
THE EFFECT OF ASTROLOGY ON YOUNG CUSTOMER BEHAVIORS

GULMEZ Mustafa

Akdeniz University, Antalya, Turkey

KITAPCI Olgun

Cumhuriyet University, Sivas, Turkey

DORTYOL Ibrahim Taylan

Cumhuriyet University, Sivas, Turkey

Abstract:

The main purpose of this study was to examine the effect of date-of-birth on consumption behaviors of young people. A face-to-face interview survey is conducted to collect data. SPSS 18.0 for Windows was used for data analysis. Descriptive statistics such as means, frequencies, ANOVA tests and Chi-square tests were calculated. The findings pointed out that the young consumers on fire group (Aries, Leo, and Sagittarius) take more instant and impulsive purchase actions. It is a new study about the effect of astrology on young customer behaviors. It presents valuable information that can assist marketers to understand young customers' consumption behaviors.

Keywords: Astrology, Marketing, Young Consumers, Consumer Behaviors, Buying Behaviors

1. Introduction

The discipline of consumer behavior, which investigates the consumers' buying decisions, actions and process, has reached a position where it affects all the marketing actions. The marketers should know who the consumer is and what the internal and external factors that create the consumers are. That's because the consumer makes the buying decision with regard to the pressure of these factors.

The psychology and the sociology have been used to determine the internal and external factors. In general, the psychological or internal factors are personality, perception, attitude and motivation.

In the present search, the personality, as one of the internal factors, has been investigated in the concept of astrology and the effects of sun-signs on the buying attitudes have been measured.

2. Literature Reviews

Astrology, which can be seen as part of the wider sphere of cosmobiology, is described by Michel Gauquelin as “the art or science of describing the character or destiny of a person by observing the position of the stars at the moment of the person’s birth” (Mitchell, 1995:48).

The theories of astrology suggest that there is a significant relationship between the human characteristics and the positions of celestial bodies at the moment of birth. According to these theories, the factors that determine the person’s sun-sign are celestial bodies, sun, moon and other planets but the world. From this point, character explanations for each sun-sign were made. To test the validity of these explanations, some researchers have tried to explain the relationships between the sun-signs and the characteristics which were tested with reliable psychological tests (Clarke, Gabriels and Barnes 1996:131).

The most interesting studies that emphasize the effect in question are those which relate the sun-signs and sociability under cover of Eyscenk’s personality inventory (EPI). Accordingly; Aries, Gemini, Leo, Libra, Sagittarius and Aquarius are positive and outward-oriented sun-signs, while the other six sun-signs; Taurus, Cancer, Virgo, Scorpio, Capricorn and Pisces, are negative and inward-oriented.

Although there is no evidence to prove the reliability of the astrology to estimate the future, it is obvious that the astrology has significant effect on the self-explanation of the person. The self-perception with regard to the sun-sign is called as “Barnum effect”. For example, when a Virgo person reads the characteristics of his/her sun-sign, in here it may be social oriented, he/she will define himself/herself as a outward oriented person to prove the characteristic of the sun-sign.

The sun-signs are grouped with various ways. The four triplicities that indicate the nature of particular sun-signs are fire, earth, air and water (Mitchell, 1995:52). In Table 1, the main characteristics of four triplicities are summarized. The label of fire comes from the related sun-signs’ characteristics like as being enthusiastic, energetic and creative. Power and expression of the self are in the foreground in this group. The sun-signs of the earth triplicity; Taurus, Virgo and Capricorn have a steady and stable structure. The features like as practical ability and need of trust are noteworthy in this group. The Gemini, Libra and Aquarius, which are the most intellectual and communicative sun-signs, are labeled as air triplicity. The acts of thinking and learning appear more intensely in this group. The last triplicity, water, consists of Cancer, Scorpio and Pisces which have an emotional structure. In this group, the tendency of understanding people via emotional contacts is seen clearly (Fletcher, 2009: 119). Besides, the sun-signs of water triplicity are more emotional than the others (Eyscenk, Mayo and White, 1978: 233).

Table I		
The Triplicites and Their Characteristics		
Groups	Sun-signs	Characteristics
Fire	Aries, Leo, Sagittarius	Enthusiasm, inspiration
Earth	Taurus, Virgo, Capricorn	Practical ability, stability
Air	Gemini, Libra, Aquarius	Intellectual ability
Water	Cancer, Scorpio, Pisces	Intuition, sensitivity

Source: Mitchell, 1995:53.

Astrology is an interesting topic for its effect on personality and buying behavior. Besides, with regard to the recent empirical evidences, it can be suggested that the concept of date-of-birth has significant effects on purchase behavior (Mitchell and Tate, 1998). The other effects of astrology on consumption and the psychology of consumer make it usable on marketing area (Mitchell and Haggett, 1997:115). The marketing uses of sun-sign astrology can be summarized as follows (Mitchell, 1995:50-55; Mitchell and Haggett, 1997:120):

- Astrological segmentation; it may be used as a psychographic tool. Because of the data on person's date-of-birth is acquired easily, this segmentation method may be less expensive and more easily.
- Specific marketing communications; it suggests that different promotional messages for different sun-sign characteristics will have positive returns. For example, a Taurus person may be impressed with messages that emphasize security because of its steady and home-loving characteristics. Besides, a Capricorn may react positively toward the price reductions. Astrological personality assessments may also be used in indirect communication with target groups via the elements like as symbols, colors and voices.
- Determining product features; the psychographic data which are acquired with astrology may be used to make products that conform to the lifestyles of the target group.

In most studies which search the effect of personal characteristics on consumers' buying attitudes, it is concluded that the psychological personal characteristics like as self-confidence, outwardness, inwardness, sensuality and lack of control of motives are important deterministic on buying attitudes (Faber and O'Guinn, 1989:156).

Impulsive buying and compulsive buying are the examples of buying models that are linked with consumers' personal characteristics. Impulsive buying is an unplanned and irrational buying behavior that occurs with the emotional reactions of consumers towards the stimuli like as product, package and point-of-sale presentation (Gülmez and Dortyol, 2009:68-69). With impulsive buying, consumers behave careless against the negative conditions of their buying process (Rook and Fisher 1995:306). Compulsive buying, which is seen by consumers as a way to escape from daily worries (De Sarbo and Edwards 1996:235), is defined as an uncontrolled spending way that is evolved as a reaction to the negative mood of consumer (Faber and O'Guinn, 1992:459). When consumer cannot control buying motives, a chronic uncontrolled

situation stands out and the impulsive buying patterns turn into the compulsive buying patterns (Faber and O'Guinn, 1992:467).

If the companies wish to increase the impulsive buying situations, then, they have to create an atmosphere that reduces the negative feelings which are resulted after the impulsive buying behavior (Hausman, 2000:414). Besides, the companies, which recognize the compulsive buying behavior, may increase their sales if the related mood is used strategically in in-store sales techniques and promotions (Shoham and Brencic 2003:134).

3. Hypotheses of the Research

The hypotheses of the present search are related with the relationship between sun-sign of consumers and their shopping attitudes. Chi-square test and ANOVA test were used to analyse the hypotheses.

H₁: There is a relation between zodiac groups and adhoc spending habits of respondents

H₂: There is a relation between zodiac groups and money spending habits of respondents.

H₃: There are differences between zodiac groups and shopping habits of respondents.

4. The Purpose and Importance of Research

This paper aims to measure the effects of sun-signs, which are believed as a reflector of the personality, on consumer behaviors. In this context, with regard to the information that if the consumers make the buying decision suddenly or planned, the buying patterns are tried to determine. In the literature, there is only a few research related with sun-signs and consumer behavior. Therefore, this study is believed as a guide for the papers that focus on the reasons of the consumer behaviors. The study area is restricted with Sivas city, and the other cities are kept out of the search area.

5. Methodology

The survey questionnaires consisted of two parts. Part one includes statements measuring shopping habits. They were adapted from The Impulsive Buying Scale of Rook and Fisher (1995) and the Compulsive Buying Scale of D'Astous ve Fortier (1988). Part two includes questions about respondents' demographic profile. In part one, a five-point Likert scale (Likert, 1934) was used for data collection with "1" as "Strongly Disagree" and "5" as "Strongly Agree". The data were collected from graduate students of Universities in Turkey. A simple random sampling technique was used. Nakip (2003:198) defines quota sampling as "the population is first segmented into mutually exclusive sub-groups, just as in stratified sampling. Then judgment is used to select the subjects or units from each segment based on a specified proportion." The developed questionnaire was pilot tested in earl-January 2011 on 10

consumers. Respondents in the pilot test did not have any problem with the questionnaire and they suggested a few minor changes on wordings.

After the pilot test, in April 2011 a large-scale consumer questionnaire surveyed by five students. They interviewed with 445 consumer in all and at the end of the interview period, 442 usable questionnaires were collected. Face-to-face interviews were conducted in order to ensure a high response rate and to reduce the missing data in the questionnaire. In all, 442 questionnaires were found to be useful which represents a 99 percent response rate. The questionnaire was in Turkish.

SPSS 18.0 for Windows was used for data analysis. Descriptive statistics such as means, frequencies, t and ANOVA tests and Chi-square tests were calculated.

6. Findings of the Research and Evaluation

Demographic findings of the study are shown in Table II.

Table II Demographic Characteristics of Respondents					
Age	Frequency	Percent	Monthly Income (Turkish Lira)	Frequency	Percent
18–21	310	70	100–400	287	65
22–24	124	28	401–700	137	31
25 and over	8	2	701 and over	18	4
Total	442	100	Total	442	100
Gender	Frequency	Percent	Sciences	Frequency	Percent
Male	259	59	Social Sciences	186	42
Female	183	41	Life Sciences	194	44
Total	442	100	Health Sciences	62	14
			Total	442	100

The general demographic structure of the respondents is as follows: 70% of the respondents are at the age between 22 and 24, 65% have 100 Turkish Liras (TL) to 400 TL income per month, 59% are males and 44% of the respondents' working area is life sciences.

The sun-signs distribution of the respondents is presented at Table III.

Table III		
Signs	Frequency	Percent (%)
Scorpio	25	6
Leo	31	7
Pisces	49	11
Virgo	38	9
Taurus	49	11
Gemini	39	9
Aries	46	10
Aquarius	37	8

Capricorn	27	6
Libra	38	8
Sagittarius	29	7
Cancer	33	8
Total	441	100

Accordingly the most common sun-signs are Pisces (11%) and Taurus (%11). Scorpio (6%) and Capricorn (6%) are the sun-signs that are seen in at least. Besides the distribution of the related Zodiac Groups, which are presented at Table IV, points out an equal range.

Table IV		Respondents' Zodiac Groups	
Zodiac Groups	Frequency	Percent (%)	
Fire	106	24	
Earth	114	26	
Air	114	26	
Water	107	24	
Total	441	100	

The results of chi-square test, which is done to investigate a significant relationship between instant spending habits and zodiac groups, are shown at Table V.

Table V Relationship Between Zodiac Groups and Adhoc Spending Habits of Respondents										
<i>I have a feature that makes me shop impulsively.</i>	Zodiac Groups									
	Fire		Earth		Air		Water		Total	
	f	%	f	%	f	%	f	%	f	%
Agree	38	52	30	33	27	35	23	29	118	37
Disagree	34	48	62	67	51	65	57	71	204	63
Total	72	100	92	100	78	100	80	100	322	100

(*) Pearson Chi-square was used in this analysis. [Chi²= 16,008, sd=6, p=0,014]

According to the related table, there is a significant relationship between two variables (p-value 0,014<0,05) which states thatthe respondents of fire group make their purchase decisions more instantly.

At Table VI, a similar analysis' results are presented. This time, zodiac groups and spending habits are investigated and no significant relationship is found.

Table VI Relationship Between Zodiac Groups and Money Spending Habits										
<i>When I have money, I cannot help but spend whole of it.</i>	Zodiac Groups									
	Fire		Earth		Air		Water		Total	
	f	%	f	%	f	%	f	%	f	%
Agree	26	35	35	39	29	38	35	42	125	39
Disagree	49	65	54	61	48	62	48	58	199	61
Total	75	100	89	100	77	100	83	100	324	100

(*) Pearson Chi-square was used in this analysis [Chi²= 5,443, sd=6, p=0,488]

Results of descriptive statistics and Cronbach's Alpha are illustrated in Table VII. This data indicates that young consumers placed highest marks for the following statements: "I feel a little guilty after I purchased an unnecessary product" (μ :3,93), "I plan most of my purchases carefully" (μ :3,55), and "I avoid purchasing the products that are not in my shopping list" (μ :3,42). Generally, arithmetic means of model variables are in range from 1,86 to 3,93. On the other hand, standard deviations of individual statements range from 1,128 to 1,525. Finally, an adequate level of reliability is notable among all variable (Cranbach'a Alpha= 0,872).

Table VII Variables	Cranbach' Alpha Coefficient Value, Means and Standard Deviations		
	n	Mean	Std.Dv
I feel a little guilty after I purchased an unnecessary product.	436	3,93	1,128
I plan most of my purchases carefully.	431	3,55	1,133
I avoid purchasing the products that are not in my shopping list.	438	3,42	1,253
I purchase the product that I really interest without considering the results.	438	3,40	1,324
There are times that I have intensive desire to shop.	437	3,26	1,431
When I go to shop, I purchase the products that I do not think to purchase.	432	3,06	1,254
It is a pleasure to shop as the way I want.	437	3,01	1,316
Most of the time, I shop just because I want.	441	2,83	1,345
For me, shopping is a way to face with my daily stresses and to relax.	411	2,82	1,384
There are times that I have bought a product that I did not need, while knowing I had very little money left.	442	2,73	1,525
(to one who has credit card) I spend more just because the credit cards I have.	355	2,72	1,516
When I have money, I cannot help but spend whole of it.	411	2,71	1,313
I am often impulsive in my buying behavior.	411	2,68	1,281
I have a feature that makes me shop impulsively.	435	2,67	1,324

As soon as I enter a shopping center, I have an irresistible urge to go into a shop to buy something.	442	2,63	1,317
My mood does not affect my shopping rituals.	438	2,57	1,306
There is an undefined and sudden desire that leads me to shop frequently.	442	2,55	1,331
I am one of those people who are extravagant and spend unnecessarily.	440	2,53	1,280
The statement "I purchase what I see" just explains me.	433	2,21	1,258
The philosophy "Purchase now, think later" defines me.	428	2,17	1,256
Sometimes I do not show the products that I purchased just because of being afraid of to be perceived as a person who shops impulsively.	440	2,15	1,353
I am one of those people who often responds to direct mail offers.	440	1,86	1,203

Cronbach's Alpha= 0,872

1: Disagree, 5: Agree

An ANOVA test and in parallel with LSD test are done at significance level 0,05 to find out a significant relationship between the variables which are related with young consumers shopping attitudes and their zodiac groups. The Scheffe Test is processed to point out the zodiac groups in which the difference exists. The related results are presented as follows:

Variables Related to Shopping Habits	Zodiac Groups	n	Mean ^a	Std.Dv ^a	ANOVA	p
When I have money, I cannot help but spend whole of it.	Water	107	2,75	1,381	Not supported F= 0,062	0,980
	Air	114	2,68	1,271		
	Fire	106	2,68	1,269		
	Earth	114	2,69	1,344		
I am often impulsive in my buying behavior.	Water	106	2,61	1,306	Not supported F= 0,544	0,652
	Air	114	2,66	1,240		
	Fire	107	2,81	1,318		
	Earth	114	2,63	1,271		
For me, shopping is a way to face with my daily stresses and to relax.	Water	106	2,90	1,380	Not supported F= 0,186	0,906
	Air	114	2,76	1,332		
	Fire	107	2,79	1,426		
	Earth	114	2,83	1,414		

There are times that I have intensive desire to shop.	Water	106	3,30	1,429	Not supported F= 0,121	0,948
	Air	114	3,28	1,386		
	Fire	105	3,19	1,475		
	Earth	112	3,27	1,452		
I feel a little guilty after I purchased an unnecessary product.	Water	105	3,95	1,155	Not supported F= 1,318	0,268
	Air	113	3,81	1,221		
	Fire	106	4,09	0,931		
	Earth	112	3,86	1,169		
Sometimes I do not show the products that I purchased just because of being afraid of to be perceived as a person who shops impulsively.	Water	106	2,04	1,294	Supported F= 4,330	0,005
	Air	114	2,50	1,489		
	Fire	107	2,16	1,333		
	Earth	113	1,88	1,216		
There is an undefined and sudden desire that leads me to shop frequently.	Water	107	2,67	1,358	Not supported F= 0,635	0,593
	Air	114	2,61	1,321		
	Fire	107	2,46	1,285		
	Earth	114	2,48	1,331		
As soon as I enter a shopping center, I have an irresistible urge to go into a shop to buy something.	Water	107	2,47	1,327	Not supported F= 0,757	0,519
	Air	114	2,66	1,302		
	Fire	107	2,71	1,310		
	Earth	114	2,68	1,332		
I am one of those people who often responds to direct mail offers.	Water	107	1,82	1,250	Not supported F= 0,232	0,874
	Air	113	1,83	1,149		
	Fire	106	1,94	1,264		
	Earth	114	1,84	1,164		
There are times that I have bought a product that I did not need, while knowing I had very little money left.	Water	107	2,77	1,508	Not supported F= 0,174	0,914
	Air	114	2,72	1,566		
	Fire	107	2,79	1,486		
	Earth	114	2,65	1,551		
I am one of those people who are extravagant and spend unnecessarily.	Water	107	2,65	1,332	Not supported F= 0,585	0,625
	Air	113	2,53	1,275		
	Fire	106	2,50	1,236		
	Earth	114	2,43	1,283		
(to one who has credit card) I spend more just because the credit cards I have.	Water	86	2,81	1,553	Not supported F= 0,761	0,516
	Air	96	2,78	1,537		
	Fire	83	2,77	1,484		
	Earth	90	2,51	1,493		
Most of the time, I shop just because I want.	Water	107	2,74	1,383	Not supported F= 0,706	0,549
	Air	114	2,86	1,375		
	Fire	107	2,97	1,285		
	Earth	113	2,75	1,340		
	Water	106	2,45	1,310	Supported	0,008

I have a feature that makes me shop impulsively.	Water	106	2,45	1,310	F= 4,010	0,008
	Air	110	2,62	1,313		
	Fire	106	3,04	1,287		
	Earth	113	2,58	1,328		
The statement "I purchase what I see" just explains me.	Water	104	2,13	1,175	Not supported F= 2,164	0,092
	Air	111	2,23	1,221		
	Fire	106	2,44	1,374		
	Earth	112	2,03	1,234		
The philosophy "Purchase now, think later" defines me.	Water	105	2,09	1,161	Not supported F= 2,132	0,096
	Air	111	2,04	1,213		
	Fire	105	2,43	1,372		
	Earth	107	2,12	1,249		
My mood does not affect my shopping rituals.	Water	106	2,60	1,357	Not supported F= 1,662	0,175
	Air	113	2,39	1,285		
	Fire	107	2,78	1,298		
	Earth	112	2,54	1,273		
I plan most of my purchases carefully.	Water	105	3,70	1,136	Not supported F= 1,615	0,185
	Air	112	3,46	1,106		
	Fire	105	3,66	1,045		
	Earth	109	3,42	1,227		
When I go to shop, I purchase the products that I do not think to purchase.	Water	105	3,02	1,323	Not supported F= 0,261	0,853
	Air	109	3,14	1,251		
	Fire	106	3,09	1,284		
	Earth	112	3,01	1,174		
I purchase the product that I really interest without considering the results.	Water	107	3,37	1,350	Not supported F= 0,898	0,442
	Air	113	3,35	1,328		
	Fire	106	3,58	1,330		
	Earth	112	3,32	1,289		
It is a pleasure to shop as the way I want.	Water	107	2,96	1,310	Not supported F=-0,992	0,396
	Air	113	2,88	1,330		
	Fire	106	3,02	1,331		
	Earth	111	3,17	1,292		
I avoid purchasing the products that are not in my shopping list.	Water	106	3,57	1,235	Not supported F= 0,716	0,543
	Air	113	3,40	1,264		
	Fire	107	3,33	1,287		
	Earth	112	3,38	1,232		

(a: Ölçek aralığı- 5: Kesinlikle Katılıyorum,- 1: Kesinlikle Katılmıyorum, $p < 0,05$)

Accordingly, significant differences are found at the statements "Sometimes I do not show the products that I purchased just because of being afraid of to be perceived as a person who shops impulsively", and "I have a feature that makes me shop impulsively".

Table IX Scheffe Results Shopping Habits vs. Zodiac Groups

Variables	Zodiac Groups	Mean	Mean Difference	Stad. Error	Sig.
Sometimes I do not show the products that I purchased just because of being afraid of to be perceived as a person who shops impulsively.	Earth	1,86	-0,615	0,178	0,008
	Air	2,50			
I have a feature that makes me shop impulsively.	Water	2,45	0,585	0,180	0,015
	Fire	3,04			

At the statement of “*Sometimes I do not show the products that I purchased just because of being afraid of to be perceived as a person who shops impulsively*” the significant difference is in the question for zodiac groups Earth and Air. The young consumers of Air groups agree this statement more than the zodiac group Earth. For the other statement, “*I have a feature that makes me shop impulsively*” Water, and Fire zodiacs are came forward after the analysis. Accordingly, Fire groups approach more positively than the Waters (Table IX).

7. Conclusion and Suggestions

On the essence of the discussions that are related with the importance of the usage of astrology on marketing, the purposes of better understanding of consumer and developing marketing mix and communication place (Mitchell, 1995: 50).

The consumer behavior on marketing is mostly investigated to find out the purchase reasons of consumers. The way to determine these reasons is to recognize the consumers. Therefore, recognizing the consumers and satisfying their wishes have become the main duties of nowadays’ marketers. On the recognition process, just hearing of the demographic characteristics is not enough. Besides, the psychological factors those affect the buying behavior of consumers like as perception, attitude, personality, and motivation are needed to investigate.

In the present search, a relationship between the psychological and astrological personality characteristics of consumers is built and the reflections of the relation in question on shopping behaviors are investigated. Analyses are done on the basis of date-of-birth, the simplest aspect of astrology. If a deeper analysis is done to get the data related with the features like rising sun and azimuth, more information will be available. However, birth place and the certain birth hours of the persons should be known for this complicated astrological analysis. The problems to reach this information and its applicability on marketing area lead us to use only the date-of-birth information.

When the concept of date-of-birth is interpreted in the context of astrology, it ensures to get psychological data from demographics (Mitchell and Tate 1998: 249).

In this search, which is related to point out a relationship between young consumers shopping attitudes and their sun-signs, a face-to-face interview is made with university students. In the first phase of the study, the demographics are identified.

The 51% of the respondents states that the mood does affect their shopping rituals. Accordingly, it can be said that the mood of the consumers is an important variable on shopping process.

In the light of another finding of the search, it is emerged that most of the young consumers plan their purchases carefully. This may be accepted as a positive situation for their future purchases.

The findings related with the credit card usage introduce that 32% of the respondents spend more just because the credit cards and 48% act more carefully when they pay with credit cards.

With the chi-square tests a significant relationship between instant buying habits and zodiac groups is found. Hereunder, the young consumers of Fire group (Aires, Leo, Sagittarius) spend more instantly, unplanned and with quick decisions. The enthusiastic and energetic structure of these sun-signs and the feature of quick decision making may be reasons of their instant buying behaviors. The Waters (Cancer, Scorpio, Pisces) is the zodiac group which have the least tendency on instant buying. The characteristics of Waters like as being sensitive and intuitive may lead them to purchase consideringly.

The results of the ANOVA test point the Fire group as the zodiac group which spends impulsively most, and lose consciousness while shopping with regard to the Waters especially.

Results from this study show that date of birth may affect some people's behavior in some market situations. This suggests that some people may be more prone to astrological influence than others and therefore marketers can make astrological segmentation for success in the market.

8. References

- Clarke, D., T. Gabriels, and J. Barnes. (1996). "Astrological signs as determinants of extroversion and emotionality: An empirical study". *Journal of Psychology*.130(2),131–140.
- De Sarbo and W. E. Edwards. (1996). "Typologies of compulsive buying behaviour: A constrained clusterwise regression approach". *Journal of Consumer Psychology*. 5(3), 231–262.
- Faber, R. J. and T. C. O'Guinn. (1989). "Compulsive buying: A phenomenological exploration", *Journal of Consumer Research*. 16. 147–157.
- Faber, R. J. and T. C. O'Guinn. (1992). "A clinical screener for compulsive buying". *Journal of Consumer Research*. 19. 459–469.
- Fichten, C. S., B. Sunerton(1983). "Popular horoscopes and the Barnum effect". *Journal of Psychology*.114. 123–134

- Fletcher, R. (2009) "The Geometry of the Zodiac". *Nexus Network Journal*, 11(1), 105- 128
- Fuzeau-Braesch, S. (1997) "Astrology and sociability". *Journal of Scientific Exploration*. (11)3, 297–316
- Gülmez, M. and İ. T. Dört Yol, (2009). *Açıklamalı Pazarlama Sözlüğü*, Detay Yayınları.
- Hartmann, P. , M. Reuter, and H. Nyborg, (2006). "The relationship between date of birth and individual differences in personality and general intelligence". *Personality and Individual Differences*. 40. 1349- 1362.
- Hausman, A. (2000). "A multi-method investigation of consumer motivations in impulse buying Behaviour." *Journal of Consumer Marketing*.17(5), 403–419
- Kavak, B.(2008) *Pazarlama Araştırmaları -Tasarım ve Analiz*Hacettepe üni. Yay.
- Likert, Rensis (1934), "A simple and reliable method of scoring the turnstone attitude scales", *Journal of Social Psychology*, v.5, p.228.
- Mayo, J. , D. White, and H. J. Eysenck, (1978). "An empirical study of the relationship between astrological factors and personality". *Journal of Social Psychology*. 105. 229–236
- Mitchell, V-W. (1995). "Using astrology in market segmentation". *Management Decision*. 33(1),48–57
- Mitchell, V-W and S. Hagget. (1997). "Sun sign astrology in market segmentation". *Journal of Consumer Marketing*. 14(2), 113–131
- Mitchell, V-W. , E. Tate. (1998). "Do consumer's star signs influence what they buy?" *Marketing Intelligence & Planning*. 16(4) 249–259
- Nakip, Mahir (2003), *Pazarlama Araştırması: Teknikler ve Uygulamalar*, First Ed. Seçkin Yayıncılık, Ankara.
- Rook, D. W. and R. J. Fisher. 1995. "Normative Influences on Impulsive Buying Behaviour", *Journal of Consumer Research*, 22. 305–313
- Shoham, A. and M. M. Brencic. (2003). "Compulsive Buying Behaviour", *Journal Of Consumer Marketing*. 20(2), 127–138
- Vohs K.D. and Faber R.J. (2007). "Spent Resources: Self-Regulatory Resource Availability Affects Impulse Buying", *Journal Of Consumer Research*, 33. 537–547.