et al*., 2006) about celebrity ad effectiveness generally focus on celebrity congruence with product/brand. Beside congruency, the effect of celebrity attractiveness on ad effectiveness is also frequently examined in literature (e.g., Erfgen *et al*., 2015; Erdoğmuş *et al*., 2016; Pileliene and Grigaliunaite, 2017). It is observed from the literature that the researchers generally preferred to use mock advertisements in the studies about celebrity ad effectiveness. In other words, they designed the advertisements and they did not use original advertisements. But advertisement layout and design are the issues requiring proficiency. Each elements on an advertisement have a special meaning and can affect the other elements' visibility and legibility directly or indirectly. Thus, the studies in which mock advertisements were used are debatable in terms of getting practical and realistic contributions. The studies in which original advertisements were used in analysing celebrity ad effecitveness are limited in literature. Thus it can be said that there is a gap in terms of using and testing original advertisements on celebrity ad effectiveness and getting practical and realistic contributions. Besides, in the literature it is observed that research sample generally consist of both male and female participants or only female participants. There is a gap in the literature in terms of evaluating and focusing on male audiences' reactions toward celebrity endorsement and on celebrity endorsement possibility to create vampire effect on male audiences.

It is observed from the literature that the studies on celebrity endorsement effectiveness generally preferred to use the term "ad effectiveness" to state attitute toward ad and recall performance. On the other hand the term "vampire effect" is rarely used in the literature. However the term "vampire effect" is a metaphoric and remarkable way of effectively indicating how a celebrity can be harmful for a brand. Thus, the lack of using the term "vampire effect" is evaluated as a gap in the literature.

In accordance with the gaps mentioned above, the purposes of the current research were determined. The first purpose is to improve vampire effect literature by examining vampire effect of celebrity endorsement on male aundiences. The second purpose is to find out whether celebrity in advertisement creates vampire effect. To examine vampire effect, original advertisements were used. In other words, the researcher did not design the advertisements and did not use mock advertisement as many studies prefer to use. The researcher used the original advertisements. Thus, it is expected to make realistic and practical contributions to the literature. The third purpose is to find out celebrity endorsement effect on male audiences. With this purpose, it is expected to make contribution to the vampire effect literature in terms of male reactions.

In the research, first of all the terms including vampire effect, celebrity endorsement and visual behavior were explained, then the hypotheses were presented under the researches about these issues, and then the research model was presented in the literature review part. Under methodology part, sampling method and sample characteristics, data collecting method, scales, experimental design and process, and analyses and findings were presented. Under discussion and conclusion part, theoretical and practical implications of the research were discussed. In the final part under the name of limitations and suggestions, the constraints of the research were explained and suggestions for future researches were given.

1. LITERATURE REVIEW

There is no distinct definition of vampire effect in literature. Vampire effect is generally defined as a situation occurring by any attention getting element in an advertisement which captures attention of the audience from the product/ brand to itself. Due to the audience pays most of his/her attention to the attention getting element in ad, he/she fails to remember the product/brand in the ad. The situation that attention getting element in advertisement captures most of the attention from the product/brand seems to be a vampire sucking the product's and/or brand's blood. Thus, such attention getting element is considered as a vampire and this situation is called as vampire effect (Kuvita and Karlicek, 2014).

The attention getting elements in an advertisement can be an attractive model, a celebrity, a message, a sound or any element taking place in advertisement (Erfgen *et al*., 2015). Thus, not only human message source such as an attractive model or a celebrity, but also the other ad elements such as an incongruent message, an object or a sound can be considered as vampire getting all attention and causing the audience not recall the product/brand.

One of the frequently preferred human message source in advertisements is celebrity. McCracken (1989) identifies celebrity in advertisements as a person who uses his/her popularity to market the product and brand. Advertisers use celebrities by taking advantage of their popularity, likeability and prestige within society. They tries to transfer celebrities' positive image to the product/brand (Keller *et al*., 2008).

Advertisers use celebrities not only to transfer their image to products/brands but also to increase the attention level to the advertisement. Although celebrities can increase the attention toward advertisement, it is important to precisely know which advertisement element primarily receives attention. There is always a risk that celebrity in advertisement may act as a vampire and get all attention within a period that a target audience sees and pays attention to the advertisement.

The first function of an advertisement is to attract attention (Wedel and Pieters, 2000). To easily attract attention, advertisers frequently prefer using celebrities as message sources in advertisements. Celebrity endorsement is an effective way to attract target audiences' attention toward advertisements. As well as attracting attention, celebrities must persuade target audience about the product/brand. At this point, trustworthiness, speciality and attractiveness characteristics of the celebrity become effective in terms of persuasion, in other words, celebrity endorsement effectiveness (Ohanian, 1990). On the other hand, advertisement portfolio of a celebrity may also affect celebrity endorsement effectiveness. A celebrity who appeared in different product or brand advertisements during his/her career is evaluated untrustworthy by the target audience (Till, Busler, 1998). Some researches (Mowen and Brown, 1981; Tripp *et al*., 1994) show that consumers perceive the celebrities appeared in a single product/brand category advertisements more trustworthy and persuasive than the celebrities appeared in several product/brand categories advertisements. Thus, advertisement portfolio is important for celebrity endorsement effectiveness.

Celebrities can create vampire effect but they can also help the audience like the product/brand/ad and/or lead the audience purchase the product. However, there is no consensus about celebrity endorsement effectiveness in the literature. Some researches (Dean and Biswas, 2001; Hayat *et al*., 2013;

Pileliene and Grigaliunaite, 2017) show that celebrities in advertisements help audiences like the product/brand and differentiate affective attitudes toward advertisements. On the other hand, Erfgen *et al*. (2015) found that celebrity endorsement negatively affects brand name recall of the audiences and differentiate cognitive attitudes. There are also some contradicting results about the effect of celebrity endorsement on behavioral attitudes to the advertisements. For instance; some researchers (Pileliene, Grigaliunaite, 2017; Mehta, 1994) found that celebrity endorsement does not differentiate behavioral attitude to the advertisement. On the other hand, some researchers (Hayat ***et al***., 2013; Kamins, 1989; Friedman and Friedman, 1979) found that celebrity endorsement differentiates behavioral attitude to the advertisement. In accordance with the literature, the first hypothesis was developed below:

H1: Celebrity endorsement creates significant differences on ad effectiveness.

Relevant literature says that some issues including celebrity's characteristics such as trustworthiness, specialty and attractiveness, celebrity's advertisement portfolio and celebrity's congruence with the product/brand and the target audience are important factors for celebrity endorsement effectiveness. But these issues are just the tip of the iceberg. To know target audience's visual behavior to the advertisement is also crucial for advertisers to create effective ad campaign. As it is mentioned above, celebrity endorsement has a possibility of creating vampire effect as the celebrity captures all or most of the attention on himself/herself. By knowing which advertisement elements primarily attract attention and which advertisement elements are disregarded in a particular time that target audience pay attention to the ad, advertisers can create more effective ad campaigns. Thus, it is important to know visual behavior and its effect in celebrity endorsement.

Visual behavior toward advertisement is an indication of fixation duration, fixation frequency and fixation order of an audience to an advertisement and/or to an advertisement element in a particular time. Fixation duration and fixation frequency are the most frequently used metrics in determining visual behavior (Radach ***et al***., 2003). Fixation duration indicates a sum of fixations and gazes toward a stimulus at a given time. On the other hand fixation frequency indicates a number of fixations toward a specific area of interest at a given time (Wedel, Pieters, 2008).

Eye tracking technique is frequently used in determining visual behavior to advertisements. Recently, this technique is particularly used in marketing communication researches (Wedel, Pieters, 2000). Eye tracking technique guides researchers in understanding the effect of an advertisement on an audience. By using eye tracking technique in determining ad effectiveness, the successfull and unseccessfull advertisement elements in getting attention can be identified.

To use only fixation duration and fixation frequency in determining ad effectiveness can be risky. A longer fixation to an area can mean that the area's complexity level is high as well as the area is atrractive. Thus, in order to get a precise knowledge about the area's effectiveness, questionnaire technique should be followed after eye tracking technique (Higgins ***et al***., 2014).

Fixation duration and fixation frequency metrics are visualized through heat maps provided by eye tracking device. The areas demonstrated with red color in heat maps are the most fixated areas. The areas demonstrated with green and yellow color in heat maps are the lesser fixated areas. The colorless areas in heat maps are the areas that are not fixated or fixated less than 80 miliseconds (Djamasbi ***et al***., 2010).

Vampire effect suggests that a celebrity in an advertisement can get all or most of the attention on himself/herself, and the audience does not pay attention to the other advertisement elements at a given time. Relevant literature (Mehta, 1994; Kuvita and Karlicek, 2014; Erfgen ***et al***., 2015; Dom ***et al***., 2016) show that celebrities are the advertisement elements which receives visual attention most and overshadows the other advertisement elements by negatively affecting brand name recall. Thus, the second hypothesis is developed below:

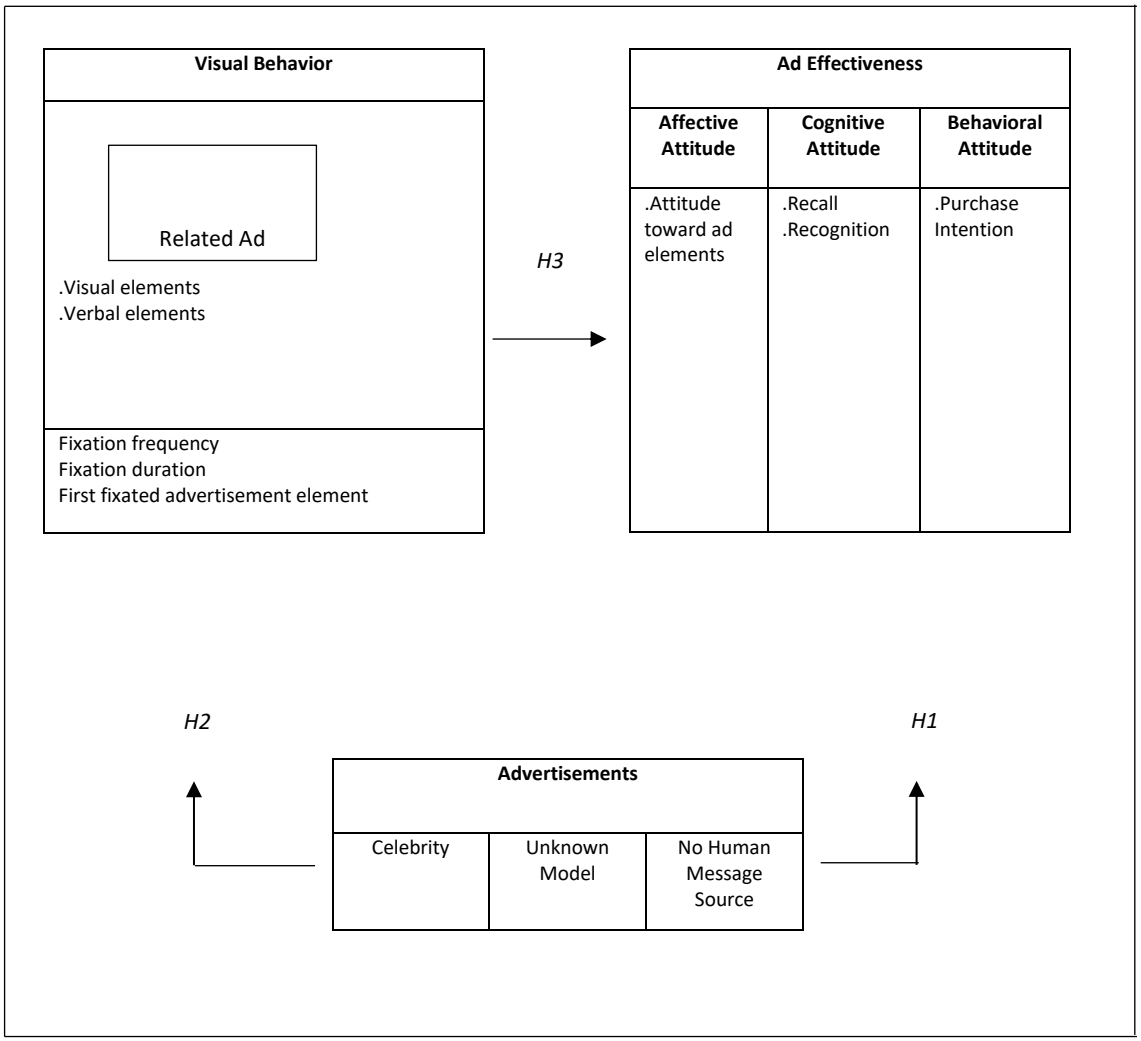
H2: Celebrity endorsement creates significant difference on visual behavior toward advertisement and its elements.

Relative literature is generally based on the effect of visual behavior on cognitive attitudes. For instance; Wedel and Pieters (2000) found that brand element was the frequently fixated element in advertisements and the more the audiences fixated on brand element, the more successful they become in correctly recalling brand name. On the contrary, Radach *et al*. (2003) found that visual advertisement elements such as product and message source are the elements that frequently received visual attention. And as the visual attention to these elements increased, recall rate of brand name decreased. Visual attention to advertisement elements can affect purchase intention as well. For instance, Hwang and Lee (2017) found that as the fixation toward product information increased, purchase intention decreased. On the other hand the first fixated ad element can affect the audiences' impression about advertisements (Riel, 1984). In accordance with these results, the last hypothesis was deleoped:

H3: Visual behavior toward advertisement elements has significant effect on ad effectiveness.

The research model of the study is displayed in Figure 1 as below:

Figure 1: Basic Research Model



The research model demonstrates the possible effects of celebrity endorsement on visual behavior and ad effectiveness. By determining these possible effects, the vampire effect existency will be examined. Visual behavior and ad effectiveness are the dependent variables for the research. Under the name of visual behavior, fixation frequency, fixation duration and the first fixated advertisement element were determined. Under the name of ad effectiveness, affective, cognitive and behavioral attitude which also named as purchase intention were determined. And the advertisements including celebrity, unknown model and no human message source are the independent variables for the research.

2. METHODOLOGY

2.1. Research Sampling Method and Sample Characteristics

Due to the fact that sex effect on visual behavior and ad effectiveness was disregarded, only male participants was included in this research. One of the reason why male participants were chosen is that the researches in which sex effect was disregarded were generally used female participants. Thus, by using male participants, this research aims to contribute to the literature on ad effectivess and vampire effect by examining male attitudes and visual behaviors. The other reason of choosing male participants is that

the author of the current study observed that the rate of watch (it is the product in the advertisements demonstrated to the participants in this research) usage is higher in males than it is in females in the place where the research was pursued. In the direction of these reasons, the author decided to study with male participants.

134 male participants were chosen by using convenience sampling method. 14 of them were eliminated due to ad familiarity (some of them indicated that they had seen the ads before), calibration problems, and celebrity infamiliarity (some of them indicated they did not know the celebrity in the ad). These reasons are invalidity sources for this research. Thus, 14 participants identified with these problems were eliminated.

The participants were shown similar characteristics in terms of age, monthly spending amount and education. None of them were working and earning money. The average of the age of the participants is 20. The monthly spending amount of the participants is 1000 Turkish liras. Most of the participants are undergraduate students of Zonguldak Bülent Ecevit University. Only a few of them are graduate students of the university, but they are newly graduate students. Thus, it can be said that participants are not differentiated in terms of education level. The sample of the research are the students of Zonguldak Bülent Ecevit University enrolling in 2019-2020 spring term of the university.

2.2. Data Collecting Methodology

Data collecting process started on September 2019 and lasted for three months. Experiment and questionnaire techniques were used together for data collection.

Data collecting process consisted of three parts. In the first part which is the experimental part of the research, to determine visual behavior of the participants toward advertisements, eye tracking technique was carried out by using Tobii PCEye Mini eye tracker device. In the second part, a distracter test was carried out to the subjects to distract their attention from advertisements for a time. The test included some basic mathematical calculations and attention questions. In the final part, questionnaire technique was carried out to measure ad effectiveness and other confounding variables for the research.

2.3. Experimental Part of The Research

120 subjects were equally divided into three groups. There were two experimental groups and one control group in the research. The subjects were randomly assigned to these groups. In each group, there were 40 male subjects. The subjects in each group were exposed to only one advertisement at one time. There were no iterative demonstration of the advertisements. Thus, the experimental model of the research can be named as control group post-test experimental design.

The subjects were not given information about the purpose of the research before the experiment in order not to manipulate their responses. Only the researcher was informed about the purpose of the research. In other words; single-blind experimental design was used in the research. The subjects were informed about the research purpose after data collecting was completed.

The advertisements used in the experiment were demonstrated from 15.6 inches monitor. The subjects were sit in front of the monitor and there were 70-79 cm between the subjects and the monitor. Relevant researchers (e.g., Djamasbi *et al*., 2010; Rayner *et al*., 2001) used the same distance for eye tracking. However, it should be taken into consideration that the distance depends on the eye tracker device characteristics.

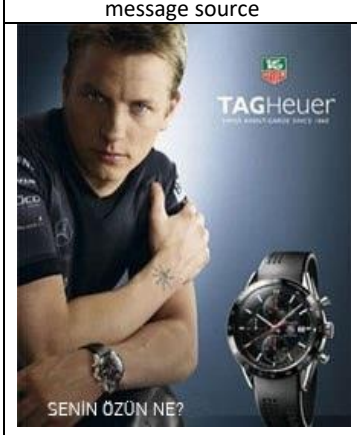
Relative literature (e.g., Wedel, Pieters, 2000; Erfgen *et al*., 2015) states that average looking duration to the printed ads is six seconds. As the printed ads were used in the research, the ads were demonstrated to the subjects for six seconds.

There was only one pre-test in the research which was calibration test. Calibration test must be applied for each subject before eye tracking. As the eye movements of a subject are calibrated, eye

tracking data quality increases (Djamasbi *et al*., 2010). In the research calibration test for each subject were lasted 10-15 seconds. The subjects who failed at calibration test were eliminated.

Advertisements demonstrated in the experimental part of the research is presented in Figure 2 as below:

Figure 2: Advertisements Demonstrated to The Subjects in The Experiment

Ad with unknown human message source	Ad with a celebrity (Brad Pitt)	Ad with no human message source
		

The advertisements with human message sources were demonstrated to the experimental groups of the research. The advertisement with no human message source was demonstrated to the control group of the research. The message source in the first advertisement is Kimi Raikkonen who is one of the Formula 1 pilots and he is famous especially for people who deals with Formula 1. But he was not famous for the subjects in the first experimental group in the research. There were no subject who stated that he knew him. Thus, he was evaluated as an unknown human message source for the experiment. On the other hand, Brad Pitt-the message source in the second advertisement- is very famous all over the world. There were only two subjects stated that they did not know him. Thus, the advertisement he appeared in is appropriate for the research purpose.

The author tried to be attentive to keep the advertisements' originality. The author only translated the original text message to Turkish language as appropriate as possible for Turkish subjects. The design and the other advertisement elements were left as they were in the original advertisements.

2.4. Measures Used in The Questionnaire

Ad effectiveness dimensions including affective attitudes, cognitive attitudes and behavioral attitude were measured in this part of the research. To measure the affective attitude toward product/brand, and behavioral attitude, the scales developed by Spears, Singh (2004) was used. To measure attitude toward human message source in ad, the scale which was used by Silvera, Austad (2004) was used. To measure attitude toward text ad message, the scale used by both Hallahan (1999) and Wang (2006) was used. To measure attitude towad advertisement, the scale developed by MacKenzie, Lutz (1989) was used.

To measure cognitive attitude, first recall test was carried out. As relative literature (e.g., Severn *et al*., 1990; Hallahan, 1999; Cacioppo, Petty, 1981; Wang, 2006) pursued, the participants were asked about the advertisement elements that they were exposed without any options given. The participants who picked the right answer about the advertisement elements were assigned to the "able to recal" group, and the participants who picked wrong answer or left blank were assigned to "no able to recall"

group. And then recognition test was carried out by providing some options. Same procedure was carried out in assigning participants to the "able to recognize", and "not able to recognize" groups.

The effects of physical attractiveness of human message source, brand familiarity and involvement on visual behavior and ad effectiveness are not the concern of this research. But there is a possibility for these variables to affect visual behavior and ad effectiveness. Thus, these variables were also measured to control. To measure physical attractiveness of human messae source, the scale used by Baker, Churchill (1977) in their research was used. The author determined that both the unknown human message source and the celebrity have similar attractiveness score. Beside, the participants in each experimental groups were not differentiated in terms of attractiveness perception. Thus, attractiveness variable was taken under control. To measure brand familiarity, the scale used by Kent, Allen (1994) in their research was used. The author determined that the participants in each groups had similar brand familiarity scores. Thus, brand familiarity variable was taken under control. To measure product and brand involvement of the participants, the scale developed by Zaichkowsky (1994) was used. The author determined that the participants in each groups were not differentiated in terms of product and brand involvement. Thus, involvement variable was taken under control.

In each measure in the questionnaire part of the research except from cognitive attitude and involvement scales, 7 point Likert scale was used. To measure involvement level of the participants, 10 point Likert scale was used in the research. Ethics Comittee Aproval has been obtained for this research with the 29.05.2014 dated and 2014/08-13 numbered decision of Zonguldak Bulent Ecevit University.

3. FINDINGS

The author first conducted reliability analyses of each scales and determined that the scales' Cronbach's Alpha scores were in between 0.842-0.951 which means they are highly reliable. Then the author tested the first hypothesis.

3.1. Testing Hypothesis 1

The first hypothesis is demonstrated below:

H1: Celebrity endorsement creates significant difference on ad effectiveness.

As the data were not normally distributed, to test H1, Kruskal-Wallis test was carried out. Table 1 demonstrates affective attitude means and standart deviations of the participants:

Table 1: Mean and Standard Deviation Statistics of Affective Attitude Scale

Advertisements/Ad Effectiveness (Affective Attitude)	Celebrity		Unknown Model		No Human Message Source	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Attitude toward product	5.02	1.33	4.53	1.51	4.68	1.74
Attitude toward human message source	4.75	1.62	4.21	1.20	-	-
Attitude toward text message	4.08	2.22	4.18	1.60	3.40	2.02
Attitude toward brand	4.53	1.68	4.61	1.69	4.15	1.78
Attitude toward advertisement	5.00	1.47	4.42	1.38	4.40	1.45

***** The mean values were derived from seven point Likert scale. "1" shows negative outlier, "7" shows positive outlier in the scale.

Kruskal-Wallis test results showed that celebrity endorsement did not create significant difference on affective attitude toward advertisement elements including product, brand, text message, human message source and the advertisement ($p>0.05$). Thus, H1 is rejected. Affective attitude toward product was found to be highest (5.02 from 7) in the advertisement with celebrity, and lowest (4.53 from 7) in the advertisement with unknown model. Affective attitude toward text message was highest (4.18 from 7) in the advertisement with unknown message source and lowest (3.40 from 7) in the advertisement with no human message source. Affective attitude toward brand was highest (4.61 from 7) in the advertisement with unknown model, and lowest (4.15 from 7) in the advertisement with no human message source. Affective attitude toward advertisement was highest (5.00 from 7) in the advertisement with celebrity and lowest (4.40 from 7) in the advertisement with no human message source. Besides, affective attitude toward celebrity was found to be higher (4.75 from 7) than it was toward unknown message source (4.21 from 7).

Chi-Square test results showed that celebrity endorsement did not create significant difference on cognitive attitude toward advertisement and advertisement elements (Asymp. Sig>0.05). Table 2 demonstrates the participants' cognitive attitude mean and standard deviation statistics:

Table 2: Mean and Standard Deviation Statistics of Cognitive Behavior Scale

Advertisements/ Ad Effectiveness (Cognitive Attitude)	Celebrity			Unknown Model			No Human Message Source		
	Right	Wrong	Total	Right	Wrong	Total	Right	Wrong	Total
Product Recall	37	3	40	36	4	40	40	0	40
Brand Recall	10	30	40	11	29	40	18	22	40
Text Message Recall	6	34	40	4	36	40	5	35	40
Product Recognition	38	2	40	36	4	40	40	0	40
Brand Recognition	18	22	40	17	23	40	23	17	40
Text Message Recognition	11	29	40	12	28	40	16	24	40

Number of participants recalling the product is the highest (40 from 40) in the advertisement with no human message source, and lowest (36 from 40) in the advertisement with unknown model. Number of participants recalling the brand was highest (18 from 40) in the advertisement with no human message source, and lowest (10 from 40) in the advertisement with celebrity. Number of participants recalling the text message was highest (6 from 40) in the advertisement with celebrity and lowest (4 from 40) in the advertisement with unknown model. Number of participants recognizing the product was highest (40 from 40) in the advertisement with no human message source, and lowest (36 from 40) in the advertisement with unknown model. Number of participants recognizing the brand was highest (23 from 40) in the advertisement with no human message source, and lowest (17 from 40) in the advertisement with unknown model. Number of participants recognizing text message was highest (16 from 40) in the advertisement with no human message source, and lowest (11 from 40) in the advertisement with celebrity. Recognition numbers for each advertisement elements were found to be higher than recalling numbers. Participants primarily failed to recall and recognize the text message in the advertisements. Besides, number of recalling and recognition of brand element was relatively lower than number of recalling and recognition of product element in the advertisements.

Kruskal-Wallis test results showed that celebrity endorsement did not create significant difference on behavioral attitude which means purchase intention ($p>0.05$). Table 3 demonstrates mean and standard deviation statistics of purchase intention scale:

Tablo 3: Mean and Standard Deviation Statistics of Purchase Intention Scale

		Advertisement		
		Celebrity	**Unknown Model**	**No Human Message Source**
Purchase Intention	**Mean**	3.02	3.27	3.22
	Std. Dev.	1.71	1.53	1.76

***** The mean values were derived from seven point Likert scale. "1" shows negative outlier, "7" shows positive outlier in the scale.

Purchase intention mean was found to be 3.02 in the advertisement with celebrity, 3.27 in the advertisement with unknown model, and 3.22 in the advertisement with no human message source. These scores were obtained from 7 point Likert scale. Thus, it can be said that purchase intention in each advertisement was below 4 point which can be evaluated as low.

3.2. Testing Hypothesis 2

The second hypothesis is demonstrated below:

H2: Celebrity endorsement creates significant difference on visual behavior toward advertisement and its elements.

As the data were not normally distributed, to test H2, Kruskal-Wallis analysis was carried out. According to the test results, H2 is partly accepted. Table 4 demonstrates the participants' visual behavior means and standard deviations below:

Table 4: Mean and Standard Deviation Statistics of Visual Behavior

Advertisements/Visual Bheavior	Celebrity		Unknown Model		No Human Message Source	
	Mean	Std. Dev.	Mean	Std. Dev.	Mean	Std. Dev.
Fixation frequency toward product	3.30	2.15	2.22	1.91	**7.05**	6.13
Fixation frequency toward human message source	**4.27**	3.36	**5.6**	3.52	-	-
Fixation frequency toward text message	**2.00**	1.86	2.02	2.42	**2.95**	2.45
Fixation frequency toward brand	2.17	2.24	**1.95**	1.73	4.50	4.24
Fixation duration toward product	1845.00	1312.25	1070.00	1038.29	**2785.00**	1510.56
Fixation duration toward human message source	**2257.50**	1525.15	**2585.00**	1413.04	-	-
Fixation duration toward text message	**575.00**	492.37	**750.00**	789.35	**1035.00**	695.60
Fixation duration toward brand	1175.00	1117.86	1000.00	826.48	1925.00	1424.82

*Fixation duration is given in miliseconds (1 second=1000 miliseconds). The values in bold demonstrate the maximum and minimum scores.

According to Kruskal-Wallis test results, celebrity endorsement creates significant difference on fixation duration (FD) and fixation frequency (FF) toward product in the advertisements ($p<0.05$). Fixation frequency (2.22) and fixation duration (1070 miliseconds) toward product was found to be the lowest in the ad with unknown message source, and the highest in the ad with no human message source (FF=7.05; FD=2785 miliseconds).

Kruskal-Wallis test results showed that there is no significant difference between the ad with celebrity and the ad with unknown message source in terms of fixation duration and fixation frequency toward brand element ($p>0.05$). Fixation frequency (1.95) and fixation duration (1000 miliseconds) toward brand was found to be the lowest in the ad with unknown model, and the highest in the ad with no human message source (FF=4.50; FD=1925 miliseconds).

Fixation frequency toward text message significantly differed only between the ad with unknown model and the ad with no human message source ($p<0.05$). Fixation frequency (2.00) and fixation duration (575 miliseconds) toward text message was found to be the lowest in the ad with celebrity, and the highest in the ad with no human message source (FF=2.95; FD=1035 miliseconds).

The fixation frequency toward human message sources in the ads significantly differed ($p<0.05$). Fixation frequency to the celebrity is 4.27, and fixation duration on the celebrity 2257.50 miliseconds. Besides, fixation frequency to the unknown model is 5,6, and fixation duration on the unknown model is 2585.00 miliseconds. Visual attention of the participants to the unknown model is higher than it is to celebrity.

To determine whether the first advertisement element fixated differs in terms of celebrity endorsement, Chi-Square test was carried out (the test statistics table is presented in Appendix 1). The test results showed that the first fixated element differs between the advertisements (Asymp. Sig.$0<0.05$). In the ads with celebrity and with unknown model, the human message sources were found to be the first

fixated elements at a given time. In these ads, the product was found to be the last fixated element at a given time. On the other hand, in the advertisement with no human message source, product was found to be the first fixated element at a given time. The text message was found to be the last fixated element at a given time. Thus, it can be said that human message source usage in advertisement can affect audiences' impressions about advertisements.

3.3. Testing H3

The third hypothesis is demonstrated below:

H3: Visual behavior toward advertisement elements has significant effect on ad effectiveness.

To test H3, regression analyses were carried out. To measure the effect of visual behavior on affective and behavioral attitude, Multilinear Regression Analysis was carried out. To measure the effect of visual behavior on cognitive attitude, Logistic Regression Analysis was carried out.

Multilinear Regression Analysis results showed that visual behavior toward advertisement elements did not have significant effect on both affective attitude and behavioral attitude. On the other hand, by carrying out Regression Analyses (multicolinearity statistics tables of Logistic Regression Analyses are presented in Appendix 2-5. It was found that there is no multicolinearity problem for each model), four significant models were attained. The first model below showed that fixation duration to the product significantly affected the probability of recalling the product ($p=0.041$; $p<0.05$). Table 5 demonstrates Logistic Regression Analysis statistics for Model 1:

Table 5: Coefficient Estimations of The Model Variables Estimating Product Recall Likelihood (Model 1)

		B	Std. Error	Wald	df	P	[Exp(B)]	95% Confidence Interval EXP (B)	
								Lower Value	Upper Value
Step 1	Fixation duration toward product	-.001	.001	4.197	1	.041	.999	.997	1.000
	Constant	-1.050	.567	3.432	1	.064	.350		

Exp (β) value for fixation duration to the product was found to be 0.999 meaning that for each one unit increase in fixation duration to the product, the probability of not recalling the product (as the reference category coded as "1" is "not recalling the product" in the analysis) becomes 0.99 times lesser. Thus, it can be said that as the fixation duration to the product in ads increases, subjects' probability to recall the product increases.

Logistic Regression Analysis showed that fixation duration to the product significantly affected the probability of recognizing the product ($p=0.032$; $p<0.05$). Table 6 demonstrates Logistic Regression statistics for Model 2:

Tablo 6: Coefficient Estimations of The Model Variables Estimating Product Recognition Likelihood (Model 2)

		B	Std. Error	Wald	df	P	[Exp(B)]	95% Confidence Interval EXP (B)	
								Lower Value	Upper Value
Step 1	Fixation duration toward product	-.002	.001	4.581	1	.032	.998	.996	1.000
	Constant	-.932	.594	2.467	1	.116	.394		

Exp (β) value for fixation duration to the product was found to be 0.998 meaning that for each one unit increase in fixation duration to the product, the probability of not recognizing the product (as the reference category coded as "1" is "not recognizing the product" in the analysis) becomes 0.998 times lesser. Thus, it can be said that as the fixation duration to the product in ads increases, subjects' probability to recognize the product increases.

Logistic Regression Analysis showed that fixation duration to the human message sources in the ads significantly affected the probability of recognizing the brand (p=0.0024; p<0.05). Table 7 demonstrates Logistic Regression statistics for Model 3:

Table 7: Coefficient Estimations of The Model Variables Estimating Brand Recognition Likelihood (Model 3)

		B	Std. Error	Wald	df	P	[Exp(B)]	95% Confidence Interval EXP (B)	
								Lower Value	Upper Value
Step 1	Fixation duration toward human message source	.391	.173	5.124	1	.024	1.478	1.054	2.074
	Constant	-.669	.458	2.136	1	.144	.512		

Exp (β) value for fixation duration to the human message sources was found to be 1.478 meaning that for each one unit increase in fixation duration to the human message sources, the probability of not recognizing the brand (as the reference category coded as "1" is "not recognizing the brand" in the analysis) becomes %47.8 [(1-1.478).100] factors higher. Thus, it can be said that as the fixation duration to the human message sources in the advertisements increases, subjects' probability to not recognize the brand increases. This result can be evaluated as a proof for vampire effect. Because human message sources in the advertisements negatively affected brand recognition.

Logistic Regression Analysis showed that fixation duration to the text message significantly affected the probability of recognizing the text message (p=0.010; p<0.05). Table 8 demonstrates Logistic Regression statistics for Model 4:

Table 8: Coefficient Estimations of The Model Variables Estimating Text Message Recognition Likelihood (Model 4)

		B	Std. Error	Wald	df	P	[Exp(B)]	95% Confidence Interval EXP (B)	
								Lower Value	Upper Value
Step 1	Fixation duration toward text message	-1.006	.393	6.552	1	.010	.366	.169	.790
	Constant	1.651	.407	16.458	1	.000	5.213		

Exp (β) value for fixation duration to the text message was found to be 0.366 meaning that for each one unit increase in fixation duration to the text message, the probability of not recognizing the text message (as the reference category coded as "1" is "not recognizing the text message" in the analysis) becomes 0.366 times lesser. Thus, it can be said that as the fixation duration to the text message in the advertisements increases, subjects' probability to recognize the product increases.

4. DISCUSSION AND CONCLUSION

In this research, it was examined whether celebrity endorsement creates vampire effect. It was determined that there is lack of using original advertisements in such researches measuring vampire effect in literature. It was also determined that researchers prefer using the term "ad effectiveness" instead of using the term "vampire effect". However, the term "vampire effect" is a more remarkable way of indicating how a celebriy can be harmful for a brand especially in terms of brand recall. Beside them all, there is also a lack of studies examining on male participant's reactions in vampire effect literature. In accordance with these gaps, male participants' verbal and visual reactions toward original advertiserments were examined within the context of vampire effect in the research.

4.1. Theoretical Implications

Research results show that both celebrity and unknown model who has similar attractiveness score with the celebrity are the first and most fixated elements in the advertisements. On the other hand, in the advertisement with no human message source, the product is the first and the most fixated element. As Riel (1984)'s argument indicating that the first and the most fixated element shape audiences' impressions about advertisement is considered, it can be said that human message sources can be effective in developing and shaping advertisement impressions of male audiences.

The advertisement with celebrity was evaluated more positive than the other advertisements in the research. From this, celebrities can be considered as more effective human message source in terms of male audiences' liking the ad. However, for an effective ad campaign, an advertisement should lead audiences buy the product in the final part. This research shows that both celebrity and the unknown model do not have significant effect on the male participants' purchase intention. Besides, purchase intention was found to be the lowest in the advertisement with celebrity. Thus, it can be considered that celebrities in advertisements can make male audiences like the advertisement but "this like" may not be as strong as leading male audiences buy the product.

Cognitive attitudes are the keys for vampire effect evaluation. This research shows that cognitive attitudes to the advertisement elements are the highest in the advertisement with no human message source. It is clear from the research that male audiences both recall and recognize advertisement elements better when there is no human message source in the advertisement. Besides, research results show that as the fixation duration to the human message sources (celebrity and unknown model) increases, the probability of not recognizing the brand increases at 47.8 % for male audiences. This finding

promotes the vampire effect assumption for male audiences indicating that attention getting elements such as celebrity and attractive/unknown model negatively affect recall and recognition rate of advertisement elements such as product and/or brand.

4.2. Practical Implications

Research results show that human message sources such as celebrity and unknown model have negatively affect brand recognition by creating vampire effect. Thus, it can be said that for the brands which newly enter to the market and especially target male consumers, using human message source such as celebrity and/or unknown model to attract male audiences' attention may be harmful for the brand. Using celebrity or unknown model may be more effective for the brands already familiar to the male consumers to attract attention in their ad strategies.

Visual behavior results show that the product image placed on both celebrity's and unknown model's arm received attention of the male audiences more than the product positioned alone on the right side of the advertisements. This shows that in the advertisements targeting male audiences, when the products are demonstrated by contacting with human message sources (e.g., they wear it, they hold it, etc…), they receives more visual attention than they do when positioned alone. Thus, it can be said that for an effective ad strategy, brands should contact their products with human message sources to attract and capture male audiences' attention on their products more.

According to the research results, human message sources such as celebrity and unknown model are found to be the most attention getting elements for male audiences in the advertisements. Thus, it can be considered that if the brands position their key elements such as product or brand close to the human message sources in the ads, they may receive more visual attention of male audiences and may be recalled and recognized by male audiences more easily.

5. LIMITATIONS AND SUGGESTIONS

In the research, the advertisements were not iteratively demonstrated to the subjects. In other words, the subjects saw only one advertisement at one time. Thus, the effect of iterative demonstration of the advertisements on cognitive attitude could not be measured in the research.

In the research, the sample consisted of undergraduate male students who do not work and earn their own money. However, the product in the advertisements is a luxury product and too expensive that the subjects in the research sample can not afford it. Thus, the sample does not consist of the actual consumers of the product. They may be potential consumers, but not actual consumers, and may not be considered as the target audiences of the advertisements in actual. Thus, the subjects' motivation to the advertisements could be expected to be lower than the actual buyers of the brand. Thus, the research results are not convenient to be generalized to predict the brand's target audiences' actual responses toward the advertisements. In addition, the subjects were consisted of only male participants who were identified by using convenience sampling method. Thus, the research results can not be generalized for the brand's general users. It should also be considered that only one brand from one product category and its one type of advertisement serial were used for the research. Thus, the research results should be evaluated according to these limitations and product category.

Involvement and congruency between ad elements are effective variables in vampire effect. In future studies, involvement and congruency effect on vampire effect and visual behavior can be investigated.

As well as positioning product by contacting it with the human message source, human message source's looking direction is also important for visual attention. In future studies, the differences on visual attention to the product between the advertisements when human message source looks directly to the

product and when the human message source looks directly to the audience can be evaluated and measured.

AUTHOR STATEMENT

Research and Publication Ethics Statement

This study has been prepared in accordance with the ethical principles of scientific research and publication.

Approval of Ethics Board

Ethics Comittee Aproval has been obtained for this research with the 29.05.2014 dated and 2014/08-13 numbered decision of Zonguldak Bulent Ecevit University.

Author Contribution

Gizem Tokmak Danışman: Research Idea Generation, Research Design, Literature Review, Methodology, Data Collection, Data Analysis, Writing

Ramazan Aksoy: Review and Editing

Conflict of Interest

There is no conflict of interest arising from the study for the authors or third parties.

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Appendix 1: Chi-Square Table Indicating Whether Celebrity Endorsement Creates Differences On The First Fixayed Advertisement Elements

			Advertisement Elements (Attention of Interest/AOI)				
			Product	Human Message Source	Text Message	Brand	Total
Advertisement	Celebrity	Observed	3	21	8	8	40
		Expected	7.7	16.3	6.0	10.0	40.0
		% within advrt.	7.5%	52.5%	20.0%	20.0%	100.0%
		% within AOI	13.0%	42.9%	44.4%	26.7%	33.3%
		% Total	2.5%	17.5%	6.7%	6.7%	33.3%
	Unknown Model	Observed	2	28	4	6	40
		Expected	7.7	16.3	6.0	10.0	40.0
		% within advrt.	5.0%	70.0%	10.0%	15.0%	100.0%
		% within AOI	8.7%	57.1%	22.2%	20.0%	33.3%
		% Total	1.7%	23.3%	3.3%	5.0%	33.3%
	No Human Message Source	Observed	18	0	6	16	40
		Expected	7.7	16.3	6.0	10.0	40.0
		% within advrt.	45.0%	0.0%	15.0%	40.0%	100.0%
		% within AOI	78.3%	0.0%	33.3%	53.3%	33.3%
		% Total	15.0%	0.0%	5.0%	13.3%	33.3%
Total		Observed	23	49	18	30	120
		Expected	23.0	49.0	18.0	30.0	120.0
		% within advrt.	19.2%	40.8%	15.0%	25.0%	100.0%
		% within AOI	100.0%	100.0%	100.0%	100.0%	100.0%
		% Total	19.2%	40.8%	15.0%	25.0%	100.0%

Chi-Square test: 53.890*

df:6

Asymp. Sig.: 0.000

***** 0 cell (0%) has an expected value less than 5. The minimum expected value is 6.

Appendix 2: Tables Demonstrating Multicollinearity Assumptions for Logistic Regression Analyses (Model 1)

				Correlations							
Independent Variables*	**ß**	**Standard Error**	**VIF**	**ffp**	**ffms**	**fftm**	**ffb**	**fdp**	**Fdms**	**fdtm**	**Fdb**
ffp	.033	.027	3.301	-	-.106	.065	-.127	.612	-.495	-.004	-.059
ffms	-.002	.010	1.397	-.106	-	-.152	-.096	-.217	.470	-.207	-.315
fftm	-.011	.027	3.459	.065	-.152	-	.218	-.020	-.400	.619	.225
ffb	.007	.020	1.675	-.127	-.096	.218	-	-.161	-.191	.107	.606
fdp	.000	.000	4.580	.612	-.217	-.020	-.161	-	-.594	-.019	-.172
fdms	-.054	.043	4.093	-.495	.470	-.400	-.191	-.594	-	-.396	-.401
fdtm	-.045	.089	3.597	-.004	-.207	.619	.107	-.019	-.396	-	.109
fdb	-.122	.053	2.828	-.059	-.315	.225	.606	-.172	-.401	.109	-

*Abbreviations: ffp=fixation frequency toward product, ffms=fixation frequency toward message source, fftm=fixation frequency toward text message, ffb=fixation frequency toward brand, fdp=fixation duration toward product, fdms=fixation duration toward message source, fdtm=fixation duration toward text message, fdb=fixation duration toward brand

Appendix 3: Tables Demonstrating Multicollinearity Assumptions for Logistic Regression Analyses (Model 2)

				Correlations						
Independent Variables*	**ß**	**Standard Error**	**VIF**	**ffp**	**ffms**	**fftm**	**ffb**	**fdp**	**fdms**	**fdtm**	**Fdb**
ffp	.024	.025	3.301	-	-.106	.065	-.127	.612	-.495	-.004	-.059
ffms	-.005	.010	1.397	-.106	-	-.152	-.096	-.217	.470	-.207	-.315
fftm	-.020	.025	3.459	.065	-.152	-	.218	-.020	-.400	.619	.225
ffb	.004	.019	1.675	-.127	-.096	.218	-	-.161	-.191	.107	.606
fdp	.000	.000	4.580	.612	-.217	-.020	-.161	-	-.594	-.019	-.172
fdms	-.065	.039	4.093	-.495	.470	-.400	-.191	-.594	-	-.396	-.401
fdtm	-.020	.082	3.597	-.004	-.207	.619	.107	-.019	-.396	-	.109
fdb	-.115	.049	2.828	-.059	-.315	.225	.606	-.172	-.401	.109	-

*Abbreviations: ffp=fixation frequency toward product, ffms=fixation frequency toward message source, fftm=fixation frequency toward text message, ffb=fixation frequency toward brand, fdp=fixation duration toward product, fdms=fixation duration toward message source, fdtm=fixation duration toward text message, fdb=fixation duration toward brand

Appendix 4: Tables Demonstrating Multicollinearity Assumptions for Logistic Regression Analyses (Model 3)

				Correlations							
Independent Variables*	**ß**	**Standard Error**	**VIF**	**ffp**	**ffms**	**fftm**	**ffb**	**fdp**	**fdms**	**fdtm**	**Fdb**
ffp	-.042	.049	3.301	-	-.106	.065	-.127	.612	-.495	-.004	-.059
ffms	-.007	.019	1.397	-.106	-	-.152	-.096	-.217	.470	-.207	-.315
fftm	.023	.049	3.459	.065	-.152	-	.218	-.020	-.400	.619	.225
ffb	-.011	.037	1.675	-.127	-.096	.218	-	-.161	-.191	.107	.606
fdp	.000	.000	4.580	.612	-.217	-.020	-.161	-	-.594	-.019	-.172
fdms	.109	.078	4.093	-.495	.470	-.400	-.191	-.594	-	-.396	-.401
fdtm	-.085	.163	3.597	-.004	-.207	.619	.107	-.019	-.396	-	.109
fdb	.005	.097	2.828	-.059	-.315	.225	.606	-.172	-.401	.109	-

*Abbreviations: ffp=fixation frequency toward product, ffms=fixation frequency toward message source, fftm=fixation frequency toward text message, ffb=fixation frequency toward brand, fdp=fixation duration toward product, fdms=fixation duration toward message source, fdtm=fixation duration toward text message, fdb=fixation duration toward brand

Appendix 5: Tables Demonstrating Multicollinearity Assumptions for Logistic Regression Analyses (Model 4)

				Correlations							
Independent Variables*	**ß**	**Standard Error**	**VIF**	**ffp**	**ffms**	**fftm**	**ffb**	**fdp**	**Fdms**	**fdtm**	**Fdb**
ffp	.047	.044	3.301	-	-.106	.065	-.127	.612	-.495	-.004	-.059
ffms	-.007	.017	1.397	-.106	-	-.152	-.096	-.217	.470	-.207	-.315
fftm	-.024	.044	3.459	.065	-.152	-	.218	-.020	-.400	.619	.225
ffb	.022	.033	1.675	-.127	-.096	.218	-	-.161	-.191	.107	.606
fdp	.000	.000	4.580	.612	-.217	-.020	-.161	-	-.594	-.019	-.172
fdms	.052	.070	4.093	-.495	.470	-.400	-.191	-.594	-	-.396	-.401
fdtm	-.114	.146	3.597	-.004	-.207	.619	.107	-.019	-.396	-	.109
fdb	.012	.087	2.828	-.059	-.315	.225	.606	-.172	-.401	.109	-

*Abbreviations: ffp=fixation frequency toward product, ffms=fixation frequency toward message source, fftm=fixation frequency toward text message, ffb=fixation frequency toward brand, fdp=fixation duration toward product, fdms=fixation duration toward message source, fdtm=fixation duration toward text message, fdb=fixation duration toward brand