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RESEARCH OF NEURO MARKETING IN TERMS OF FAMILY LIFE CYCLE AS A NEW MARKETING APPROACH

YENİ BİR PAZARLAMA YAKLAŞIMI OLARAK NÖROPAZARLAMANIN AİLE YAŞAM DÖNGÜSÜ AÇISINDAN ARAŞTIRILMASI

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ABSTRACT
This study was conducted to question how an effective advertisement should be and whether the attitudes of consumers about neuromarketing differ in terms of groups in the family life cycle. It was carried out by applying a survey method to in Duzce 389 people between September and December 2019. As a result of the study, it was determined that the participants showed an attitude that the use of a famous person, babies, excitement, passion, humor, women and sexuality, moreover, music in advertisements would make the advertisements effective. When the groups in the family life cycle were compared, it was found that families with all children leaving home showed the most positive participation that neuromarketing activities were unethical and against the privacy of people; in addition, single individuals displayed an attitude between the expressions of disagree and indecisive about the unethical nature of neuromarketing studies.
Keywords: Neuromarketing, Neuro advertisement, Family Life Cycle
JEL Classification: M31, M37

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ÖZET
Bu çalışma; etkili bir reklamın nasıl olması gerektiğini ve tüketicilerin nöropazarlama hakkındaki tutumlarının, aile yaşam döngüsünde bulunan gruplar açısından farklılık arz edip etmediğini sorgulamak amacıyla yapılmış olup Düzce ilinde bulunan 389 kişiye, Eylül ve Aralık 2019 tarihleri arasında anket yöntemi uygulanarak gerçekleştirilmiştir. Araştırmanın sonucunda katılımcılar reklamlarda ünlü bir kişinin, bebeklerin, heyecan, tutku ve mizahın, kadınların ve cinselliğin, ayrıca müziğin kullanılmasının reklamları etkili yapacağı yönünde tutum gösterdikleri belirlenmiştir. Aile yaşam döngüsünde bulunan gruplar karşılaştırıldığında ise tüm çocukları evden ayrılan çiftlerin; nöropazarlama çalışmalarının etik olmadığı ve insanların özeline aykırı olduğu konusunda en fazla olumlu oranda katılım gösterdiği, bekâr bireylerin ise nöropazarlama çalışmalarının etik olmadığı konusunda katılmıyorum ve kararsızım ifadeleri arasında tutum gösterdiği tespit edilmiştir.
Anahtar Kelimeler: Nöropazarlama, Nöroreklam, Aile Yaşam Döngüsü
Jel Sınıflandırması: M31, M37

1. INTRODUCTION

Manufacturers, intermediaries and sellers use a wide variety of methods to sell their products to consumers. Consumers are constantly exposed to advertising messages through communication tools such as television, telephone and social networks. However, these messages cause an "advertisement crowd" after a while and cause the consumers to become insensitive to advertising messages. Wanamaker said many years ago, “Half of my advertising budget was wasted. However, the problem is that I don't know which half of it”(Lindstrom, 2008: 28) is still valid for the commercial sector. In this context, the neuromarketing technique (Fırat & Kömürcüoğlu, 2016: 11), which aims to reach the senses of consumers by interpreting the unconscious tendencies that consumers have revealed in the purchasing process in recent years, will be useful for the commercial segment to understand which ads are wasted and which ones are useful. People are increasingly seen as "black boxes" (Pop & Lorga, 2012) that keep all the secrets of emotions and decision-making processes. Moreover, neuromarketing has emerged in the background of traditional marketing for effective marketing (Vlăsceanu, 2014; Nyoni & Bonga, 2017).

Neuromarketing is the application of techniques used in neuroscience to consumers in order to find the purchasing button in the brain of the consumer, to understand the market behavior of consumers and to create advertising campaigns that the individual cannot resist (Ural, 2008: 425; Şahar, 2017: 3). With neuromarketing, evaluations such as what the consumer feels while watching an advertisement, where they are excited, where they are distracted can be made, and as a result, an effective advertisement can be created.

In this study, the subject of neuromarketing, which has not been studied sufficiently in the literature, how an effective advertisement should be for the consumer, whether the attitudes of groups in the family life cycle differ on neuromarketing are examined, and the development of neuromarketing and the effect of advertising and promotion techniques used in neuromarketing on consumers are discussed.

2. NEUROMARKETING

The marketing process, which started as a product-oriented, has constantly differentiated and changed with the industrial revolution in a production-oriented manner. Thereafter, it started to evolve into customer-oriented with information technology. In addition, the variable nature of the market environment has also brought about the formation of an emotion-oriented structure in marketing. With the use of neuroscience techniques in the marketing field, the concept of placing human senses in the center of marketing has emerged (Yücel and Coşkun, 2018: 158).

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Neuromarketing is a marketing strategy that connects to the subconscious and emotional side of the customer, it aims to establish an inseparable connection with the customer and the product. Neuroscience is an interdisciplinary field that combines the psychology and marketing aspect. The basis of neuromarketing is to evaluate the cognitive and emotional response of the consumer to various marketing techniques (Karmarkar, 2011; Bhatia, 2014). The first steps towards the emergence and development of neuromarketing were taken in 1999, when Zaltman used the first fMRI (functional magnetic resonance imaging) research as a marketing tool (Cosic, 2016). The term neuromarketing was used in a study conducted by two US market research companies Bright House and Sales Brain in 2002 (Smidts et al., 2014; Akgün and Ergün, 2016: 3-4). The main idea of neuromarketing is to look at the behavior of the consumer from a cognitive perspective (Gutierrez Cardenas, 2019). In 2004, it was used with the response of the brains of people who drink Pepsi or Coca Cola using fMRI technique. The results showed increased brain activity in subjects when they were conscious of the brand they were drinking. This study is the first experimental evidence of the role of brand awareness and emotional attachment of the brain and the importance of neuromarketing as a reliable marketing tool.

The purpose of neuromarketing is to combine neuroscience methods with marketing theories to discover the real impact of marketing on consumers' behavior beyond what is visible (Lee, Broderick, & Chamberlain, 2007; Lim, 2018). In short, the purpose of neuromarketing is to obtain information that cannot be discovered with other behavioral approaches (Meyerding & Mehlhose, 2018) and it can give relatively more objective results (Gountas, Gountas, Ciorciari, & Sharma, 2019) with traditional behavioral research methods. Considering that most of the mental processes (95%) are unconscious (Pop & Iorga, 2012), the importance of neuromarketing methods for businesses and sellers has increased. Therefore, entering the human 'black box' goes beyond asking customers about beliefs, feelings, thoughts, memories or decision-making strategies, as neuromarketing means examining neural processes by focusing on hidden psychological and biological processes (Lim, 2018) (Meyerding & Mehlhose, 2018). In addition, it can be considered that neuromarketing methods can be used in the early stages of product and brand development, with the confidence that neuromarketing findings will not be affected by bias, as well as a fair balance between output and costs (Gountas et al., 2019).

2.1. Importance of Neuromarketing

According to Godin, "marketing is no longer about products, but about stories being told". Stories that reach consumers through ads and demand aggregation create an emotional bond between the product and the consumers. Traditionally, marketers and advertisers have used different advertising and product development methods. Huge costs and time were spent to convince people and to get the desired product or service. Neuroimaging and neuromarketing strategies are seen as an important and viable alternative that can change the next generation of smart customers and the highly competitive consumer market. Neuromarketing technique is the newest and most advanced tool used by the commercial sector (manufacturer, vendor, intermediary, etc.) to examine and understand consumer behavior patterns (Schneider & Woolgar 2012; Butgel et al., 2016). Neuromarketing uses the latest techniques in brain scanning to understand the nuances behind the psychological decision-making process of the customer (Ariely & Berns, 2010; Pradeep, 2010; Eser, Isin, & Tolon, 2011).

With neuromarketing, an effect that makes the customer feel good in the mind and memories can contain a positive element in terms of advertising (Senior & Lee, 2008). Neuromarketing can positively reflect on the selection and timing of visual and audio features for an effective advertisement (Fugate, 2007), the creation of brands, brand research and the customer's impact on the decision-making process (Hubert & Kenning, 2008). Neuromarketing can also enable the

emergence of new approaches and effective marketing practices to investigate and define the causes of compulsive purchasing disorders (Fugate, 2007; Senior & Lee, 2008; Fisher, Chin, & Klitzman, 2010). Since the purchasing process is an unconscious process, neuromarketing is a more unique technique that can provide information above and beyond the human cognition and perception level (Fugate, 2007; Hubert & Kenning, 2008; Butler 2008; Morin, 2011; Orzan, Zara, & Purcarea, 2012). Today, with the help of neuromarketing applications, marketing can include activities for four components of consumers as physical body, mind, heart and soul (Kumar & Singh, 2015; Kesek, 2017: 37).

There may also be some difficulties in the use of neuromarketing. Since neuromarketing is about interpreting the findings of research projects, its use by marketers or manufacturers instead of scientists can cause ethical problems (Murphy et al. 2008; Randall, 2009; Szentesi, 2017). Also, when approaching neuromarketing, there may be deficiencies in obtaining robust and detailed methodological guidelines (data collection, data analysis, interpretation of findings and development of results, etc.) (Satel & Lielinfeld, 2013; Lim, 2018; Lee et al.2018). Another problem is how issues related to the definition and implementation of neuromarketing practice (Schneider & Woolgar, 2015) should be managed. Beyond a small sample size, it is not representative for the population in neuromarketing compared to traditional marketing research approaches (Cosic, 2016). In addition, neuromarketing difficulties also refer to the data recorded because they show changes in brain waves, eye movements or sweat production, but cannot give absolute and individual values for these variables, and there are also ethical problems (Stanton et al.2017; Meyerding et al. Mehlhose, 2018). Therefore, while developing neuromarketing approaches, studies should be carried out, taking into account the importance of the consent, confidentiality and vulnerability of the subjects (Lim, 2018). Hensel et al. (2017) emphasize that key issues related to neuromarketing include consumer manipulation, lack of transparency, and also deficiencies in consumer autonomy. In addition, neuromarketing can lead to personalized marketing development using personalized stimuli (Pop, Dabija, & Iorga, 2014). Ultimately, the goal of neuromarketing is to find ways to better meet the needs and desires of the customer (Bercea Olteanu, 2015) and therefore to reduce the waste of resources.

2.2. Neuromarketing and Advertising

Advertising agencies design the advertisement on the basis of attention, interest, desire, purchasing behavior, develop a logo and design the packaging to be used in the product in order to attract the attention of the consumer, arouse interest and desire and turn it into a purchasing action. However, it has not been possible until today to accurately measure the effectiveness of advertisements for which large budgets are allocated. Advertising agencies have constantly strived to hope that they understand what is in the mind of the consumer. Understanding the consumer's mind is a topic that both marketers and advertisers have dealt with for a long time. At this point, the use of neuro techniques is based on the basis that more effective advertising messages and visuality can be created (Meskauskas, 2005: 57), as it will provide an understanding of what the consumer actually thinks.

Stating that the brain consists of three parts (Renvoise and Morin, 2009: 13-15), what should be targeted in sales, marketing and advertising is not the cortex layer (new brain), which is the thinking part of the brain, or the midbrain where emotions are processed, but which is responsible for the processing of our basic instincts and decision. He stated that it was the old brain that enabled him to give. Until now marketers are wrong part of the brain (the cortex) that targeted Morin said, if desired messages to be transmitted in the same way as China or Turkey emphasizes the need to prepare based on the old brain. According to Morin, stimuli affecting the old brain; it consists of

self-centeredness, opposition, palpation, clear beginning and end of the message, visuality, and emotions.

3. FAMILY LIFE CYCLE

The family begins as a result of an agreement and the process that follows this agreement gains meaning as marriage. Marriage, whose quality and ceremonial form differs from society to society, is a universal institution that affects many aspects of an individual's life, and consists of interconnected systems, formed by two people coming together for a lasting togetherness, promising to fulfill their common responsibilities towards each other and their children. Almost every family has various and different phases, which are revealed in the process that continues until the death of one of the husband and wife. That is, there are some important stages or series of events that are important in the life process of the family and which constitute the whole family's life process. These periods are named as "Family Life Cycle" in the literature (Özdemir et al., 2013: 43).

There are two phases in the family life cycle (FLC): expansion and restructuring. Expansion (expansion) and structuring (construction) may recur in some families due to the addition of different members, children returning home. Individuals go through various stages in their family relationships, physical conditions and mental processes from childhood to old age. The life phase of a person consists of various periods in their families such as childhood, youth, adulthood and old age. The life process in the family brings with it differentiate, and change causes individuals to be affected at the level of emotions, thoughts and behavior (MEGEP, 2011: 8).

The family, like the individual, changes and develops over time. The family, which starts with marriage, goes through different stages that require change in roles and relationships in the process until the death of the spouses. The new marriage period is followed by pregnancy and birth, parenting, raising children, sending the child to school, adolescence, leaving home for adult children, empty nest, retirement and old age:

Table 1. Family Life Cycle Stages

Stages	**Developmental Tasks**
1.Childless,newly married couple	Establishing a mutually satisfying marital relationship, preparing for parenthood, joining the network of relatives
2. Small-child family	Adapting to the family situation with kids, creating a suitable home environment for parents and babies
3.Preschool-child family	Adapting to the developmental needs of the preschool child, creating stimulus richness and a supportive environment, dealing with burnout and loss of privacy
4. School-child family	Adapting to school age requirements, supporting children's education
5.Adolescent-child family	Establishing the balance of freedom and responsibility, planning the life after adolescent child
6. Leaving home-child family	Relocation of young people to work, military service, marriage preparation with appropriate rituals and assistance
7.Middle-aged parents	Re-establishing the marriage relationship, establishing kinship ties with young families
8. Old couple	Coping with loss of spouse and lonely life, closing the family home or adapting to old age, retirement adjustment

Source: İlerisoy, M. (2012:35). Aile Sistemleri Kuramı Çerçevesinde İnfertilite Tedavisi Gören Ailelerde Aile Yaşam Döngüsünün Nitel Yöntemlerle Araştırılması

In each of these stages, the family members and the system as a whole maintain their consistency by changing in accordance with the developmental need. From a systemic perspective, the family is the context in which these developmental tasks are fulfilled or not. A functional family provides an environment in which each family member can fulfill appropriate developmental tasks and thus the family life cycle continues functionally and interacts successfully with other systems (İlerisoy, 2012: 34).

Some scientists have named the stages of the FLC as "stages" and some as "career". Since 1931, many studies have been carried out to determine the stages and characteristics of AYD. Since the first studies, AYD stages have been determined between 4 and 10 stages. In different studies, AYD stages were determined based on different criteria. As a result of the literature review, the family life cycle groups were formed as follows: Singles, newly married couples or couples without children, couples with the oldest child aged 0-3, couples with the eldest child aged 4-6, the oldest child 7-13 couples of their age, couples with the oldest child aged 14 and over, and couples in which all children left home.

4. THE METHODOLOGY OF THE RESEARCH

Population of Düzce province in 2019 is 392.166 in total (www.tuik.gov.tr, 2020). The sample of the study was determined as 384 people with an error margin of 0.05, and data were collected from a sample group of 389 people in this study. The research data were collected by using simple random sampling method, face-to-face and online questionnaires, and SPSS program was used in the analysis. The survey questions were designed in five-point likert type based on the studies of Taşyürek (2010) and Fırat and Kömürcüoğlu (2016). Frequency analysis was used to analyze the demographic characteristics of the collected data. Groups in the family life cycle; Variance analyzes (Anova, Tukey and Tamhane tests) were also conducted to test the differences between consumers' awareness of neuromarketing and their attitudes to find neuromarketing ethical.

4.1. The Importance and Purpose of the Research

The acceleration of globalization and the emergence of technological developments that give a different direction to life have brought a new perspective to marketing. In addition to the rapid advancement of technology, the differentiation in consumer demands and needs; it has revealed that it will be beneficial to investigate the consumers with neuro techniques and neuromarketing studies, which is a new marketing strategy, have been included. The need to find a direct path to the changing consumer's brain has emerged. Neuromarketing; It is a new discipline that tries to explain the purchasing tendencies of consumers in a scientific way. Purpose; Reading the minds of consumers is to easily identify purchasing behaviors and create marketing strategies. If companies solve the purchasing behavior of the consumer correctly, they can create a brand and marketing strategy suitable for consumers. The human brain, which is the most important element, and the formation of the decision-making process in the brain should be examined to understand how the consumer is affected by irrational decisions. It is now possible to measure which parts of the brain are activated when consumers encounter any marketing stimulus and what chemical changes occur in the human body. When the decision-making part of the brain is better understood, more persuasive conversations will be made with consumers, more effective marketing strategies will be developed and consumers will be persuaded to buy (Yeşilot & Dal, 2018). Therefore, to address consumers' subconscious and focused on the concept of neuromarketing is heard, neuromarketing techniques which are used herein and in this field in Turkey and it is important to examine the work done in the world.

The main purpose of the study is to question how an effective advertisement should be and whether consumers' attitudes towards neuromarketing differ in terms of groups in the family life cycle.

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4.2. Hypotheses of the Study

The statement "There is a difference between the neuromarketing consciousness levels of the groups in the family life cycle" constitutes the question of the research. The sub-hypotheses to be tested in the study are as follows:

H_1: There is a difference between the expression "*I determine my needs before I go shopping and do not shop outside of my needs*" and the family life cycle.

H_2: There is a difference between the expression *"I think I do all my behaviors consciously"* and the family life cycle.

H_3There is a difference between the statement *"I buy a product or service that I don't need without planning"* and the family life cycle.

H_4: There is a difference between the expression "*I think I can control my emotions"* and the family life cycle.

H_5: There is a difference between the expression *"I think people have become consumer robots today"* and the family life cycle.

H_6: There is a difference between the statement *"I knew about neuromarketing"* and the family life cycle.

H_7: There is a difference between the statement *"Neuromarketing is a method that reads the brain of people"* and the family life cycle.

H_8: There is a difference between the expression *"I can realize that neuromarketing is used as a method of influencing customers in the marketing activities of businesses"* and the family life cycle.

H_9: There is a difference between the expression *"I think it is against the privacy of people to use neuromarketing techniques as a tool to analyze people's feelings and thoughts"* and the family life cycle.

H_{10}: There is a difference between the statement *"I do not find the devices used in neuromarketing to measure brain activities (EEG, eye, monitoring, fMRI, etc.) ethical"* and the family life cycle.

4.3. Findings

The reliability level (Cronbach's Alpha) in the study was found to be 0.912 and it can be said that the study had a very high reliability, since the value was greater than 0.70 reliability level.

Table 2. Demographic characteristics of the participants

Age	**Frequency**	**%**
17-25	57	14.65
26-35	132	33.68
36-45	149	38.30
46-55	32	8.48
56+	19	4.88
Occupation	**Frequency**	**%**
Student	54	13.88
Public Officer	130	33.42
Private Sector	101	25.96
Self Employed.	51	13.11
Retired	11	2.83
Unemployed	42	10.80

Gender	**Frequency**	**%**
Female	207	53.21
Male	182	46.79
Education	**Frequency**	**%**
Primary School	27	6.95
High School	53	13.62
Associate Degree	62	15.94
Bachelor Degree	181	46.53
Post Graduate	66	16.97
Income	**Frequency**	**%**
Under 2000	93	23.91
2000-3999	152	39.07
4000-5999	111	28.53
Above 6000	33	8.48

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The demographic characteristics of the participants in the research are given in Table 2 according to the frequency distribution. Accordingly, the rate of men participating in the research is 46.79%, while the rate of women is 51.21%. The educational status of the participants are constituted as primary school graduates 6.95%, high school graduates 13.62%, associate degree graduates 15.94%, bachelor degree 46.53% and post graduate 16.97%. The age range of the participants is 14.65% between 17-25 years old, 33.68% between 26-35 years old, 38.30% between 36-45 years old, 8.48% between 45-55 years old, and over 56 years of age constitute 4.88%. The income status of the participants is 23.91% below 2000 TL, 39.07% between 2000-3999 ₺, 28.53% between 4000-5999 ₺ and 8.48% over 6000 ₺. If the table is briefly summarized, it can be said that most of the participants are in the middle age group, most of them are bachelor degree, mostly work in the public and private sectors and have a middle income level.

Table 3. Family Life Cycle of Participants

Options	**%**
Single	%32.90
Newly married couple or without children	%10.54
Couple with children aged 0-3 (oldest child's age)	% 9.77
Couple with children aged 4-6 (oldest child's age)	%22.88
Couple with children aged 7-13 (oldest child's age)	%10.80
Couple with children aged 14 and over (oldest child's age)	%7.46
Couples with all children leaving home	% 5.65

Table 3 shows the results of the family life cycle characteristics and frequency distribution of the participants. According to this, 32.90% of the participants are single, 10.54% are newly married couples or have no children, 9.77% are couple with the oldest child aged 0-3 years, 22.88% is the oldest The couple whose child's age is 4-6 years old, 10.80% of them are couples with children aged 7-13, 7.46% are couples with children aged 14 and over, and 5.65% are retired couples where all children leave the house.

Table 4. Significance of the frequency of following the mass medium

Items	**I. Degree**	**II. Degree**	**III. Degree**	**IV. Degree**	**V. Degree**	**VI. Degree**	**Total Points**
Television	882	210	508	90	40	23	**1 753**
Radio	234	455	100	171	124	115	**1 149**
Internet	558	480	348	45	88	54	**1 573**
Newspaper and Magazine	30	210	228	369	176	74	**1 087**
Poster-Board-Billboard	90	140	212	408	176	69	**1095**
Mobile Phone	540	450	160	84	174	54	**1462**

Table 4 shows the importance of the frequency of following the mass medium. Accordingly, mass medium are listed as; TV, internet, and mobile phone, radio, poster-board-billboard and newspaper-magazine. Therefore, it can be said that the most effective mass medium are TV, internet and mobile phone (Mobile environment).

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Table 5. Importance of advertising channels

Items	I. Degree	II. Degree	III. Degree	IV. Degree	V. Degree	VI. Degree	Total Points
Television	1164	384	236	102	30	23	1 939
Radio	252	460	132	198	96	107	1 245
Internet	546	375	408	54	102	52	1 537
Newspaper and Magazine	72	260	216	453	158	41	1200
Poster-Board-Billboard	126	210	300	201	266	51	1154
Mobile Phone	168	320	264	159	126	115	1152

Table 5 shows the importance level of advertising channels. Accordingly, the advertising channels are listed as; Television, internet, radio, newspaper-magazine, poster-board-billboard, mobile phone. Therefore, it can be said that the most effective advertising channels are television, internet, radio, and newspaper-magazine. Mobile phone is in the last place.

Table 6. Participation degrees related to being affected by advertising

	Mean	Std. D.	Level of Participation
When I choose between two similar or identical products or services, I purchase the product whose advertisement was affected.	3,55	1,142	Average
A successful advertisement can change my belief and attitude towards the product.	3,63	1,031	Average
Advertisements cause unnecessary purchases, excessive consumption and waste.	3,86	1,099	High

($\bar{x}$= 1,00-2,33 Low, $\bar{x}$= 2,34-3,66 Average and $\bar{x}$= 3,67-5,00 High Level of Participation)

Considering the data in Table 6, it is seen that the statement "Ads cause unnecessary purchases, excessive consumption and wastefulness" is the most important element and the level of participation is high.

Statements such as "A successful advertisement can change my belief and attitude towards the product" and "When choosing between similar or the same two products or services, I buy the product whose advertisement is affected" remain at a medium level of participation.

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Table 7. Degree of effective advertising participation

	Mean	Std. D.	Level of Participation
Using a famous person in the advertisement makes the advertisement more effective.	3,66	1,072	Average
Using a baby or doll in the advertisement makes the advertisement cute and makes it more effective.	3,64	1,025	Average
Using women and sexuality in the advertisement makes the advertisement more effective.	2,98	1,399	Average
Excitement, passion and humor should be used in the advertisement.	3,92	,897	High
The music used in the advertisement increases the interest in the advertisement.	4,13	,811	High

($\bar{x}$= 1,00-2,33 Low, $\bar{x}$= 2,34-3,66 Average and $\bar{x}$= 3,67-5,00 High Level of Participation)

Considering the data in Table 7, it is seen that the participation levels of the expressions "Music used in advertisement increases the interest in advertising" and "Excitement, passion and humor should be used in advertisement" are high. Therefore, these two components are the most important expressions.

The expressions "Using a famous person in the advertisement makes the advertisement more effective", "Using a baby or doll in the advertisement makes the advertisement more effective" and "Using women and sexuality in the advertisement makes the advertisement more effective" were determined as the factors that are given less importance because the participation level is medium.

Tablo 8. Resources to obtain information about the product or service before making a purchase decision

	Mean	Std. D.	Level of Participation
I get informed through advertisements in mass medium such as TV, radio, internet etc.	4,04	,852	High
I get informed through family, relatives and close friends.	3,83	,919	High
I get informed by seeing it in the sales area.	3,76	,907	High
I get informed through social media	3,92	,865	High

($\bar{x}$= 1,00-2,33 Low, $\bar{x}$= 2,34-3,66 Average and $\bar{x}$= 3,67-5,00 High Level of Participation)

Considering the data in Table 8, all statements are high. The one that has the highest mean is “I get informed through advertisements in mass medium such as TV, radio, internet etc.

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Table 9. Level of participation in effective reasons for purchasing products

	Mean	Std. D.	Level of Part
Having labels stating that the product is on sale is effective in purchasing.	4,11	,887	High
Ads in mass medium such as TV, radio or internet are effective in purchasing products.	3,93	,872	High
While purchasing a product, positive comments about the product on social media affect my preference.	4,09	,876	High
When purchasing a product, family, relative, or environmental advice is effective in purchasing.	4,10	,779	High
When purchasing a product, previous experiences are effective in purchasing.	4,33	,745	High
When purchasing a product, the brand of the product is effective in purchasing.	4,08	,856	High
When purchasing a product, the pleasure I feel when purchasing the product is effective in purchasing.	3,84	,972	High
When purchasing a product, if the product suits my personality and attitude, it is effective in purchasing.	4,10	,774	High
When purchasing a product, the product's external features such as color and packaging are effective in purchasing.	3,86	,955	High
When purchasing a product, seeing it on the shelves in the sales area is effective in purchasing.	3,85	,898	High

($\bar{x}$= 1,00-2,33 Low, $\bar{x}$= 2,34-3,66 Average and $\bar{x}$= 3,67-5,00 High Level of Participation)

Considering the data in Table 9, it is seen that the participation levels of all expressions are high. The most important one is “Previous experiences when purchasing a product are effective in purchasing”

Table 10. Level of participation in the degree of commitment to the product used

	Mean	Std. D.	Level of Part.
Trust given by the brand	4,17	,783	High
The naturalness of the product, its health and its impact on the environment	4,27	,745	High
Being a monetary reward by making continuous promotions and discounts.	3,90	,917	High
Continuous advertisement of the product (TV, radio, internet etc.)	3,58	1,041	Average
Advice for family, relatives and close friends	3,95	,825	High
Reflecting cultural values	3,81	,892	High
Not contradicting faith	3,76	1,044	High

($\bar{x}$= 1,00-2,33 Low, $\bar{x}$= 2,34-3,66 Average and $\bar{x}$= 3,67-5,00 High Level of Participation)

Considering the data in Table 10, it is seen that the level of participation of the expression "The naturalness of the product, its healthiness and its effect on the environment" is the highest. It has been determined that the expression “Continuous advertisement of the product (TV, radio, internet etc.)” has an average participation level.

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Table 11. Participation level of the emotion aroused by the purchased product or service

	Mean	Std. D.	Level of Part.
It should make me feel better quality and superior than similar products.	4,18	,811	High
It should scare me, that is, it should make me feel that if I don't take it, I'll be less healthy or unhappy.	2,91	1,199	Average
It should make me feel that I belong to a certain class of society when I buy that product.	2,67	1,255	Average
It should make me feel that I will be healthier or happier when I buy that product.	3,89	,968	High

($\bar{x}$= 1,00-2,33 Low, $\bar{x}$= 2,34-3,66 Average and $\bar{x}$= 3,67-5,00 High Level of Participation)

In Table 11, it is seen that the level of participation of the statements "It should make me feel better quality and superior than similar products" and "It should make me feel that I will be healthier or happier when I buy that product" is high. The levels of participation of the expressions “It should scare me; that is, it should make me feel that if I don't take it, I'll be less healthy or unhappy.’’ and “It should make me feel that I will belong to a certain society class when I buy that product” were determined as average.

Tablo 12. Level of participation of statements about neuromarketing and consumer awareness

	Mean	Std. D.	Level of Part.
Before I go shopping, I determine my needs and I do not shop out of my needs	3,45	1,053	Average
I think I do all my behavior consciously.	3,44	,995	Average
I buy a product or service that I don't need without planning.	3,22	1,108	Average
I think I can control my emotions.	3,68	,820	High
I think nowadays people have become consumer robots.	4,09	,918	High

($\bar{x}$= 1,00-2,33 Low, $\bar{x}$= 2,34-3,66 Average and $\bar{x}$= 3,67-5,00 High Level of Participation)

In Table 12, the level of participation of the expressions "I think that today people have become consumer robots" and "I think I can control my emotions" is high. The participation levels of the expressions "I determine my needs before I go shopping and do not shop out of my needs", "I think I do all my behavior consciously" and "I buy a product or service that I do not need without planning" are determined as average.

Table 13. Level of participation of statements about the assessment of consumer knowledge about neuromarketing

	Mean	Std. Deviation	Level of Participation
I knew about neuromarketing.	3,10	1,236	High
Neuromarketing is a method that reads people's minds.	3,43	,882	High
I can realize that neuromarketing is used as a method of influencing customers in their marketing activities.	3,56	1,025	High

($\bar{x}$= 1,00-2,33 Low, $\bar{x}$= 2,34-3,66 Average and $\bar{x}$= 3,67-5,00 High Level of Participation)

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Considering the data in Table 13, it is seen that the participation levels of all expressions are high. The highest one is I can realize that neuromarketing is used as a method of influencing customers in their marketing activities.

Table 14. Level of participation of statements about consumer ethics on neuromarketing

	Mean	Std. D.	Level of Part.
I think it is against the privacy of people to use neuromarketing techniques as a tool to analyze people's feelings and thoughts.	3,47	1,032	Average
I think the devices used in neuromarketing to measure brain activity (EEG, eye, monitoring, fMRI, etc.) are not ethical.	3,52	,996	Average

($\bar{x}$= 1,00-2,33 Low, $\bar{x}$= 2,34-3,66 Average and $\bar{x}$= 3,67-5,00 High Level of Participation)

In Table 14, it is seen that the participation levels of all expressions are average.

Table 15. Comparison of the levels of participation in the statements about neuromarketing and consumer awareness of the groups in the FLC

		Tukey test/Tamhane's T2												
	Family Life Cycle	**N**	**X**	**σ**	**f**	**p**	**a**	**b**	**c**	**d**	**e**	**f**	**g**
I think I do all my behavior consciously.	a. Single	128	3.29	1.10	2.86	**.01**		*	*	*	*	*	*
	b. Newly married couple or without children	41	3.66	1.13			*		*	*	*	*	*
	c. Couple with children aged 0-3 (oldest child's age)	38	3.45	1.10			*	*		*	*	*	*
	d. Couple with children aged 4-6 (oldest child's age)	89	3.38	.63			*	*	*		*	*	
	e. Couple with children aged 7-13 (oldest child's age)	42	3.67	.95			*	*	*	*		*	*
	f. Couple with children aged 14 and over (oldest child's age)	29	3.24	1.02			*	*	*	*	*		*
	g. Couples with all children leaving home	22	4.05	.84			*	*	*		*	*	
Before I go shopping, I determine my needs and I do not shop out of my needs	a. Single	128	3.27	1.14	5.45	**.00**		*	*		*	*	
	b. Newly married couple or without children	41	3.24	1.09			*		*	*	*	*	
	c. Couple with children aged 0-3 (oldest child's age)	38	3.16	1.22			*	*		*	*	*	
	d. Couple with children aged 4-6 (oldest child's age)	89	3.74	.71				*	*		*	*	*
	e. Couple with children aged 7-13 (oldest child's age)	42	3.60	1.10			*	*	*	*		*	*
	f. Couple with children aged 14 and over (oldest child's age)	29	3.24	.91			*	*	*	*	*		
	g. Couples with all children leaving home	22	4.27	.70						*	*		

I buy a product or service that I don't need without planning	a. Single	128	2.99	1.14	3.28	**.004**		*		*	*	*	*
	b. Newly married couple or without children	41	2.95	1.30			*		*	*	*	*	*
	c. Couple with children aged 0-3 (oldest child's age)	38	3.71	1.11				*		*	*	*	*
	d. Couple with children aged 4-6 (oldest child's age)	89	3.29	.75			*	*	*		*	*	*
	e. Couple with children aged 7-13 (oldest child's age)	42	3.50	1.13			*	*	*	*		*	*
	f. Couple with children aged 14 and over (oldest child's age)	29	3.17	1.28			*	*	*	*	*		*
	g. Couples with all children leaving home	22	3.41	1.09			*	*	*	*	*	*	
I think I can control my emotions	a. Single	128	3.66	.94	2.53	**.02**		*	*	*	*	*	*
	b. Newly married couple or without children	41	3.85	.82			*		*	*	*	*	*
	c. Couple with children aged 0-3 (oldest child's age)	38	3.92	.53			*	*			*	*	*
	d. Couple with children aged 4-6 (oldest child's age)	89	3.54	.62			*	*			*	*	*
	e. Couple with children aged 7-13 (oldest child's age)	42	3.76	.79			*	*	*	*		*	*
	f. Couple with children aged 14 and over (oldest child's age)	29	3.34	.85			*	*	*	*	*		*
	g. Couples with all children leaving home	22	3.91	.97			*	*	*	*	*	*	
Nowadays I think people are becoming consumer robots	a. Single	128	4.26	.89	8.38	**.00**		*	*		*	*	*
	b. Newly married couple or without children	41	4.34	.85			*		*		*	*	*
	c. Couple with children aged 0-3 (oldest child's age)	38	4.29	.65			*	*			*	*	*
	d. Couple with children aged 4-6 (oldest child's age)	89	3.54	.77								*	*
	e. Couple with children aged 7-13 (oldest child's age)	42	4.07	.83			*	*	*			*	*
	f. Couple with children aged 14 and over (oldest child's age)	29	4.21	1.04			*	*	*	*	*		*
	g. Couples with all children leaving home	22	4.45	1.22			*	*	*	*	*	*	

Table 15 contains the analysis results of the H_1-H_2-H_3-H_4 and H_5 hypotheses, which were created to compare the levels of participation in the statements about neuromarketing and consumer awareness of the groups in the FLC. H_1-H_2-H_3-H_4 and H_5 hypotheses were accepted since the significance level of the "p" values was less than 0.05 as a result of the analysis. According to the table, the highest rate of positive participation with the statements "I determine my needs before going out and do not shop out of my needs", "I think I do all my behavior consciously" and "I think nowadays people have become consumer robots " show the couples where all children leave their home.“I buy a product or service that I don't need without planning” and “I think I can control my emotions” are mostly positive by couples whose eldest child is 0-3 years old.

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Table 16. Comparison of the knowledge levels of the groups in the FLC on neuromarketing

	Family Life Cycle	Tukey test/Tamhane's T2 Test											
		N	X	σ	f -	p	a	b	c	d	e	f	g
I knew about neuromarketing.	a. Single	128	2.8	1.40	10.6	0		*	*		*	*	
	b. Newly married couple or without children	41	3.2	1.12			*		*	*	*	*	
	c. Couple with children aged 0-3 (oldest child's age)	38	3.26	.97			*	*		*	*	*	*
	d. Couple with children aged 4-6 (oldest child's age)	89	3.64	.82				*	*		*		
	e. Couple with children aged 7-13 (oldest child's age)	42	3.43	.96			*	*	*	*		*	
	f. Couple with children aged 14 and over (oldest child's age)	29	2.76	1.2			*	*	*		*		*
	g. Couples with all children leaving home	22	1.73	1.24								*	
Neuromarketing is a method that reads people's minds	a. Single	128	3.23	1.06	6.3	0		*	*		*	*	*
	b. Newly married couple or without children	41	3.68	.75			*		*	*	*	*	
	c. Couple with children aged 0-3 (oldest child's age)	38	3.50	.89			*	*		*	*	*	*
	d. Couple with children aged 4-6 (oldest child's age)	89	3.75	.54				*	*		*		
	e. Couple with children aged 7-13 (oldest child's age)	42	3.57	.63			*	*	*	*		*	
	f. Couple with children aged 14 and over (oldest child's age)	29	3.17	.80			*	*	*		*		*
	g. Couples with all children leaving home	22	2.86	.88			*		*			*	
I can realize that neuromarketing is used as a method of influencing customers in their marketing activities.	a. Single	128	3.51	1.13	20.1	.004		*	*		*	*	
	b. Newly married couple or without children	41	3.85	.79			*		*	*	*		
	c. Couple with children aged 0-3 (oldest child's age)	38	3.71	.83			*	*		*	*	*	
	d. Couple with children aged 4-6 (oldest child's age)	89	3.90	.45				*	*		*		
	e. Couple with children aged 7-13 (oldest child's age)	42	3.83	.58			*	*	*	*			
	f. Couple with children aged 14 and over (oldest child's age)	29	3.10	1.04			*		*				
	g. Couples with all children leaving home	22	1.73	1.24									

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Table 16 contains the analysis results of the H_6-H_7 and H_8 hypotheses, which were created to compare the knowledge levels of the groups in the FLC on neuromarketing. H_6-H_7 and H_8 hypotheses were accepted since the significance level of the "p" values was less than 0.05 as a result of the analysis. According to the table, "I knew about neuromarketing", "Neuromarketing is a method that reads people's brains" and "I can realize that neuromarketing is used as a method of influencing customers in the marketing activities of businesses" shows the highest rate of positive participation by couples whose eldest child is 4-6 years old and the lowest one of positive participation is the couples in which all children left home.

Table 17. Comparison of the levels of participation of the groups in the FLC to the statements about the ethical dimension of neuromarketing

		Tukey test/Tamhane's T2 Test												
	Family Life Cycle	**N**	**X**	**σ**	**f -**	**p**	**a**	**b**	**c**	**d**	**e**	**f**	**g**
I think it is against the privacy of people to use neuromarketing techniques as a tool to analyze people's feelings and thoughts.	a. Single	128	2.99	1.10	9.05	**,00**					*		
	b. Newly married couple or without children	41	3.63	1.01					*	*	*	*	*
	c. Couple with children aged 0-3 (oldest child's age)	38	3.63	.99				*		*	*	*	*
	d. Couple with children aged 4-6 (oldest child's age)	89	3.81	.58				*	*		*	*	*
	e. Couple with children aged 7-13 (oldest child's age)	42	3.40	1.10			*	*	*	*		*	*
	f. Couple with children aged 14 and over (oldest child's age)	29	3.76	.91				*	*	*	*		*
	g. Couples with all children leaving home	22	4.05	1.09				*	*	*	*	*	
I think the devices used in neuromarketing to measure brain activity (EEG, eye, monitoring, fMRI, etc.) are not ethical.	a. Single	128	3.05	1.09	8.23	**,00**		*					
	b. Newly married couple or without children	41	3.59	1.09			*		*	*	*	*	*
	c. Couple with children aged 0-3 (oldest child's age)	38	3.68	.90				*		*	*	*	*
	d. Couple with children aged 4-6 (oldest child's age)	89	3.82	.61				*	*		*	*	*
	e. Couple with children aged 7-13 (oldest child's age)	42	3.67	.92				*	*	*		*	*
	f. Couple with children aged 14 and over (oldest child's age)	29	3.72	.92				*	*	*	*		*
	g. Couples with all children leaving home	22	4.00	.92				*	*	*	*	*	

Table 17 contains the analysis results of the H_9 and H_{10} hypotheses, which were created to compare the levels of participation of the Groups in the FLC to the statements about the ethical dimension of neuromarketing. H_9 and H_{10} hypotheses were accepted as the significance level of the "p" values was less than 0.05 as a result of the analysis. According to the table, " I think it is against the privacy of people to use neuromarketing techniques as a tool to analyze people's feelings and

thoughts " and " I think the devices used in neuromarketing to measure brain activity (EEG, eye, monitoring, fMRI, etc.) are not ethical. ‘’ show that couples with all children leaving home show most positive participation, single individuals show the least positive participation.

5. RESULTS AND DISCUSSIONS

When the results of the study were examined, the persuasive power of advertising was in the form of television, internet, radio, newspaper-magazine, poster-board, billboard and mobile phone, respectively. It was determined that each of the mass media was used by the participants. These results coincide with the work of Fırat and Kömürcüoğlu (2016). The vast majority of participants; To buy a product is influenced by the ads when choosing between similar or the same two products and a successful ad for a product believes that change beliefs and attitudes, and the people of the vast majority of ads the same way participants think that make consumer robots. These results are in line with the work of Fırat and Kömürcüoğlu (2016: 43).

Participants highly agree that the use of a famous person, babies or dolls, excitement, passion and humor, as well as music, will make the advertisements effective. Some of the respondents stated that using women and sexuality in advertisements would make advertisements effective. Although sexuality in advertisements does not always bring sales in previous studies, it has been determined that mirror neurons increase people's desire to admire the beautiful and sexy people, models or celebrities they see in advertisements. People who watch these ads buy the product thinking that if they use the product shown in the ads, they will be like those people. However, in some cases, such advertisements backfire due to empathy and are not effective on the consumer. The biggest reason for this is that people love and internalize those who are similar to them more. Consumers who see that someone resembling themselves or their family are playing in advertisements identify with them, feel close to them and buy them to use the advertised products (Tüzel, 2010: 174).

Participants' positive attitudes that the use of a famous person in advertisements will make the advertisement more effective can be explained as follows: According to the studies, when individuals see a famous face, that is, a familiar face, the brain releases dopamine and phenylethylamine. Thus felt good sense of visual stimuli (faces) is fed into an associated trust status. In addition, with neuromarketing techniques, the amount of hormone flow activated by the celebrity to be used for its famous use in the brain can be measured and the level of confidence can be determined (Fugate, 2007: 388). In addition, researches have revealed that the use of baby faces besides famous people also plays a role in the effectiveness of the advertisement.

In previous studies, one of the most important points to be considered in advertisements is that the advertising music is identified with the brand. According to the measurements made in increasing the effectiveness of the advertisement music, the first 2500-3000 milliseconds of the advertisement is critical in the decision of the viewer to continue watching or change the channel. While the ads that can attract attention in the first three thousand milliseconds continue to be watched, in cases where they do not attract attention, the channel is either changed or the audience's brain cannot contact the ad they are watching. At this point, the right music is the trigger factor in establishing a connection with the audience along with the advertisement. Emotionally unable to connect ads are less likely to be remembered. Again, Lindstrom (2008: 135-137) mentioned in his book Buy-ology that some advertisers create somatic cursors through humor, thus making effective advertisements reaching the minds of the consumers. Lindstrom, who calls somatic cursors shortcuts of the brain, mentions that there are momentary emotions given to subconscious sources such as pain, fear, and pleasant sensory experiences that help the brain make purchasing decisions. With neuromarketing, when consumers watch the advertisement of a product or service, predictions can be made about their unconscious tendencies depending on the regions of the brain that are activated, and thanks to the analysis of the data obtained, the emotions such as excitement, passion, humor and the brain

regions that these emotions are activated can be compared. A successful comparison finding is obtained if there is an activation in the brain parts associated with the emotions in question (Akın, 2014: 19).

As a result of the study, all of the hypotheses created to compare the family life cycle with the levels of neuromarketing awareness and the levels of participation in the statements about the ethical dimension of neuromarketing were accepted. Single individuals in the family life cycle, newly married couples with or without children, couples with the oldest child aged 0-3, couples with the oldest child aged 4-6, couples with the oldest child aged 7-13, years old couples with children who are eldest child and at the age of 14 and above and couples in which all children left home differed in the rate of participation in these statements. While the least positive participation in the statements "I had knowledge about neuromarketing", "Neuromarketing is a method that reads people's brains" and "I can realize that neuromarketing is used as a method of influencing customers in the marketing activities of businesses" shows the couples in which all children leave home, again the same group said, “I think I do all my behavior consciously” and “I think that people have become consumer robots today” expressed the highest rate of positive participation.

After the participants were informed about neuromarketing, it was found that couples, where all children left home, showed the highest rate of positive participation in the fact that neuromarketing studies were unethical and against the privacy of people. Single individuals, on the other hand, showed an attitude between the statements that neuromarketing studies are not ethical and they do not agree. The lower average age of single participants and the fact that constantly renewed and changing technology has become a lifestyle for them can be considered as the reason for this result.

As a result, studies on neuromarketing can provide important benefits in understanding consumer behavior in the future. However, ethical rules should be determined in order to prevent unethical behaviors. Naturally, since the existence of ethical rules does not mean that these rules will be fully implemented, it is necessary to establish control mechanisms. In addition, it is important that these rules are taught and adopted by those who will use neuromarketing techniques.

REFERENCES

Akgün Özlem V. & Ergün Seval G. (2016). Yeni Bir Pazarlama Yaklaşımı Olarak Nöropazarlama Üzerine Kuramsal Bir Araştırma, Selçuk Üniversitesi Sosyal ve Teknik Araştırmalar Dergisi, 11: 223-235.

Akın, M: (2014). Pazarlama Araştırmacıları Perspektifinden Nöropazarlama: Keşifsel Bir Araştırma. Yayımlanmamış Yüksek Lisans Tezi. Sakarya.

Ariely, D. & Berns, G: (2010) Neuromarketing: The Hope and Hype of Neuroimaging in Business. Nat Rev Neurosci 11(4): 284-292.

Bercea Olteanu, M.D. (2015) Neuroethics and Responsibility in Conducting Neuromarketing Research. Neuroethics, 8: 191–202.

Bhatia, K. (2014) Neuromarketing: Towards a Better Understanding of Consumer Behavior, Optimization, 6(1): 1-17.

Butgel Tunalı:, Gözü, Ö. & Özen G., (2016). Pazarlama ve Reklam Araştırmalarında Nöropazarlama Üzerine Yapılmış Araştırmaların İncelenmesi ve Etik Boyutunun Araştırılması, Anadolu Üniversitesi İletişim Bilimleri Fakültesi Uluslararası Hakemli Dergisi, 24, (2): 1-8.

Butler, M.J. (2008) Neuromarketing and the Perception of Knowledge. J Consumer Behavior 7(4-5): 415-419.

Casey, J., Pipingas, A., Silberstein, R., Downey, L.A. & Johnston, P, (2010). Examining the Neural Correlates of Choise Behaviour in a Gambling Task Using Steady State Topograpy, Journal of Neuroscience, Psychology, and Economics, 3(1):46–57.

Cosic, D. (2016) Neuromarketing in Market Research. Interdiscip. Descr. Complex Syst. 14 :139–147.

Eser, Z., Isin, F.B. & Tolon, M. (2011) Perceptions of Marketing Academics, Neurologists and Marketing Professionals about Neuromarketing. Journal of Marketing Management 27(7-8): 854-868.

Fırat, A.; Kömürcüoğlu, F. (2016). Etkili Bir Reklam için Nöropazarlama, Sosyal ve Beşeri Bilimler Araştırmaları Dergisi, 17(38):. 25-46.

Fisher, C.E, Chin, L. & Klitzman, R. (2010) Defining Neuromarketing: Practices and Professional Challenges. Harvard Review of Psychiatry, 18(4):. 230-237.

Fugate, D.L. (2007) Neuromarketing: A Layman's Look at Neuroscience and Its Potential Application to Marketing Practice. Journal of Consumer Marketing 24(7): 385-394.

Fugate, D.L. (2008) Marketing services more effectively with neuromarketing research: A look into the future. Journal of Services Marketing 22(2): 170-173.

Gountas, J.; Gountas:; Ciorciari, J. & Sharma, P. (2019). Looking beyond Traditional Measures of Advertising Impact: Using Neuroscientific Methods to Evaluate Social Marketing Messages. J. Bus. Res. 105: 121–135.

Gutierrez Cardenas, G. (2019) Neuromarketing as an Effective Tool for Education in Sales and Advertising. Rev. Lat. Comun. Soc. 74: 1173–1189.

Gültekin:G. & Perker, B. (2017). Dünya'da ve Türkiye'de Nöropazarlama Çalışmalarının İncelenmesi ve Değerlendirilmesi, Avrasya Sosyal ve Ekonomi Araştırmaları Dergisi, 4(3): 35-57.

Hensel, D.; Iorga, A.; Walter, L. & Znanewitz, J. (2017) Conducting Neuromarketing Studies Ethically-Practitioner Perspectives. Cogent Psychol. 4, 1320858.

Hubert, M. ve Kenning, P (2008) A Current Overview of Consumer Neuroscience. J Consumer Behav.7 (4-5): 272-292.

İlerisoy, M. (2012). Aile Sistemleri Kuramı Çerçevesinde İnfertilite Tedavisi Gören Ailelerde Aile Yaşam Döngüsünün Nitel Yöntemlerle Araştırılması, Yüksek Lisans Tezi, Maltepe Üniversitesi, İstanbul.

Karmarkar, U.R. (2011) Note on Neuromarketing. Harvard Business School Background Note:512-031.

Kemik, K. & Ada, E. (2019). Fonksiyonel Manyetik Rezonans Görüntüleme Veri Analizi ve Güvenilirliği, Türk Radyoloji Dergisi, 37(3): 39-46.

Kesek, H. (2017). Nöropazarlama Yaklaşımının Tüketici Davranışları Üzerindeki Etkisi: Malatya İnönü Üniversitesi Örneği, Yüksek Lisans Tezi, Konya.

Kumar, H. ve Singh, P. (2015) Neuromarketing: An Emerging Tool of Market Research, International Journal of Engineering and Management Research, 5(6): 530-535.

Lee, N.; Broderick, A.J.; Chamberlain, L. (2007) What is 'Neuromarketing'? A Discussion and Agenda for Future Research. Int. J. Psychophysiol. 63:199–204.

Lee, N.; Chamberlain, L.; Brandes, L. (2018) Welcome to the Jungle! The Neuromarketing Literature through the Eyes of a Newcomer. Eur. J. Mark. 52:4–38.

Lim, W. M. (2018). What will business-to-business marketers learn from neuro-marketing? Insights for business marketing practice. Journal of Business-to-Business Marketing, 25(3), 251-259.

Linstrom, M. (2008). Buy.ology. Çev: Ümit Şensoy, Optimist Yayınları No: 162, İstanbul.

MEGEP,(2011). Aile Tüketici Hizmetleri, Aile Yapısı. http://megep.meb.gov.tr/mte_program_modul/moduller_pdf/Aile%20Yap%C4%B1s%C4%B1.pdf. Erişim Tarihi: 23. 11. 2019

Meskauskas, J. (2005); Media Maze: Neuromarketing, Part 1.http://www.imediaconnection.com.

Meyerding:G.H. & Mehlhose, C.M. (2018) Neuromarketing add Value to the Traditional Marketing Research? An Exemplary Experiment with Functional Near-Infrared Spectroscopy(fNIRS).https://www.sciencedirect.com/science/article/abs/pii/S0148296318305344. (Erişim Tarihi: 28.11.2019).

Morin, C (2011) Neuromarketing: The New Science of Consumer Behaviour and Society 48(2) s.131-135.

Murphy, E.R., Illes, J. & Reiner, P.B (2008). Neuroethics of Neuromarketing, Journal of consumer behavior, 7 (4): 293-302.

Nyoni, T., & Bonga, W. G. (2017). Neuromarketing: No brain, no gain!. Dynamic Research Journals' Journal of Economics and Finance (DRJ-JEF), 2(2), 17-29.

Orindaru, A., Pachitanu, A., Rosca, L., Caescu, C. & Cristian Orzan, M. (2019) Attitude Evaluation on Using the Neuromarketing Approach in Social Media: Matching Company's Purposes and Consumer's Benefits for Sustainable Business Growth ,Sustainability, 11, 7094: 1-21.

Orzan, G., Zara, I.A. & Purcarea (2012) Neuromarketing Techniques in Pharmaceutical Drugs Advertising. A Discussion and Agenda for Future Research. J Med Life 5(4): 428-432.

Özdemir, Ş., Torlak, Ö. & Vatandaş, C. (2013). Aile Yaşam Döngüsü ve Tüketim, SEKAM Yayınları, İstanbul**.**

Özdemir, Ş., Vatandaş, C. & Torlak, Ö. (2009). Sosyal Problemleri Çözmede Aile Yaşam Döngüsünün (AYD) Önemi, Aile ve Toplum, Eğitim Kültür ve Araştırma Dergisi, 11,(4). :7-18.

Pop, N.A.; Dabija, D.C. & Iorga, A.M. (2014) Ethical Responsibility of Neuromarketing Companies in Harnessing the Market Research-A Global Exploratory Approach. Amfiteatru Econ, 16:26–40.

Pop, N.A.; Iorga, A.M. (2012) A New Challenge for Contemporary Marketing-Neuromarketing. Manag. Mark. Chall. Knowl. Soc., 7:631–644.

Pradeep, A.K. (2010). The Buying Brain: Secrets for Selling to the Subconscious Mind. John Wiley & Sons.

Randal, K. (2009). Rise of Neurocinema: How Hollywood Studios Harness Your Brain Waves to Win Oscars, Fast Company. http://www.fastcompany.com.

Renvoise, P. & Morin, C. (2009). Nöro Marketing. Çev: Yaşar Yertutan, MediaCat Kitapları: İstanbul.

Satel, S. & Lielinfeld:O. (2013). Brainwashed: The Seductive Appeal of Mindless Neuroscience, Basic Books.

Schneider, T. & Woolgar S (2012) Technologies of Ironic Revelation: Enacting Consumers in Neuromarkets, Consumption Market & Culture, 15(2):169-189.

Schneider, T. & Woolgar: (2015) Neuromarketing in the Making: Enactment and Reflexive Entanglement in an Emerging Field. BioSocieties, 1:400–421.

Senior, C. & Lee, N. (2008) Editorial: A Manifesto for Neuromarketing Science. J Consumer Behav 7(4-5): 263-271.

Smidts, A., Hsu, M., Sanfey, A. G., Boksem, M. A., Ebstein, R. B., Huettel, S. A., & Yoon, C. (2014). Advancing consumer neuroscience. Marketing Letters, 25(3), 257-267.

Solomon, P.R. (2018) Neuromarketing: Applications, Challenges and Promises Biomedical, Journal of Scientific & Technical Research, 12(2): 1-11.

Stanton:J.; Sinnott-Armstrong, W. & Huettel:A. (2017) Neuromarketing: Ethical Implications of its Use and Potential Misuse, J. Bus. Ethics, 144, 7s. 99–811.

Sümbül, H. & Coşkun, M.A. (2011). Taşınabilir EEG Cihazı, 6.th International Advanced Technologies Symposium (IATS'11), 16-18 May 2011, Elazığ, Turkey.

Szentesi, G. (2017) Book review-'Ethics and Neuromarketing: Implications for Market Research and Business Practice'. Amfiteatru Econ., 19:918–928.

Şahar, L. (2017). Etik Değerler Işığında Nöropazarlamaya Bir Bakış Açısı, https://slidex.tips/download/neuromarketng-perspectve-n-the-lght-of-ethcal-values,Erişim Tarihi: 23. 11. 2019.

Taşyürek, N.(2010). Reklam ve reklamın tüketicilerin satın alma davranışları üzerindeki etkisi: Bir alan araştırması. Atılım Üniversitesi Örneği, Yüksek Lisans Tezi, Ankara.

Tonbuloğlu, İ. & Bayram: (2010). Göz İzleme Yöntemiyle Öğretim Yazılımlarındaki Açılır Pencere Yapılarında Kullanışlılık Değerlendirmesi, Eğitim ve Öğretim Araştırmaları Dergisi, 1(3): 324-332.

Tüzel, N. (2010). Tüketicinin Zihnini Okumak: Nöropazarlama ve Reklam. Marmara İletişim Dergisi (16): 163-176.

Ural, T. (2008). Pazarlamada Yeni Yaklaşım: Nöropazarlama Üzerine Kuramsal Bir Değerlendirme, Çukurova Üniversitesi Sosyal Bilimler Dergisi, 17(2): 421-432.

Vlăsceanu: (2014) Neuromarketing and Evaluation of Cognitive and Emotional Responses of Consumers to Marketing Stimuli. Procedia-Soc. Behav. Sci. 127: 753–757.

Yeşilot, F. & Dal, N.E. (2018) Duyuların Ötesinde: Bilinçaltı Etkiler ve Nöropazarlama, Göller Bölgesi Aylık Hakemli Ekonomi ve Kültür Dergisi, 62(5): 37-45.

Yücel A. & Coşkun P. (2018). Nöropazarlama Literatür İncelemesi, Fırat Üniversitesi Sosyal Bilimler Dergisi, 28(2): 157-177.