



## THE EFFECT OF TOYS ON FAST FOOD PRODUCT PREFERENCES FAST FOOD ÜRÜN TERCİHLERİNDE OYUNCAK ETKİSİ\*

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### Abstract

The aim of the study is to examine the role of toys in 10-14 age group consumers being affected by fast food products. For this purpose, menu images of Burger King with toys, which include gender-oriented Barbie and car toys, and without toys, and menu images of Mc Donald's with toys, which include McDonalds' unisex toy, and without toys, were used. It was analyzed whether there is a difference between the effects of the menus with and without toys according to the gender and fast food consumption habits of the consumers in the 10-14 age group participating in the experiment. Galvanic Skin Response and Eye Tracking devices, which are neuro imaging techniques, were used in the study. Participants were shown a 38-second video consisting of Burger King and McDonalds' menu images with and without toys, and numerical data at the level of seconds and kilohms (kohm) were obtained. Wilcoxon Sign Test was used to analyze the data. As a result of the analysis, it was determined that the participants were affected by the menus with and without toys according to their gender and fast food liking. It was determined that there was no difference in the level of being affected by the toy and non-toy menus according to the fast food consumption frequency and menu preferences of the participant

**Keywords:** *Fast Food Products, Galvanic Skin Response, Eye Tracking, Menu with Toys*

### Öz

Çalışmanın amacı, 10-14 yaş grubundaki tüketicilerin fast food ürünlerinden etkilenmelerinde oyuncakların rolünü incelemektir. Bu amaçla, Burger King cinsiyet odaklı Barbie ve araba oyuncaklarının yer aldığı oyuncaklı ve oyuncaksız menü görselleri ile McDonalds'ın unisex oyuncaklarının yer aldığı oyuncaklı ve oyuncaksız menü görselleri kullanılmıştır. Deneye katılan 10-14 yaş grubundaki tüketicilerin cinsiyet ve fast food tüketim alışkanlıklarına göre oyuncaklı ve oyuncaksız menülerden etkilenme düzeyleri arasında fark olup olmadığı analiz edilmiştir. Çalışmada nörogörüntüleme tekniklerinden Galvanic Deri Tepkisi ve Göz İzleme cihazları kullanılmıştır. Katılımcılara Burger King ve McDonalds'ın oyuncaklı ve oyuncaksız menü görsellerinden oluşan 38 sn'lik video izlettirilmiş saniye ve kilohm(kohm) düzeyinde sayısal veriler elde edilmiştir. Verilerin analizinde Wilcoxon İşaret Testi kullanılmıştır. Analiz sonucunda katılımcıların oyuncaklı ve oyuncaksız menülerden cinsiyet ve fast food sevme düzeylerine göre etkilendikleri belirlenmiştir. Katılımcıların fast food tüketim sıklıkları ve menü tercihlerine göre oyuncaklı ve oyuncaksız menülerden etkilenme düzeyi farklılıklarının olmadığı tespit edilmiştir.

**Anahtar Kelimeler:** *Fast Food Ürünleri, Galvanic Deri Tepkisi, Göz İzleme, Oyuncaklı Menü*

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## GENİŞLETİLMİŞ ÖZET

### Çalışmanın Amacı

Çalışmanın amacı, 10-14 yaş grubundaki tüketicilerin fast food ürünlerinden etkilenmelerinde oyuncakların rolünü incelemektir. Buna göre çocukların oyuncaklı ya da oyuncaksız menülerden etkilenme düzeylerinde fast food tüketim alışkanlıkları ve cinsiyetlerinin belirleyici olduğu varsayılmaktadır. Dolayısıyla çocukların oyuncaklı ürünlerden ne derece etkilendiğini daha iyi anlamak adına geleneksel anket yöntemi ile beraber deneysel yöntemler kullanılmıştır.

### Araştırma Soruları

Deneye katılan 10-14 yaş tüketicilerin oyuncaklı ve oyuncaksız menülerden etkilenme düzeyi farklılıklarında, cinsiyet ve fast food tüketim alışkanlıklarının etkili olduğu varsayılmaktadır. Fast food tüketim alışkanlıkları, 10-14 yaş grubundaki tüketicilerin fast food sevip sevmeme, fast food tüketim sıklığı ve fast food menü tercihi (oyuncaklı menü – oyuncaksız menü) kapsamında incelenerek çalışmanın hipotezleri geliştirilmiştir.

### Literatür Araştırması

Çalışmanın amacı ve varsayımı doğrultusunda marka tutundurma ve farkındalık unsurlarından marka maskotları ve satış promosyonları alanında yer alan yerli ve yabancı literatür incelenmiştir. Gıda pazarlamasında etkili olan oyuncak hediyeleri çocuklar üzerinde yaygın olarak kullanılmaktadır (Leibowitz vd., 2012). Fast food perakendecileri, McDonald's 'Happy Meal' ve KFCs 'Chicky Meal' gibi çocuklara özel menü seçeneklerine sahiptirler ve bunların temel unsuru, genellikle koleksiyonunun bir parçası olan ve bu nedenle birçok restoranı teşvik eden 'ücretsiz' bir oyuncaktır (Hawkes, 2002). Bu en iyi fast food restoran zincirleri, oyunculara 341 milyon dolar harcadıklarını bildirmiştir. Geçen yıl, bu restoranlar 12 yaşın altındaki çocuklara oyuncaklarla birlikte 1 milyardan fazla öğün satmışlardır (Leibowitz vd., 2012). Özellikle tekrarlı alımları destekleyen ve belirli bir serinin tamamlanmasını sağlayan oyuncaklar, yemeklerle eşleştirildiğinde belirli yiyeceklere odaklanmayı da artıracaktır. Bu tür tekrarlı davranışlar bu gıdalar için artan bir tercihe yol açacaktır (McAlister ve Cornwell, 2012:195). Bu strateji, tarihsel olarak üretilen oyuncak kıtlığının olduğu ülkelerde özellikle başarılı olmuş bir stratejidir. Hawkes (2002), oyuncakların muazzam bir alım faaliyeti yarattığını ve hatta oyuncak arzı tükendiğinde satın alımların azaldığını belirtmiştir (Hawkes, 2002). McAlister ve Cornwell (2012)'in oyuncakların yemek tercihlerini etkileyip etkilemediğinin incelendiği araştırmada katılımcılara oyuncaklı ve oyuncaksız fast food menüleri ve sağlıklı yemek menüleri gösterilmiştir. Okul öncesi çocukların yemek (fast food ve sağlıklı yemek menüleri) tercihlerinde oyuncakların etkili olduğu sonucuna varılmış ve bunun sonucunda oyuncakların sağlıklı yemek menülerinde kullanılmasının bu menülere olan ilgiyi artıracığı savunulmuştur (McAlister ve Cornwell, 2012:198). Hobin vd., (2012), 6-12 yaş arası çocuklar üzerinde yaptığı çalışmada oyuncak hediyelerinin fast food yeme tercihleri üzerindeki etkisi incelenmiş ve sunulan oyuncaklar kızlara göre erkeklere daha çekici gelmiştir. Çalışma oyuncak tercihlerinin cinsiyete ve oyuncağın çekiciliğine bağlı olarak değişkenlik gösterebileceğini

ortaya koymuştur (Hobin vd., 2012:245).Çocuklara yönelik hızlı yiyecek reklamları ise, yiyeceklerden daha sık oyuncaklar içermektedir. Ulusal televizyonlarda yayımlanan çocuklara yönelik fast food reklamları gıda ürünlerinden daha çok oyuncakları vurgulamaktadır (Bernhardt vd., 2013). Çocuklara yönelik gıda ürünlerini çocuklara tanıtmak için kullanılan temalar, eğlenceye, fantaziye, yeniliğe ve zevke odaklanır. Buna karşılık, aynı çocuk odaklı ürünün ebeveyn hedefli pazarlanması ise beslenme ve sağlık temalarını vurgulamaktadır (Cairns vd., 2009).

### **Yöntem**

Çalışmanın verileri anket ve deney tekniği kullanılarak elde edilmiştir. Anket katılımcıların cinsiyet ve fast food tüketim alışkanlıklarını belirlemeye yönelik olmak üzere iki bölümden oluşmaktadır. Fast food tüketim alışkanlıklarını belirlemek amacıyla katılımcılara sorulan ifadeler “Evet”, “Hayır” ve “Kararsızım” aralığında değişen 3’lü likert ölçeğine göre oluşturulmuştur. Deney tekniği ile verilerin elde edilmesinde nörogörüntüleme tekniklerinden Galvenik Deri Tepkisi cihazı ile Göz İzleme Cihazı kullanılmıştır. Deneyde 10-14 yaş grubundaki 17’si Erkek ve 13’ü Kız olmak üzere gönüllü 30 tüketiciye 38 sn’lik video izlettirilmiştir.

### **Sonuç ve Değerlendirme**

Analiz sonuçlarına göre, fast food ürünlerinde cinsiyet odaklı oyuncaklı menülerin 10-14 yaş grubundaki fast food seven tüketicileri sevmeyen tüketicilere göre daha fazla etkilediği, cinsiyet odaklı oyuncaklı menülerden hem kız hem de erkek tüketicilerin oyuncaksız menülere göre daha fazla etkilendikleri, ayrıca erkek tüketicilerin kız tüketicilere göre cinsiyet odaklı oyuncaklı menülerden daha fazla etkilendikleri şeklinde ifade edilebilir. Ancak 10-14 yaş grubundaki tüketicilerin cinsiyet odaklı ya da unisex oyuncaklı ve oyuncaksız menülerden etkilenme düzeyleri arasında menü tercihleri ve fast food tüketim sıklıklarına göre bir fark olmadığı görülmektedir. Dolayısıyla fast food tüketim sıklığı ve çocuk ya da yetişkin menü tercihinin oyuncaklı ve oyuncaksız menülerden etkilenme düzeyleri üzerinde herhangi bir etkiye sahip olmadığını söylemek mümkündür. Göz izleme cihazı ile elde edilen veriler incelendiğinde katılımcıların cinsiyetle ilişkilendirilebilen araba ve Barbie bebek oyuncaklarına odaklanma sürelerinin unisex oyuncakla göre daha yüksek düzeyde olduğunu ve dolayısıyla etkilenme düzeylerinin de daha yüksek düzeyde gerçekleştiği söylenebilir. Analiz sonuçlarına göre, 10-14 yaş aralığındaki tüketicilerin fast food sevip sevmemelerinin ve cinsiyetlerinin oyuncaklı menülerden etkilenme düzeyleri üzerinde etkili olduğu söylenebilir. Bu nedenle daha erken yaşlarda tüketicilerini etkilemek ve geleceğin sadık müşterilerine dönüştürmek isteyen markalar için hedef kitlelerini doğru analiz etmeleri ve onları etkileyen özelliklerine yoğunlaşarak satış promosyonları belirlemelerinin önemli olduğu söylenebilir.

## **1. INTRODUCTION**

Offering various toys to children with food is an increasingly popular marketing practice used by the fast food industry. This practice consists of cross promotions used with the entertainment industry, especially for the 10-14 age group. Toys are generally chosen from the TV programs and movie characters that children like (Cairns, Angus, Hasting, 2009). It is seen that such practices affect children's eating preferences (Leibowitz, Ramirez, Brill, Ohlhausen, 2012). According to the research conducted by the World Health Organization on food web pages, taste and flavour are highlighted as persuasive techniques. This is followed by the fact that the food is healthy and nutritious and the promotions to be gained in purchasing the product. In 26.5% of the web pages examined online, there are certain areas for children (Bosi, Bağcı, Ergüder, Breda, Jewell, 2018, s. 15). In this context, health organizations state that toys can be used as a tool to increase the diet quality of children. While parents support the use of toys in marketing healthy menus, they are uncomfortable with the use of toys in fast food marketing (McAlister and Cornwell, 2012, s. 198). In the following section, a literature review has been made on the effects of gifts on children's food consumption.

## **2. LITERATURE REVIEW ON THE EFFECT OF GIFTS ON CHILDREN'S FOOD CONSUMPTION**

Gift distribution is giving something free of charge or at a low price due to the purchase of a product or service (Odabaşı and Oyman, 2005, s. 211). Gifts are an effective way to stimulate consumer reactions. It also helps businesses in gaining new customers and keeping existing customers (Sağlam, 2016, s. 15). Gift distribution can be in two different ways.

1. Direct Gifts: These are the studies aimed at direct and quick action of the consumer (Odabaşı and Oyman, 2005, s. 211). A gift can be given immediately with the purchased product. Or, as another method, a gift is provided in the product package. For example, businesses such as McDonald's and Burger King give a toy as a gift when a children's menu is bought (İlgün, 2006, s. 51).

2. Postal Gifts: Gifts are distributed as a result of sending a document (such as cover, name, brand) showing that the customers purchased the product by mail. The difference from direct distribution is that there is no instant rewarding, and a certain period of time is waited to receive the gift (Odabaşı and Oyman, 2005, s. 211).

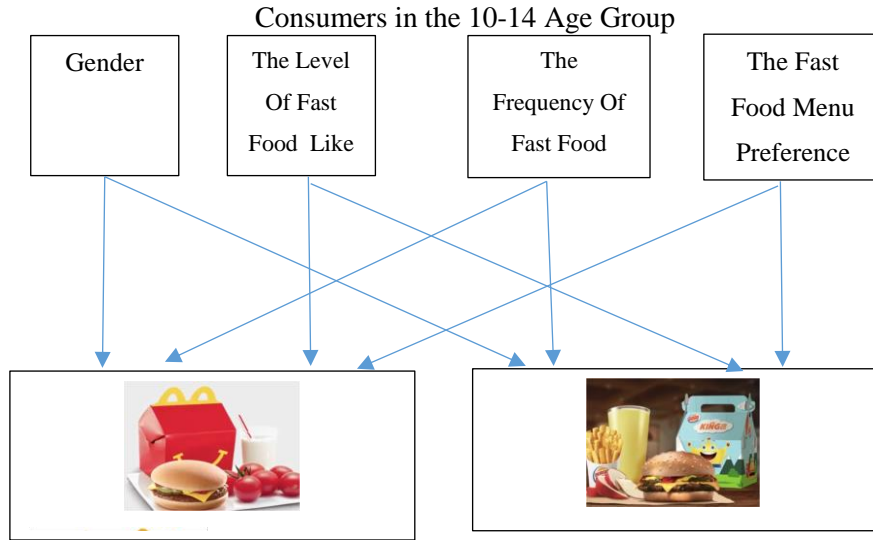
The gifts to be distributed should be selected in accordance with the characteristics and expectations of the group to be addressed. Therefore, it is necessary to know the demographic and psychographic characteristics of potential customers (Odabaşı and Oyman, 2005, s. 211). Toy gifts that are effective in food marketing are widely used on children (Leibowitz et al., 2012). Fast food retailers have kids' menu options such as McDonald's' Happy Meal 'and KFCs' Chicky Meal', and their key element is a 'free' toy that is often part of their collection and therefore promotes many restaurants (Hawkes, 2002). These top fast food restaurant chains report spending \$ 341 million on toys. Last year, these restaurants sold more than 1 billion meals with toys to children under the age of 12 (Leibowitz et al., 2012). Toys, especially those that support repetitive purchases and ensure the completion of a

particular series, will also increase the focus on specific foods when paired with meals. Such repetitive behaviors will lead to an increased preference for these foods (McAlister and Cornwell, 2012, s. 195). This strategy has been particularly successful in countries with a history of scarcity of toys produced. Hawkes (2002) stated that toys create an enormous purchasing activity and even purchases decrease when the supply of toys is exhausted (Hawkes, 2002). In the study by McAlister and Cornwell (2012), which examined whether toys affect food preferences, participants were shown fast food menus with and without toys and healthy food menus. It was concluded that toys were effective in the food (fast food and healthy food menus) preferences of preschool children, and as a result, it was argued that the use of toys in healthy food menus would increase the interest in these menus (McAlister and Cornwell, 2012, s. 198). Hobin et al., (2012) examined the effect of toy gifts on fast food eating preferences in a study conducted with children aged 6-12, and the toys offered were more attractive to boys than girls. The study revealed that toy preferences may vary depending on gender and attractiveness of the toy (Hobin et al., 2012. s. 245). Fast food ads for children, on the other hand, contain toys more often than food. Fast food advertisements for children broadcast on national televisions emphasize toys rather than food products (Bernhardt et al., 2013). Themes used to promote children's food products to children focus on fun, fantasy, innovation and pleasure. On the other hand, marketing the same child-oriented product with the target of parents emphasizes nutrition and health themes (Cairns et al., 2009).

### **3. METHOD**

The aim of the study is to examine the role of toys in 10-14 age group consumers being affected by fast food products. For this purpose, menu images with and without toys, which include Burger King gender-oriented Barbie and car toys, and a menu with and without toys, which include McDonalds' unisex toy, were used. It was analyzed whether there is a difference between the effects of the menus with and without toys according to the gender and fast food consumption habits of the consumers in the 10-14 age group participating in the experiment. The basic assumption of the study is that fast food consumption habits and gender are determinant in children's influence level with or without toys. The model developed within the scope of the aim and basic assumption of the study is as follows:

**Figure 1.** Conceptual Model for Determining the Differences in the Level of Being Influenced by the Menu with and without Toys according to the Gender and Fast Food Consumption Habits of



When Figure 1 is examined, it is seen that the difference in the level of influence of 10-14 year-old consumers participating in the experiment with and without toys is influenced by gender and fast food consumption habits. In the model, fast food consumption habits are examined within the scope of the consumers in the 10-14 age group, whether they like fast food or not, the frequency of fast food consumption and the fast food menu preference (toy menu – non-toy menu).

Hypotheses developed according to the model of the study are as follows:

H1: Levels at which girl participants are affected by the Burger King's gender-oriented menu images with and without toys are different.

H2: Levels at which girl participants are affected by the McDonalds' Unisex menu images with and without toys are different.

H3: Levels at which boy participants are affected by the Burger King's gender-oriented menu images with and without toys are different.

H4: Levels at which boy participants are affected by the McDonalds' Unisex menu images with and without toys are different.

H5: Levels at which participants who like fast food are affected by the Burger King's gender-oriented menu images with and without toys are different.

H6: Levels at which participants who like fast food are affected by the McDonalds' Unisex menu images with and without toys are different.

H7: Levels at which participants who do not like fast food are affected by the Burger King's gender-oriented menu images with and without toys are different.

H8: Levels at which participants who do not like fast food are affected by the McDonalds' Unisex menu images with and without toys are different.

H9: Levels at which participants who consume fast food once a week are affected by the Burger King's gender-oriented menu images with and without toys are different.

H10: Levels at which participants who consume fast food once a week are affected by the McDonalds' Unisex menu images with and without toys are different.

H11: Levels at which participants who consume fast food once a month are affected by the Burger King's gender-oriented menu images with and without toys are different.

H12: Levels at which participants who consume fast food once a month are affected by the McDonalds' Unisex menu images with and without toys are different.

H13: Levels at which participants who consume fast food twice or three times a month are affected by the Burger King's gender-oriented menu images with and without toys are different.

H14: Levels at which participants who consume fast food twice or three times a month are affected by the McDonalds' Unisex menu images with and without toys are different.

H15: Levels at which participants who prefer a kids' menu are affected by the Burger King's gender-oriented menu images with and without toys are different.

H16: Levels at which participants who prefer a kids' menu are affected by the McDonalds' Unisex menu images with and without toys are different.

H17: Levels at which participants who prefer an adult menu are affected by the Burger King's gender-oriented menu images with and without toys are different.

H18: Levels at which participants who prefer an adult menu are affected by the McDonalds' Unisex menu images with and without toys are different.

The data of the study were obtained by using questionnaire and experimental technique. The survey consists of two parts to determine the gender and fast food consumption habits of the participants. The expressions asked to the participants in order to determine their fast food consumption habits were created according to a 3-point Likert scale ranging from "Yes", "No" to "Unsure".

Galvanic Skin Response device and Eye Tracking Device, which are among neuro imaging techniques, were used to obtain data with the experiment technique. In the experiment, 30 volunteers, 17 boys and 13 girls, in the 10-14 age group, watched a 38-second video. 26 consumers with accurate data were included in the analysis. The video consists of images of McDonalds and Burger King menus with and without toys. While McDonalds' image with toys features a unisex toy, Burger King's image with toys includes Barbie and Car toys. The visuals in the video were created by adding black visuals between menus with and without toys. Black visuals take place in the video for 3 seconds, and menu images with and without toys for 7 seconds. In this study, skin response analysis was conducted to determine the effect levels of menus with and without toys. Galvanic Skin Response (GSR) device is used to measure skin conductivity between two electrodes. Galvanic Skin Response (GSR) activity is a useful method for measuring arousal related to emotion, cognition, and attention (Critchley, 2002). The Galvanic Skin Response Sensor measures skin conductivity between two reusable electrodes attached to two fingers of one hand caused by a stimulus the sweat glands become more active, increasing

moisture on the skin and allowing the current to flow more readily by changing the balance of positive and negative ions in the secreted fluid (<https://www.shimmersensing.com/products/shimmer3-wireless-gsr-sensor>). Whether there is a difference between the averages of the data obtained from the skin response device at the kilohm level was analyzed using the Wilcoxon Sign Test. SPSS 17.0 package program was used to analyze the data. Post-hoc power analysis was used to test the significance of the experimental results of the study. Post-hoc power analysis was applied to numerical data obtained from galvanic skin response analysis. The aim is to calculate the ability of the data obtained from the sample volume to represent the main mass. The power of the study data was calculated as 72% by using the Statistika statistical package program. This value proves the significance and strength of the study results.

Another method used in the study is eye tracking technique. Eye tracking technique follows the pupil movements of the person and analyzes where the person is looking against visual stimuli. In a standard eye tracking study, data is generated that shows where, when (milliseconds) and for how long participants look at each element of the visual stimulus (Özdoğan, 2008). Within the scope of the study, the data on first view, re-view, number of views and focusing time were obtained from the 38-second video that was shown to the participants and the data will be examined in detail in the following sections.

## 4. ANALYSIS OF DATA AND FINDINGS

### 4.1. Analysis Of The Survey Data

Percentage and frequency data regarding gender and fast food consumption habits of girls and boys in the 10-14 age group who voluntarily participated in the study are summarized in the table below:

**Table 1.** Data Regarding Gender and Fast Food Consumption Habits of the Participants

Gender	n	%	Do you like fasy food?	n	%
Girl	15	57,7	Yes	21	80,8
Boy	11	42,3	No	2	7,7
<b>Total</b>	<b>26</b>	<b>100,0</b>	Unsure	3	11,5
How often do you consume fast food?	n	%	Total	26	100,0
Once a week	3	11,5	Which type of fast food menu do you prefer?	n	%
Once a month	17	65,4	Kids' menu	10	38,5
Two-Three times a month	4	15,4	Adult's menu	15	57,7
Once a year	1	3,8	None	1	3,8
Anytime	1	3,8	<b>Total</b>	<b>26</b>	<b>100,0</b>
<b>Total</b>	<b>26</b>	<b>100,0</b>			

Analyzing the data of Table 1, it is seen that 58% of the participants in the 10-14 age group are girls, 81% like to consume Fast Food, 65% consume Fast Food once a month, 39% prefer the kids' menu with toys.



## 4.2. Analysis Results of the Experiment Performed with the Galvanic Skin Response Device

Images of McDonald's and Burger King menus with and without toys were shown to volunteers in the 10-14 age group. The numerical data in kilohms (kohm) obtained from 26 people, 15 girls and 11 boys with valid data, are summarized in the tables below:

**Table 2.** Data on the Different Levels at which Girl Participants Are Affected by Menu Images with and without Toys

Menu	n	Mean	SS	Z	Sig
Burger King Menu Without Toys	15	3,20000	1,08233	-3,408	0,001
Burger King Menu With Toys	15	1,061E16	4,84534E15		
McDonalds Menu Without Toys	15	1,129E16	5,14431E15	-0,966	0,334
McDonalds Menu With Toys	15	1,048E16	4,72675E15		

When Table 2 is examined, it seems that there is a statistically significant difference at the level of  $p < 0.05$  in terms of being affected by the menu with toys of Burger King's Barbie and car toys and the menu without toys among the girl participants in the 10-14 age group whereas there is no statistically significant difference at the level of  $p < 0.05$  in terms of being affected by the toy menu with McDonalds' unisex toy and the menu without toys. Hence, H2 was rejected while H1 was accepted. When the data are examined, it can be said that the level at which girl participants are affected by Burger King's menu visuals with toys (avg: 1.061E16) is higher than the level at which girl participants are affected by menu visuals without toys (avg: 3.200000). The table below contains the data on different levels at which boy participants are affected by menu images with and without toys:

**Table 3.** Data on the Different Levels at which Boy Participants Are Affected by Menu Images with and without Toys

Menu	n	Mean	SS	Z	Sig
Burger King Menu Without Toys	11	3,2727	0,46710	-2,934	0,003
Burger King Menu With Toys	11	1,450E16	4,88243E15		
McDonalds Menu Without Toys	11	1,468E16	4,48515E15	-1,067	0,286
McDonalds Menu With Toys	11	1,409E16	4,27249E15		

When Table 3 is examined, it seems that there is a statistically significant difference at the level of  $p < 0.05$  in terms of being affected by the menu with toys of Burger King's Barbie and car toys and the menu without toys among the boy participants in the 10-14 age group whereas there is no statistically significant difference at the level of  $p < 0.05$  in terms of being affected by the toy menu with McDonalds' unisex toy and the menu without toys. Hence, H4 was rejected while H3 was accepted. When the data are examined, it can be said that the level at which boy participants are affected by Burger King's menu visuals with toys (avg: 1.450E16) is higher than the level at which boy participants are affected by menu visuals without toys (avg: 3.2727). When the average of boy and girl participants are evaluated together, it is seen that boy participants (mean: 1,450E16) are more affected than girl participants (mean: 1,061E16) from Burger King's toy menu. It can be said that the menu with toys created a higher impact on boy participants. The tables below contain the data on different levels at which participants are affected by menu images with and without toys depending on whether they like fast food or not:

**Table 4.** Data on the Different Levels at which Participants Who Like Fast Food Are Affected by Menu Images with and without Toys

Menu	n	Mean	SS	Z	Sig
Burger King Menu Without Toys	21	1,283E16	5,36290E15	-1,894	0,038
Burger King Menu With Toys	21	1,338E16	5,18886E15		
McDonalds Menu Without Toys	21	1,228E16	4,96712E15	-0,400	0,689
McDonalds Menu With Toys	21	1,273E16	5,04609E15		

When Table 4 is examined, it seems that there is a statistically significant difference at the level of  $p < 0.05$  in terms of being affected by the menu with toys of Burger King's Barbie and car toys and the menu without toys among the participants who like fast food whereas there is no statistically significant difference in terms of being affected by the toy menu with McDonalds' unisex toy and the menu without toys. Hence, H6 was rejected while H5 was accepted. When the data are examined, it can be said that the level at which participants who like fast food are affected by Burger King's menu visuals with toys (avg: 1.338E16) is higher than the level at which participants who like fast food are affected by menu visuals without toys (avg: ort: 1.283E16). The table below contains the data on the different levels at which participants who do not like fast food are affected by menu images with and without toys:

**Table 5.** Data on the Different Levels at which Participants Who do not Like Fast Food Are Affected by Menu Images with and without Toys

Menu	n	Mean	SS	Z	Sig
Burger King Menu Without Toys	5	9,850E15	3,60565E15	-0,135	0,893
Burger King Menu With Toys	5	9,993E15	3,86743E15		
McDonalds Menu Without Toys	5	1,088E16	4,37806E15	-2,023	0,043
McDonalds Menu With Toys	5	1,020E16	3,93219E15		

When the data on Table 5 are examined, it is observed that there is no statistically significant difference at the  $p < 0.05$  level among the participants who do not like fast food in terms of being affected by Burger King's menu images without toys and toys. There is a statistically significant difference between the effects of McDonalds' menu images with and without toys. Hence, H7 was rejected while H8 was accepted. It is observed that the participants who do not like fast food are more affected by McDonalds' menu image without toys (mean: 1.088E16) compared to menu images with toys (mean: 1.020E16). In the tables below, there are data on the differences in the level of being affected by Burger King and McDonalds' menu images with and without toys according to the fast food consumption frequency of the participants.

**Table 6.** Data on the Different Levels at which Participants Who Consume Fast Food Once a Week Are Affected by Menu Images with and without Toys

Menu	n	Mean	SS	Z	Sig
Burger King Menu Without Toys	3	1,037E16	6,18269E15	-1,604	0,109
Burger King Menu With Toys	3	1,096E16	5,90922E15		
McDonalds Menu Without Toys	3	9,305E15	5,44895E15	-0,535	0,593
McDonalds Menu With Toys	3	1,003E16	3,76413E15		

When the data of Table 6 is examined, it is seen that there is no statistically significant difference at  $p < 0.05$  between the levels at which participants who consume fast food once a week are affected by the menu visuals of both Burger King and McDonalds with and without toys. H9 and H10 are therefore rejected.

**Table 7.** Data on the Different Levels at which Participants Who Consume Fast Food Once a Month Are Affected by Menu Images with and without Toys

Menu	n	Ort.	SS	Z	Sig
Burger King Menu Without Toys	15	1,217E16	5,58852E15	-1,306	0,191
Burger King Menu With Toys	15	1,257E16	5,22142E15		
McDonalds Menu Without Toys	15	1,232E16	5,55703E15	-0,909	0,363
McDonalds Menu With Toys	15	1,237E16	5,25424E15		

When the data of Table 7 is examined, it is seen that there is no statistically significant difference at  $p < 0.05$  between the levels at which participants who consume fast food once a month are affected by the menu visuals of both Burger King and McDonalds with and without toys. H11 and H12 are therefore rejected.

**Table 8.** Data on the Different Levels at which Participants Who Consume Fast Food Twice or Three Times a Month Are Affected by Menu Images with and without Toys

Menu	n	Mean	SS	Z	Sig
Burger King Menu Without Toys	4	1,333E16	5,11614E15	-1,095	0,273
Burger King Menu With Toys	4	1,422E16	6,35508E15		
McDonalds Menu Without Toys	4	1,250E16	4,00249E15	-0,365	0,715
McDonalds Menu With Toys	4	1,324E16	6,63099E15		

When the data of Table 8 is examined, it is seen that there is no statistically significant difference at  $p < 0.05$  between the levels at which participants who consume fast food twice and three times a month are affected by the menu visuals of both Burger King and McDonalds with and without toys. H13 and H14 are therefore rejected. When the data of Table 6, Table 7 and Table 8 are evaluated together, it can be said that the fast food consumption frequency of the participants in the 10-14 age group does not have an effect on the differences in the level of being affected by the menu images with or without toys. The tables below contain data on the differences in the level of being affected by the menu visuals with and without toys, according to the participants' menu choices.

**Table 9.** Data on the Different Levels at which Participants Who Prefer a Kids' Menu Are Affected by Menu Images with and without Toys

Menu	n	Mean	SS	Z	Sig
Burger King Menu Without Toys	10	1,240E16	6,52359E15	-0,459	0,646
Burger King Menu With Toys	10	1,239E16	6,10719E15		
McDonalds Menu Without Toys	10	1,174E16	5,85369E15	-0,255	0,799
McDonalds Menu With Toys	10	1,232E16	6,09150E15		

When the data of Table 9 are examined, it is seen that there is no statistically significant difference at  $p < 0.05$  between the levels at which participants who prefer a kids' menu are affected by the menu visuals of both Burger King and McDonalds with and without toys. H15 and H16 are therefore rejected.

**Table 10.** Data on the Different Levels at which Participants Who Prefer an Adult Menu Are Affected by Menu Images with and without Toys

Menu	n	Mean	SS	Z	Sig
Burger King Menu Without Toys	15	1,229E16	4,43774E15	-2,215	0,127
Burger King Menu With Toys	15	1,314E16	4,61000E15		
McDonalds Menu Without Toys	15	1,226E16	4,36314E15	-0,284	0,776
McDonalds Menu With Toys	15	1,235E16	4,28944E15		

When the data of Table 10 are examined, it is seen that there is no statistically significant difference at  $p < 0.05$  between the levels at which participants who prefer an adult menu are affected by the menu visuals of both Burger King and McDonalds with and without toys. H17 and H18 are therefore rejected. When Table 9 and Table 10 are evaluated together, it can be said that there is no difference between the levels of being affected by the visuals of the menu with and without toys for the participants who prefer children's and adult menus.

The following table summarizes the acceptance/rejection status of the hypotheses developed according to the conceptual model of the study.

**Table 11.** Acceptance/Rejection Summary Table of Hypotheses

Hypotheses	Acceptance/Rejection
H1: Levels at which girl participants are affected by the Burger King's gender-oriented menu images with and without toys are different.	Acceptance
H2: Levels at which girl participants are affected by the McDonalds' Unisex menu images with and without toys are different.	Rejection
H3: Levels at which boy participants are affected by the Burger King's gender-oriented menu images with and without toys are different	Acceptance
H4: Levels at which boy participants are affected by the McDonalds' Unisex menu images with and without toys are different.	Rejection
H5: Levels at which participants who like fast food are affected by the Burger King's gender-oriented menu images with and without toys are different.	Acceptance
H6: Levels at which participants who like fast food are affected by the McDonalds' Unisex menu images with and without toys are different.	Rejection
H7: Levels at which participants who do not like fast food are affected by the Burger King's gender-oriented menu images with and without toys are different.	Rejection
H8: Levels at which participants who do not like fast food are affected by the McDonalds' Unisex menu images with and without toys are different.	Acceptance
H9: Levels at which participants who consume fast food once a week are affected by the Burger King's gender-oriented menu images with and without toys are different.	Rejection
H10: Levels at which participants who consume fast food once a week are affected by the McDonalds' Unisex menu images with and without toys are different.	Rejection
H11: Levels at which participants who consume fast food once a month are affected by the Burger King's gender-oriented menu images with and without toys are different.	Rejection
H12: Levels at which participants who consume fast food once a month are affected by the McDonalds' Unisex menu images with and without toys are different.	Rejection
H13: Levels at which participants who consume fast food twice or three times a month are affected by the Burger King's gender-oriented menu images with and without toys are different.	Rejection
H14: Levels at which participants who consume fast food twice or three times a month are affected by the McDonalds' Unisex menu images with and without toys are different.	Rejection
H15: Levels at which participants who prefer a kids' menu are affected by the Burger King's gender-oriented menu images with and without toys are different.	Rejection
H16: Levels at which participants who prefer a kids' menu are affected by the McDonalds' Unisex menu images with and without toys are different.	Rejection
H17: Levels at which participants who prefer an adult menu are affected by the Burger King's gender-oriented menu images with and without toys are different.	Rejection
H18: Levels at which participants who prefer an adult menu are affected by the McDonalds' Unisex menu images with and without toys are different.	Rejection

When Table 11 is examined, it can be observed that in fast food products, gender-oriented toy menus affect fast food-loving consumers in the 10-14 age group more than those who do not. It can be stated that both boy and girl consumers are more affected by gender-focused toy menus than toy-free menus. In addition, boy consumers are more affected by gender-oriented toy menus than girl consumers. However, it is observed that there is no difference between the consumers in the age group of 10-14 in terms of the level of being affected by gender-oriented or unisex menus with and without toys according to their menu preferences and fast food consumption frequency. Therefore, it can be said that the frequency of fast food consumption and children's or adult menu preferences do not have any effect on the level of being affected by the toys and non-toy menus.

#### 4.2. Analysis Results of Data Obtained from the Eye Tracking Device

30 participants in the 12-14 age group who participated in the analysis were shown 38-second images of Burger King and McDonalds fast food products. The numerical data in seconds obtained from the eye tracking device are summarized in the table below.

**Table 12.** Eye Tracking Data of All Participants Regarding Menu Images with and without Toys

Eye Tracking measurements	ALL PARTICIPANTS		
	McDonalds unisex toy	Burger King Barbie doll	Burger King car toy
Total Views (Person)	22	26	16
First View Second (Sec)	14,418sn	30,710sn	32,152
Average Viewing Time (Sec)	0, 54 sn	0,88 sn	0,40 sn
Average Percentage of Views (%)	1,437	2,329	1,053
Review Number (Person)	14	21	5
Average Focus Number (Person)	2	5	2

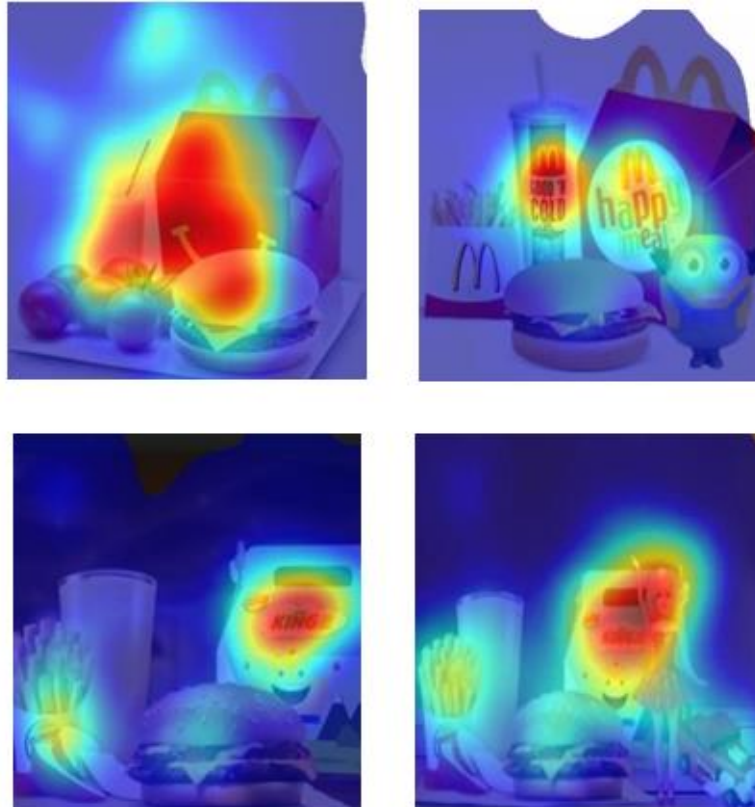
When Table 12 is examined, it is observed that of the 30 participants participating in the Eye Tracking analysis, 26 viewed the Burger King Barbie doll, 22 viewed the McDonalds unisex toy, and 16 viewed the Burger King car toy. The number of people who reviewed the toys was 21 for the Burger King Barbie doll, 14 for the McDonalds unisex toy, and 5 for the Burger King car toy. The toy with the most average view time, average view percentage and number of focused people is the Burger King Barbie doll.

**Table 13.** Eye Tracking Data of Boy and Girl Participants Regarding Menu Images with and without Toys

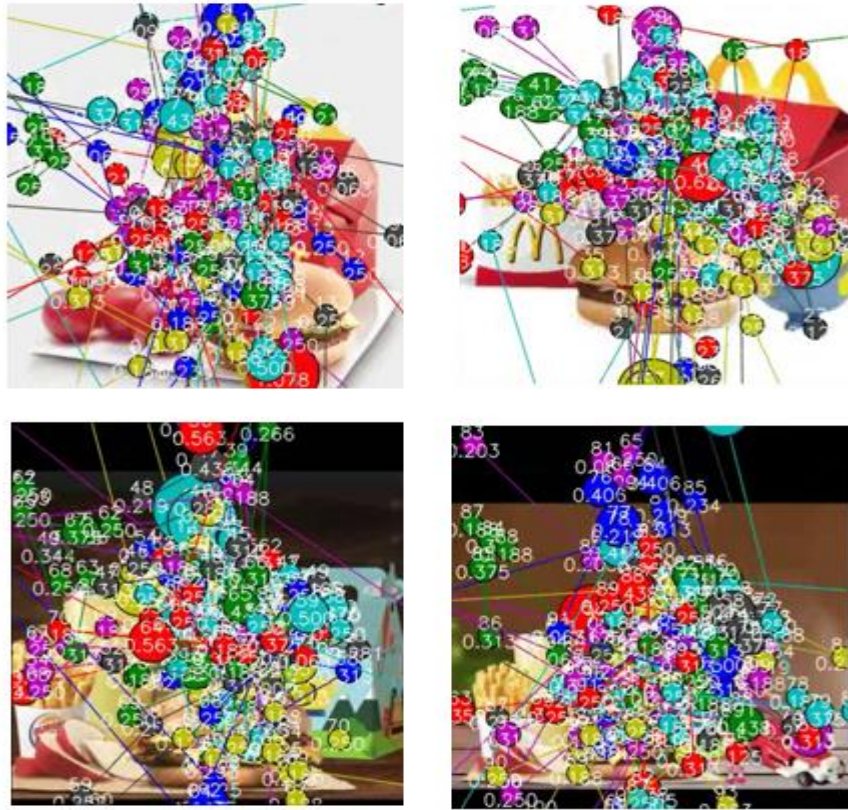
Eye Tracking measurements	GIRL			BOY		
	McDonalds unisex toy	Burger King Barbie doll	Burger King car toy	McDonalds unisex toy	Burger King Barbie doll	Burger King car toy
Total Views (Person)	13	15	8	9	11	8
First View Second (sec)	14,734	30,822	32,040	13,962	30,558	32,264
Average Viewing Time (Sec)	0,64 sn	0,95 sn	0,39 sn	0,40 sn	0,79 sn	0,40 sn
Average Percentage of Views (%)	1,691	2,501	1,032	1,071	2,094	1,074
Review Number (Person)	7	11	3	7	10	2
Average Focus Number (Person)	2	5	2	2	4	1

When the data of Table 13 is analyzed, it is seen that 15 of 17 girl participants and 11 of 13 boy participants who participated in eye tracking analysis viewed Burger King's Barbie doll toy. Burger King Barbie Doll had the highest focus time among girl and boy participants. This time is 0.95 seconds for girl participants and 0.79 seconds for boy participants. Burger King's Barbie doll toy has the highest average percentage of views, number of reviews, and focus count by both boy and girl participants. Below are visuals of temperature and line maps obtained from the 38-second video.

**Figure 2.** Heat Maps for Menu Images with and without Toys



**Figure 3.** Line Maps for Menu Images with and without Toys



## 5. CONCLUSION

It is thought that gifted products increase product sales and help repetitive purchasing behavior. Therefore, big brands distribute gift promotions alongside their products. Fast food brands are one of the sectors that use gifts to increase sales and influence the target audience. Fast food brands offer gift toys along with children's menus as sales promotions in order to impress children consumers, increase their sales and create loyal customers. In this study, it is aimed to examine the role of toys in 10-14 age group consumers being affected by fast food products. It is assumed that giving toys in fast food menus affects children consumers. Galvanic skin conductivity and eye tracking techniques, which are neuroimaging techniques, were used in the study to determine the effect of fast food products' toys. The questionnaire technique, one of the traditional research methods, was used to determine the gender and fast food consumption habits, which are among the demographic characteristics of the participants. The study data was obtained by showing participants taking part in the experimental study a 38-second video of Burger King and Mc Donalds fast food brands with and without toys. The volunteer participants of the experimental study consisted of a total of 30 people, 17 girls and 13 boys, between the ages of 10-14.

In the study, the data obtained with the Galvanic skin conductivity device was tested with the help of Wilcoxon analysis in order to determine whether there is a difference between the levels of being affected by the toy and non-toy menus according to the gender and fast food consumption habits of the

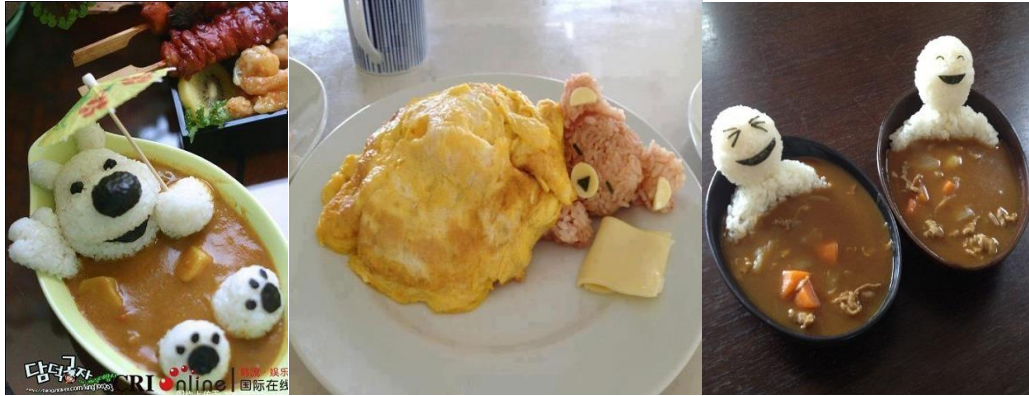
consumers in the 10-14 age group. When the analysis results are examined, it can be stated that menus of fast food products with gender-oriented toys affect consumers who like fast food in the 10-14 age group more than those who do not. Both boy and girl consumers are more affected by gender-oriented toy menus than toy-free menus. In addition, boy consumers are more affected by gender-oriented toy menus than girl consumers. However, it is observed that there is no difference between the consumers in the age group of 10-14 in terms of the level of being affected by gender-oriented or unisex menus with and without toys according to their menu preferences and fast food consumption frequency. Therefore, it is possible to say that the frequency of fast food consumption and children's or adult menu preferences do not have any effect on the levels of being affected by the toy and non-toy menus. When the data obtained with the eye tracking device are examined, it can be said that the participants' focus times on cars and Barbie doll toys that can be associated with gender are at a higher level compared to the unisex toy, and therefore their level of influence is higher.

According to the results of the analysis, it can be said that the gender of the consumers and whether they like fast food or not have an effect on the level of being affected by the toy menus in the 10-14 age range. Therefore, it can be said that it is important for brands that want to influence their consumers at an earlier age and turn them into loyal customers of the future, to analyze their target audience correctly and to determine sales promotions by focusing on the characteristics that affect them. It is very important for fast food brands to choose the toys in their gift toy promotions considering the gender of consumers in terms of influencing their target audience. In addition, creating healthy menus for potential customers who do not like fast food and parents who find it harmful, or conducting various branding studies to make existing menus more attractive may contribute to increase sales.

As a result of the study, it was concluded that child consumers were affected by promotions which appropriate for their age. Based on this result, it can be said that gift promotions that can be given not only in fast food menus but also with healthy menus can change the eating habits of children and help them choose healthy menus. For families who do not prefer fast food restaurants and find fast food harmful, restaurants that offer children's menus and meals by preparing child-specific presentations can be preferred by parents. According to 2019 obesity data, in Japan, which is the country with the lowest obesity rate in the world with a 3% obesity rate, (<https://www.internethaber.com/>) in order to make children love food and eat food specific to Japanese cuisine, rice figures are prepared to attract children consumers. Considering the fact that the rate of obesity in our country is increasing day by day and obesity poses a threat to the new generation; parents, businesses operating in the food sector and the Republic of Turkey Ministry of Health can be advised to consider promotions and gift options in children's menus and develop policies accordingly. The figures below show images with food presentations for children in Japan.



**Figure 4.** Food Presentations for Children in Japan



**Source:** Incredibly Cute Meals Inspired By Japanese Cuisine

The study has a unique value since it is the first study in the literature to determine the effect of toys in fast food menus in terms of determining the effect of sales promotions on product preferences of consumers between the ages of 10-14.

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