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IMPACT OF GENDER AND AGE ON SUSCEPTIBILITY TO PERSUASION PRINCIPLES IN ADVERTISEMENT

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ABSTRACT. This investigation has two aims: to study the susceptibility of young consumers to persuasion principles of Cialdini and to identify which principles achieve a powerful effect of memory through advertising in consumers of different genders and ages. The instrument used is the adapted and modified STPS questionnaire, developed by Kaptein et al., as well as the subjective judgments of respondents about the degree to which they remember advertisements based on persuasion principles. The results of the regression analysis show that social proof is the only principle of persuasion whose persuasive power does not correspond to that of three principles: principle of reciprocity, principle of commitment and consistency and principle of unity. Practical application of principle of commitment and consistency and principle of reciprocity is more persuasive in uniform advertising when gender and age characteristics of the target groups are not taken into account. The causal link between the principle of social proof and memorization of advertising is established, where persuasion is done in a peripheral route, although consumers are susceptible to other principles. Ranking of the principles has established that the principle of commitment and consistency achieves greatest effectiveness in both genders, while the principle of reciprocity is most effective for women and the principle of authority - for men. Regarding the age groups, the following principles are observed: 18 to 20 - principle of social proof; 21 to 24 - principle of unity, and 25 to 35 - principle of commitment and consistency. Different consumer susceptibility to persuasion can be achieved in the studied age groups on a peripheral route with higher efficiency in women. This study is useful for organizations that offer different products and services through advertising.

JEL Classification: D20,
M31, M37

Keywords: persuasion principles, advertising influence, STPS, advertisements in Bulgaria.

Introduction

Advertising communication is an essential element of the overall communication activities of organizations and a creative strategy for mass communication (Krastev, 2000). The main goal of advertising communication is persuasion by influencing the attitudes and orientation of consumer behavior towards specific goods and services. Advertising exerts influence by transmitting a message to a certain group, which, if perceived, will encourage customers to seek company products and services (Zhelev, 2013). In recent decades, many psychological studies have discussed persuasion methods and persuasive technological systems (Fogg, 1999, Fogg 2002, Fogg 2009), mainly in scientific fields such as marketing (Kotlar, 2007a, Kotlar, 2007b), advertising, and social platforms for the sale of goods and services (Cialdini, 2001; Cialdini, 2007; Cialdini, 2016; Cialdini, 2021).

The paper is organized as follows: first section reviews previous literature on persuasion principles and their application, paying special attention to classifications and role of persuasion principles in various areas of life. In line with this review, the hypothesis is formed regarding the impact of gender and age on the susceptibility to persuasion principles in advertisement. Next, section 2 and 3 describe the methodology employed in the study and its main findings about persuasion principles, measured by gender and age. Finally, section 4 is devoted to discussing the results obtained and summarizing the conclusions of the research.

1. Literature review

Persuasion is often defined as a social influence to change a person's ideas, behavior, or attitudes due to real or imagined external pressure (Cialdini, 2001). In the literature, social influence is interpreted in terms of conformism when referring to changes in behavior, and in terms of persuasion when manifesting in changes in attitudes and persuasions. These two types of change are also the focus of "persuasive marketing and advertising communication" (Kotlar, 2007a, p. 34), through which goods and services are presented to be "embedded" in the minds of a large number of customers (Reeves, 1994, p. 25). Such "embedding" is inevitably based on various principles and strategies of persuasion, which applied in advertising communication are likely to cause targeting of consumer decisions to advertised products as desired or necessary (Sofia, Marianna, George & Panos, 2016, cited by: Alslaity & Tran, 2020). Some studies provide evidence that persuasive statements are likely to work as explanations for the choice of advertised objects (Gkika & Lekakos, 2014).

A number of authors have developed universal classifications of persuasion principles that can be applied in human communication (Cialdini, 2001, 2007, 2016, 2021; Fogg 1999, 2002, 2009; Hoy & Smith, 2007). There are also good attempts to operationalize and verify methodological tools that allow measuring individual differences in people's susceptibility to persuasion by applying different persuasion principles. Kaptein, Markopoulos, Ruyter and Aarts (2009) created the STPS scale, using Cialdini's classification of persuasion principles as a theoretical basis (Kaptein, Markopoulos, Ruyter & Aarts, 2009). The degree of susceptibility to persuasive influence is established through subjective self-reports of the respondents, in the context of individual accompanying circumstances in which they are hypothetically placed. This scale can be used as a tool by designers of persuasive systems, but also by researchers in the field of psychology of influence (Fogg, 1999). In *Table 1* an attempt has been made to unify the most frequently used classifications of the principles of influence. The correctness of the study requires an understanding of the essence of each principle, as well as the psychological mechanism of its manifestation in various forms of communication. As a result of logical and substantive summary, a total of 10 persuasion principles can be differentiated, the first 7 of which are more widely shared by researchers and will be analyzed in the present study, and the

last 3 are present in the classification of only one author, and they do not include in this study (Table 1).

Table 1. Summary of classifications of persuasion principles

Researcher	Grouping of persuasion principles	Generalized group
R. Chaldini B. Fogg W. Hoy	Principle of reciprocity People have a tendency to pay back favours done to them) (Chaldini, 2001, p. 75). After you receive a favour via computer, you must pay it back in some way (Fogg, 2002, p.108). Individuals feel obligated to return a good deed; people help those who help them (Hoy, 2007, p. 159). Principle of praise (Praise from a computer would generate positive effects similar to praise from people) (Fogg, 2002, p.103).	1.Principle of reciprocity
R. Chaldini W. Hoy	Principle of commitment and consistency People align with their clear commitments (Chaldini, 2001, p. 76). Individuals are motivated to act on the basis of their public commitments (Hoy, 2007, p. 160).	2.Principle of commitment and consistency
R. Chaldini B. Fogg W. Hoy	Principle of authority People defer to experts (Chaldini, 2001, p. 77). Authority roles in a computer gain the automatic influence that comes with being in a position of authority (Fogg, 2002, p.111). Principle of expertise - Individuals defer to those with demonstrated expertise (Hoy, 2007, p. 161). Principle of trust (Individuals follow those whom they trust) (Hoy, 2007, p. 162).	3.Principle of authority
R. Chaldini W. Hoy	Principle of scarcity People want more of what they can have less of) (Chaldini, 2001, p. 78). Individuals desire what is scarce, not what is plentiful (Hoy, 2007, p. 161).	4.Principle of scarcity
R. Chaldini B. Fogg W. Hoy	Principle of liking (People like those who like them) (Chaldini, 2001, p. 74). Principle of attraction (Individuals are attracted to others who are similar to them) (Hoy, 2007, p. 158). Principle of physical attractiveness (Simply having physical characteristics is enough for a technology to convey social presence) (Fogg, 2002, p.92).	5.Principle of liking
R. Chaldini	Principle of social proof (People follow the example of most others) (Chaldini, 2001, p. 75). Principle of social proof (Fogg, 2002, p.92).	6.Principle of social proof
R. Chaldini W. Hoy	Principle of unity (This principle explains that persuasion can take place when the influencer and the influence share a same identity) (Chaldini, 2016, p. 101). Principle of similarity (People we think are similar to us, can motivate and persuade us more easily than people who are not similar to us. Similarity between computers and the people who use them) (Fogg, 2002, p.95). Principle of collegueship (Individuals listen to and follow the lead of respected colleagues) (Hoy, 2007, p. 160).	7.Principle of unity
W. Hoy	Principle of fairness (Individuals desire fair treatment) (Hoy, 2007, p. 162).	8.Principle of fairness
W. Hoy	Principle of self-efficacy (Individuals who are confident in the own ability usually succeed) (Hoy, 2007, p. 163).	9.Principle of self-efficacy
W. Hoy	Principle of optimism (Optimism enhances success) (Hoy, 2007, p. 163).	10.Principle of optimism

Source: *own compilation*

It should be clarified that in the present study - susceptibility to persuasion principles, is examined in persuasion, which takes place on a peripheral basis, when people are relatively uninvolved, use information that is easier to assimilate, and are more likely to pay attention to

peripheral information (Petty & Cacioppo, 1986b). The theoretical assumption is that persuasion principles are expected to have less influence in the central route of persuasion, where the types of arguments are most important, because the person is well aware of issues related to attempts to persuade, is motivated, able to reflect on the issue and is committed to the content of the communication (Petty & Cacioppo, 1986b).

Institutions, companies and organizations use advertising as one of the most successful methods of disseminating information over which they have complete control in terms of volume and content (Cutlip, Center & Broom, 2010). Companies use persuasion principles in creating advertisements, in their efforts to attract consumers' attention, influence them and guide consumer behavior (Cialdini, 2001; Guadagno and Cialdini, 2005). It is also important to note that some of the main authors of influence psychology discuss combining the persuasion principles as an opportunity to work as well as possible (Cialdini, 2007; Kaptein *et al.*, 2009), but there are no rules for combining them.

The persuasion principles (Cialdini, 2001; Cialdini, 2016) have been adapted from corporate communication in the field of marketing, becoming a common and widely used marketing tool (Tolken, 2017). According to Cialdini, Wosinska, Barrett, Butner and Gornik-Durose (1999), they are applied in a wide range of influential professions, with practitioners becoming more successful, than others who do not (Cialdini, Wosinska, Barrett, Butner & Gornik-Durose, 1999).

In the present study, an attempt is made to test the extent to which persuasion, based on the persuasion principles determines the effectiveness of advertising. One of the most commonly used criteria for the effectiveness of advertising, after the volume of sales, is its memorization (Spasova, 2020), and memorization is a condition for subsequent recognition (Starch, 1914). Memorization can be supported by specific means - an attractive character, brand, advertising appeal, etc., which not only present the product or service, but present elements of a desired, successful model of behavior (Spasova, 2021). These tools are necessary for the practical application of the principles of influence. When the consumer considers the choice of a product, the spontaneous recollection of the product or brand can guide the decision. The real effect of memorizing the advertisement is manifested when the user visits the store to search for the advertised product.

Different studies often focus on certain aspects of the impact achieved by advertising through different channels, but the problem of individual susceptibility to the principles of persuasion, as well as the factors that influence this and which principles achieve a higher degree of suggestibility than advertising, is not sufficiently studied (Cialdini, 2007; Cialdini, 2016; Cialdini, 2021). More recent advertising research confirms significant specifics in the perception of advertising by gender, depending on variations in accessibility (Chang, 2006), the way information is processed: men - selectively and objectively, and women - holistically and subjectively (Jung & Kellaris, 2004). In a previous study it was found that gender affects the valence (positive or negative) and the intensity (strong or weak) of reactions to advertisements (Spasova & Taneva, 2021). In addition, advertising researchers point out that the most effective are ads that focus on users of one gender but not on both sexes at the same time (Johnson, 2021; Darley & Smith, 2013; Wolin, 2003; Meyers-Levy & Sternthal, 1991; Rutledge, 2016). A number of authors have studied the influence of age on attitudes toward advertising and memory (McKay-Nesbitt, Manchanda, Smith & Bruce, 2011, p. 12). Empirical results are available that younger people remember emotional messages, especially negative ones, better than rational ones. Older people prefer rational and positive messages to negative-emotional messages, but attitudes toward advertising do not differ among younger people (McKay-Nesbitt *et al.*, 2011).

According to these previous researches, the researcher puts forward the following hypotheses:

Hypothesis 0: The gender and age of young consumers of products and services, presented in advertisements in Bulgaria, does not determine the specific features of susceptibility to persuasion principles.

Hypothesis 1: The gender and age of young consumers of products and services, presented in advertisements in Bulgaria, determine the specific features of susceptibility to persuasion principles.

In view of previous research on the effectiveness of advertising messages through persuasive principles, this paper seeks to prove empirically the different degree of susceptibility of consumers according to gender and age. The reason for conducting the study is that research on the influence of demographic characteristics on susceptibility to the principles of persuasion in advertising is extremely limited. The results of the present study are an attempt to supplement scientific information on these issues.

2. Methodological approach

The aim of the study is to examine the influence of gender and age on the sensitivity to the persuasion principles in advertising, when persuasion takes place in a peripheral route. A structured survey consisting of 75 items was used, implemented as an online questionnaire with three modules:

- 1) first module - demographic characteristics of the surveyed respondents in Bulgaria;
- 2) second module - STPS questionnaire or Susceptibility to Persuasion Strategies Scale, developed by Kaptein, Ruyter, Markopoulos and Aarts (2009). The proposed scale of Kaptein was adapted and modified by the author as follows: the principle of reciprocity, the principle of scarcity, the principle of commitment and consistency are formed by 5 statements (as in Kaptein); the principle of authority consists of 4 statements in Kaptein and one added by the author of the present work; the principle of social proof consists of 4 statements in Kaptein and one added by the author of the present work; the principle of liking consists of 3 statements in Kaptein and 2 added by the author; the principle of unity is based on 5 statements - entirely proposed by the author of the present work.

This scale contains 35 items, (26 statements suggested by Kaptein and 9 statements that are authored), organized in 6 subscales (5 items in each subscale with good validity and consistency), corresponding to the susceptibility to persuasion through seven persuasion principles: principle of reciprocity (Cronbach α 0.73), principle of commitment and consistency (Cronbach α 0.62), principle of social proof (Cronbach α 0.64), principle of authority (Cronbach α 0.53), principle of scarcity (Cronbach α 0.51) and principle of liking (Cronbach α 0.61). The questionnaire is supplemented by another subscale, which also contains 5 statements operationalizing the susceptibility to persuasion by applying the principle of unity, which principle is further argued by Cialdini (Cialdini, 2016). The items operationalizing the susceptibility to persuasion through the principle of unity were developed for the purposes of the present study, and the subscale they form has an internal Cronbach α consistency of 0.64. The stated Cronbach α values can be considered acceptable for scales with less than 10 items (Ganeva, 2016), such as the subscales in STPS. The validity of the whole questionnaire (Cronbach α 0.73) also shows good reliability of the scale for the sample studied. The respondent answered a total of 35 questions on a five-point Likert-type scale, which includes grades from 1 - I do not agree, to 5 - I agree.

- 3) third module – Advertising effectiveness, which is a questionnaire measuring the subjective judgments of respondents about the degree to which they remember advertisements, based on persuasion principles, i.e. the criterion for effectiveness of advertisement is the degree to which respondents remember them, according to their subjective statements. This module was developed for the purposes of this study. It contains 7 statements corresponding to the

STPS subscales appearing in the advertisements: “I remember advertisements for products or services”: 1. Which offer discounts, gifts or I feel special (advertising effectiveness, based on the principle of reciprocity); 2. Which allow me to plan and pursue a goal (advertising effectiveness, based on the principle of commitment and consistency); 3. In which the advertisers are people I like (effectiveness of advertising, based on the principle of liking); 4. Enjoyed by people like me (effectiveness of advertising, based on the principle of unity); 5. Presented to me by competent people (effectiveness of advertising, based on the principle of authority); 6. Which can be quickly depleted (advertising effectiveness, based on the principle of scarcity); 7. Which show that these products and services are the most purchased (effectiveness of advertising, based on the principle of social proof).

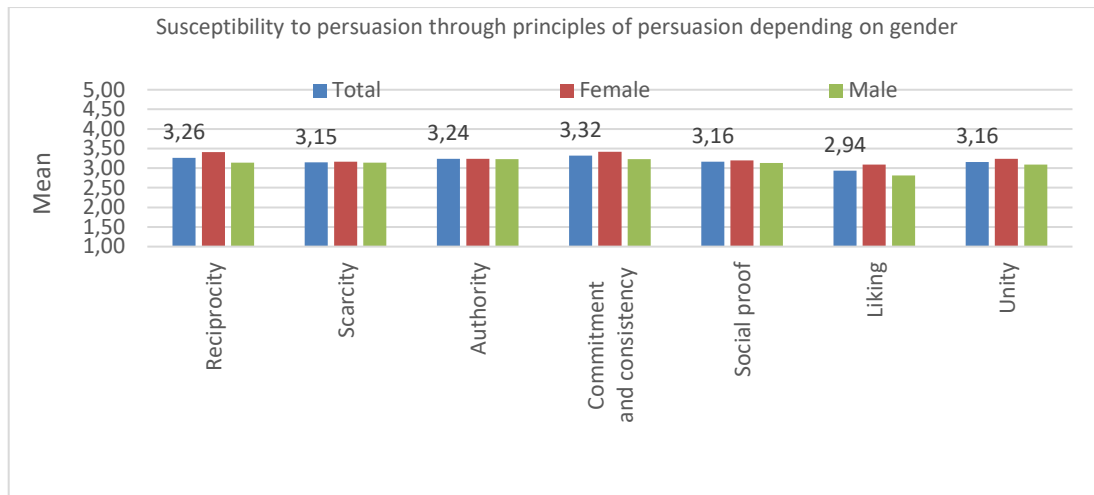
3. Conducting research and results

The survey was conducted from the beginning of 2020 to the beginning of 2021. Self-reported data was collected from a total sample of 300 students from Bulgarian regions – Sofia, Plovdiv and Stara Zagora, ensuring a size for a representative 95% (being $e = \pm 5\%$; $p = q = 0.50$). Respondents were randomly selected from general population according to real distributions by gender and age - students of economics, full-time education (66.9%) and part-time education (33.1%) from universities in Bulgaria – Sofia University, Plovdiv University and Trakia University. Each case from the general population is equally likely to be included in the study. All students were asked by e-mail to complete an online questionnaire. The survey was conducted on an anonymous and voluntary basis. About 17% of students answered less than half of the questions, which is why their surveys were canceled and their data were not processed. Based on these criteria, the total sample comprised 44.8% are men (134,4 people) and 55.2% are women (165,6 people), aged 18 to 35 years old ($M=44.28$). By age group, 25.6% were aged 18 to 20 years old, 51.4% were aged 21 to 24 years old, and 23% were 25 to 35 years old.

The data were processed with the SPSS 19.0 statistical analysis package. The following basic statistical analyzes were used: Descriptive analysis of frequencies and averages; One-way analysis of variance ANOVA to study the influence of gender and age on the susceptibility to persuasion based on the principles of influence, as well as on the memory of advertisements; Pearson's correlations to reveal the strength of the relationship between both the variables and the items that make up the factors (formed scales and subscales); Regression analysis to establish the causal relationship between the susceptibility to persuasion based on the principles of influence and the effectiveness of advertising; Student-Fischer t-test on the statistical significance of the differences between the mean values for the groups formed by gender and age and between the variables constituting the STPS scales and "advertising effectiveness" (Ganeva, 2016).

3.1. Influence of gender on susceptibility to persuasion principles and the effectiveness of advertising

Susceptibility to influence, based on different persuasion principles is visualized in *Graph 1*, and the data are presented in *Table 6*. In addition to the gender averages, the average values for the whole sample are presented, which allows us to conclude that in general the susceptibility to persuasion, based on different persuasion principles is average in degree.



Graph 1. Susceptibility to influence, based on different principles of the Cialdini classification
Source: *own data*

It can be seen from *Graph 1* and *Table 2*, that the average values of the subjective susceptibility to persuasion through all principles are higher in women than those in men.

For greater clarity of the analysis, ranking according to the susceptibility to persuasion, by applying the persuasion principles, was performed for the respondents of both genders.

Table 2. Ranking the persuasion principles according to the strength / degree of persuasion in men and women

Female		Correspondences / differences in ranks		Male		
Susceptibility Mean	Rank	Persuasion principles		Persuasion principles	Rank	Susceptibility Mean
3,42	1	Commitment and consistency	↔	Commitment and consistency	1	3,23
3,41	2	Reciprocity	↔	Authority	2	3,23
3,24	3	Authority	↔	Reciprocity	3	3,14
3,24	4	Unity	↔	Scarcity	4	3,14
3,20	5	Social proof	↔	Social proof	5	3,13
3,17	6	Scarcity	↔	Unity	6	3,09
3,09	7	Liking	↔	Liking	7	2,81

Source: *own data*

These results support a number of empirical studies establishing a higher susceptibility of women to suggestion, according to which in the processing of information women respond more positively to subjective information, while men respond more positively to objective information (Darley and Smith, 2013). As a result of these differences, men are often described as more analytical and logical in their orientation and information processing, while women are characterized as more subjective, emotional, interpretive and evaluative (Putrevu, 2001). It is therefore natural to expect that messages, based on persuasion principles will have a greater impact on women. In addition, the principles implemented through more rational advertising content, would have a greater impact on men, and the emotional focus of the messages would be more persuasive among women.

According to the ranking presented in *Table 2*, the strongest persuasion among women is achieved by applying two principles: principle of commitment and consistency (mean is 3.42) and principle of reciprocity (mean is 3.41), which is the reason to it has been suggested that combining them, or combining them with one of the other five principles, may increase the effectiveness of persuasion. In men, persuasion is the same and strongest in the application of two principles, one of which, like women, is principle of commitment and consistency (mean is 3.23), but the second is principle of authority (mean is 3.23). The combination of them or their combination with the principles below in the ranking has the potential to increase the persuasiveness of advertising messages (*Table 2*). In the same ranks for both genders are three of the seven principles, according to the susceptibility to persuasion, based on them: principle of commitment and consistency (1 rank position), principle of social proof (5 rank position) and principle of liking (7 rank position) (*Table 2*). An empirical hypothesis can be made that persuasion through these principles is more universal, which is why they can be applied equally successfully to target groups of both genders in Bulgaria. Contrary to the stated influence of the above principles, the opinion of some contemporary authors examines how fearful romantic contexts affect the effectiveness of two widely used heuristics - social proof (e.g. "most popular") and scarcity (e.g. "limited edition"). The results support predictions from an evolutionary model, showing that fear can lead scarcity appeals to be counter-persuasive, and that romantic desire can lead social proof appeals to be counter-persuasive. The findings highlight how an evolutionary theoretical approach can lead to novel theoretical and practical marketing insights (Griskevicius, Goldstein, Mortensen, Sundie, Cialdini and Kenrick, 2009, p. 384). Therefore, future researches, as well as measurements of different advertisements, should focus on developing a more detailed scale for measuring the sensitivity of the subject to specific messages based on different persuasion principles and combinations thereof (Kaptein *et al.*, 2009).

In order to determine the influence of persuasion principles on the groups of respondents formed by gender, one-factor analysis of variance was applied (*Table 3*).

Table 3. Influence of gender on susceptibility to persuasion principles (ANOVA)

Susceptibility to persuasion principles	F	p	Mean (Male)	Mean (Female)
Principle of reciprocity	12.56	0.00	3.14	3.40
Principle of commitment and consistency	5.24	0.01	3.23	3.41
Principle of liking	13.91	0.00	2.81	3.09
Principle of unity	4.25	0.04	3.09	3.23
General susceptibility	13.39	0.00	3.11	3.25

Source: *own calculation*

The results show that gender influences both the susceptibility to persuasion through four of the seven persuasion principles and the general susceptibility to persuasion in a supposed direction. The susceptibility to persuasion achieved through the following principles: reciprocity, commitment and consistency, liking and unity, is statistically significantly higher in women than in men (*Table 3*). For the formed sample there are no statistically significant differences in gender, compared to susceptibility to three of the persuasion principles: principle of social proof, principle of authority, principle of scarcity. However, in order to formulate such an empirical hypothesis, future research is needed among larger and more diverse samples, in order to establish the mechanisms of the achieved influence in different advertising messages. The results of similar studies, which offer visitors to a museum advertising messages containing predictions of fear or romantic desire, indicate that calls containing information about fear are

more convincing for social proof, and those that contain romantic desire, reinforce the impact of the principle of scarcity (Griskevicius *et al.*, 2009, p. 391). Therefore, both the content of the message, which reaches the consumers of goods and services through advertising, and the circumstances of their transmission may increase or decrease the degree of impact achieved.

Gender also affects the effectiveness of advertising, based on two of the seven persuasion principles: liking ($F = 7.00$; $p < 0.05$) and social proof ($F = 12.81$; $p < 0.05$) (Table 4).

Table 4. Influence of gender on advertising effectiveness, based on principle of liking and social proof (ANOVA)

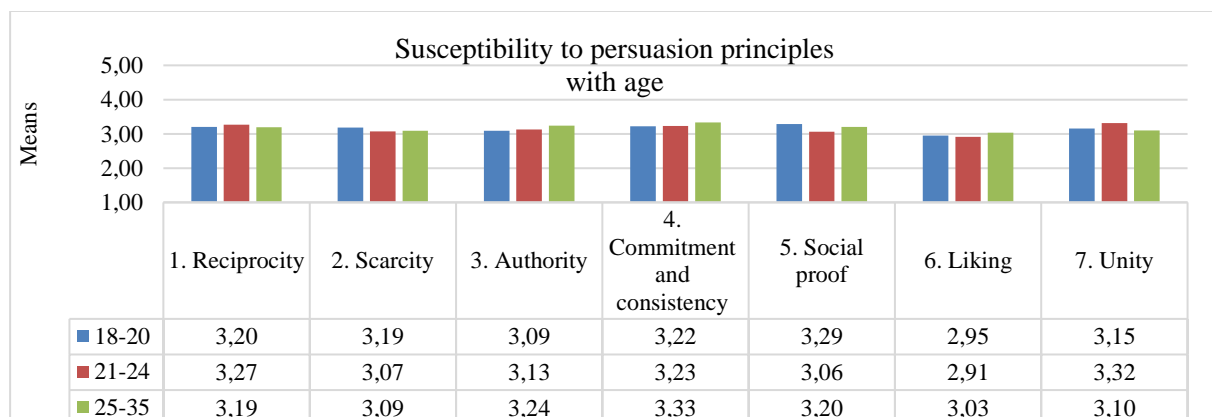
Advertising effectiveness, based on principles	F	p	Mean (Male)	Mean (Female)
Memorize an advertisement, based on principle: liking	7.00	0.008	2.63	3.08
Memorize an advertisement, based on principle: social proof	12.81	0.0003	3.16	3.75

Source: *own calculation*

As specified above, advertising effectiveness is considered as a result of memorizing advertising message. The results show that the effectiveness of advertising, based on these two principles is statistically significantly higher for women (Mean_(female) 3.08 and 3.75), than for men (Mean_(male) 2.63 and 3.16). In addition to confirming the trend of higher susceptibility to women and lower susceptibility to men, a comparison of the results in Table 3 and Table 4 shows, that in the peripheral route of persuasion, only the application of principle of liking is observed gender differences in both persuasiveness and advertising effectiveness. This conclusion can be used by marketers and advertising professionals, as the principle of liking is used to persuade mainly target groups of women and less often for advertising, intended for men.

3.2. Influence of age on susceptibility to persuasion principles and effectiveness of advertisements

Graph 2 visualizes the degree of susceptibility to persuasion of respondents from different age groups, applying each of the persuasion principles. If we compare the average values of STPS for each of the principles, it is clear that each of the principles of persuasion has a different effect on each of the three age groups (Graph 2).



Graph 2. Susceptibility to persuasive principles depending on age

Source: *own data*

The averages presented in the Data table in *Graph 2* are relatively close, except for the principle of liking, the susceptibility to which is significantly lower for all three age groups. This principle is also at the bottom of the ranking for the three age groups, presented in *Table 5*.

Table 5. Ranking persuasion principles according to persuasive power for different age groups

	18-20 years old	21-24 years old	25-35 years old
Persuasion principles	1. Social proof	1. Unity	1. Commitment and consistency
	2. Commitment and consistency	2. Reciprocity	2. Authority
	3. Reciprocity	3. Commitment and consistency	3. Social proof
	4. Scarcity	4. Authority	4. Reciprocity
	5. Unity	5. Scarcity	5. Unity
	6. Authority	6. Social proof	6. Scarcity
	7. Liking	7. Liking	7. Liking

Source: *own compilation*

For consumers aged 18 to 20, the following principles have the strongest impact: principle of social proof (Mean 3.29) present in advertisements, which shows consumers that the advertised products and services are sold the most; 2. principle of commitment and consistency (Mean 3.22), in advertisements that help the user to plan and pursue a goal; and 3. principle of reciprocity (Mean 3.20), in advertisements in which discounts or gifts are made when purchasing a product or service, and the customer is placed in a position to feel special (*Graph 2* and *Table 5*).

According to the principle of social proof, one way that individuals determine appropriate behavior for themselves in a situation, is to examine the behavior of others there, especially similar others (Cialdini, Wosinska, Barrett, Butner & Gornik-Durose, 1999). The reason is that people validate the correctness of their opinions and decisions (Festinger, 1954). This principle achieves its effectiveness in collectivist-oriented nations and individuals. Some evidence in this regard comes from a study by Han and Shavitt (1994), which shows that advertisements that promoted group benefits were more persuasive in Korea by pointing out the advantages to one's group of buying the advertised product (Han & Shavitt, 1994).

As opposed to the social proof principle (where in motivating information comes from the prior responses of one's peers), within the principle of commitment and consistency, the motivating information comes from one's own prior responses (Cialdini *et al.*, 1999, p. 1244). Physioc (2013) gives an example of the application of the principle of commitment and consistency in the field of online marketing - a website that requires its users to register to access the functions of this website, and later a subscription to receive significant for them information about desired products and services (Physioc, 2013).

The principles with the strongest persuasive influence for the age group from 21 to 24 are the following: 1. principle of unity (Mean 3.32), present in advertisements for products and services used by celebrities, similar in quality to consumers; 2. principle of reciprocity (Mean 3.27), in advertisements in which discounts or gifts are made when purchasing a product or service; and 3. principle of commitment and consistency, in advertisements that help the user plan and pursue a goal (Mean 3.23), (*Graph 2* and *Table 5*). In contrast to these principles, the principle of unity is based on the assertion that persuasion can take place when the influencer and the influencer share the same identity. The psychological mechanism is to achieve equality before real persuasion is achieved. It can be said that young people aged 21 to 24 are susceptible to persuasion when reaching unity with the communicator (Tolken, 2017). In addition, the strength of the source-receiver relationship is essential for the success of persuasion (Pornpitakpan, 2004; Brown, Broderick & Lee, 2007).

Respondents aged 25 to 35 are most likely to be persuaded of the following principles: 1. principle of commitment and consistency (Mean 3.33); 2. principle of authority (Mean 3.24), present in advertisements, in which competent people present products; and 3. principle of social proof (Mean 3.20), (*Graph 2* and *Table 5*). The respondents from this group are young, but already independent and active people, most of whom show a tendency to make commitments and their subsequent observance.

The principle with the strongest persuasive influence for the three groups is commitment and consistency, followed by the principles of reciprocity and social proof. The lowest degree of influence is achieved by the principle of liking (*Table 5*), as the liking principle states that “we most prefer to say “yes” to the requests of someone we know and like” (Cialdini, 2007, p. 167). This principle is very different from the principle of unity because in the case of the liking principle, it is about liking the person. In the case of the unity principle “it is about shared identity” (Cialdini, 2016, p. 175). Therefore, the application of this principle with other principles of persuasion leads to an increasing influence through advertising.

The results obtained differ significantly from those found in a survey among respondents in the age groups: 18 - 55 and 18 - 70 years, conducted by Ciocarlan, Masthoff and Oren (2019), according to which the principles of reciprocity and liking are most effective in persuasion, while the principles of authority and unity are the least effective principles of persuasion (Ciocarlan, Masthoff & Oren, 2019). Further research is needed to determine the reasons for these differences, taking into account other demographic or socio-psychological factors.

The results of the analysis of variance show that age has a statistically significant effect only on susceptibility to persuasion through the principle of social proof (*Table 6*).

Table 6. Influence of age on susceptibility to persuasion through principle of social proof (ANOVA)

Independent variable	Dependent variable	Mean	F, p	T-test
Age	Susceptibility to persuasion through principle of social proof	x_1 (18-20 years old) = 3.29 x_2 (21-24 years old) = 3.06 x_3 (25-35 years old) = 2.90	F=2.91 p=0.01	$t_{1,2} = 2.04$; $p < 0.05$ $t_{1,3} = 2.82$; $p < 0.005$

Source: *own calculation*

The youngest respondents aged 18-20 years were statistically significantly more susceptible to persuasion through the principle of social proof ($F = 2.91$; $p < 0.001$), compared to respondents from older age groups: 21-24 years and 25-35 years ($t_{1,2} = 2.04$; $p < 0.05$ and $t_{1,3} = 2.82$; $p < 0.005$; *Table 4*). The results obtained are a logical consequence of the more acute social needs of young people aged 18 to 20. These needs determine a stronger willingness of young people to follow the behaviour of those groups of consumers to whom, they would like to belong or whom they imitate. It is likely, that the principle of social proof is perceived as a criterion for the validity and correctness of the choice, and social platforms and intensive contacts in youth communities facilitate the formation of this belief (Physioc, 2013).

Age proves to be a factor in the effectiveness of advertisements, based on only one of the seven principles of influence - commitment and consistency (*Table 7*).

Table 7. Advertising effectiveness, based on the principle of commitment and consistency

Independent variable	Dependent variable	Mean	F, p	T-test
Age	Memorization of advertising, based on the principle of commitment and consistency	x_1 (18-20 years old) = 2.85	F=2.38 p=0.05	$t_{1,3} = 2.69$; $p < 0.05$
		x_2 (21-24 years old) = 2.81		$t_{2,3} = 2.58$; $p < 0.05$
		x_3 (25-35 years old) = 3.35		

Source: *own calculation*

The oldest respondents (aged 25 to 35) strongly stated that they remembered advertisements, based on the principle of commitment and consistency ($F = 2.38$; $p = 0.05$; $x_3 = 3.35$; (Table 5), compared to the two most young age groups ($t_{1,3} = 2.69$; $p < 0.05$ and $t_{2,3} = 2.58$; $p < 0.05$), (Table 5). An explanation for this result can be found in the theory of cognitive dissonance. In the context of this theory, the susceptibility to persuasion through the principle of consistency is explained by the inner need of individuals to maintain homogeneous and harmonious attitudes and beliefs (Festinger, 1957; Baca-Motes, Brown, Gneezy, Keenan & Nelson, 2013). Indeed, a stronger effort to maintain the consistency of already stable attitudes, is logical to assume for larger age groups. Conversely, it is logical for younger respondents to expect more unstable and changeable attitudes and views, due to the smaller and poorer life experience, their limited independence and their stronger factual dependence on significant others in the primary their environment (for example, dependence on financial, housing status, etc.). On the other hand, commitment and consistency addressed to a goal determine a sequence of actions and activities (Cialdini, 2007, p. 67), which, dictated by consistent attitudes, can further energize the behaviour of young and active respondents aged 25-35. Advertising practitioners can expect that respondents in the target age groups of 25 to 35 years will be particularly vulnerable to persuasion through specific advertisements, based on the principle of commitment and consistency. The use of such specific messages can increase the effectiveness of advertisements compared to more general, non-specific messages (Locke & Latham 2002; Baca-Motes *et al.*, 2013).

3.3. Susceptibility to persuasion and effectiveness of advertisements, based on persuasion principles for whole sample

The results of the Student-Fischer t-test for the statistical significance of the differences between susceptibility to persuasion through the different persuasion principles for the whole sample, are presented in Table 8.

It is noteworthy, that the use of the principle of liking, affects persuasion statistically significantly, less than the application of all other persuasion principles for the whole sample (Table 8). In addition, the application of the principle of commitment and consistency (Mean 3.33) affects persuasion statistically significantly more than the principles of scarcity (Mean 3.18; $t_{2,4} = -3.38$; $p < 0.00$), social proof (Mean 3.17; $t_{4,5} = 3.06$; $p < 0.05$) and unity (Mean 3.18; $t_{4,5} = 3.06$; $p < 0.05$), as well as the application of the principle of reciprocity (Mean 3.25), influences persuasion statistically significantly more, compared to the application of the principles of scarcity (Mean 3.18; $t_{1,2} = 2.19$; $p < 0.05$) and unity (Mean 3.18; $t_{1,7} = 1.99$; $p < 0.05$). Secondary, ranking would rank the principles of persuasion according to their strength of influence for the whole sample, as follows: respondents were most strongly influenced by the principles of commitment and consistency (Mean 3.33), principle of reciprocity (Mean 3.25) and principle of authority (Mean 3.23), and the weakest - with the application of the principle of liking (Mean 2.96), (Table 8). An explanation of the latter, is that liking as a principle of

persuasion is more typical of interpersonal communication, while advertising is part of mass communication. It can therefore be assumed, that the practical application of the principles of commitment and consistency and principle of reciprocity will be more persuasive in uniform advertising, when gender and age characteristics of the target groups are not taken into account. It is interesting whether this hypothesis will be verified in future studies on the problem.

Table 8. Susceptibility to persuasion, using persuasion principles for the whole sample

Statistically significant differences in the susceptibility to persuasion through persuasion principles			
Persuasion principles	Mean	t	p
1. Reciprocity	3.25	$t_{1,2} = 2.19$	0.03
2. Scarcity	3.18	$t_{1,6} = 5.99$	0.01
3. Authority	3.23	$t_{1,7} = 1.99$	0.05
4. Commitment and consistency	3.33	$t_{2,4} = -3.38$	0.00
5. Social proof	3.17	$t_{2,6} = 4.23$	0.00
6. Liking	2.96	$t_{3,6} = 5.72$	0.00
7. Unity	3.18	$t_{4,5} = 3.06$	0.04
		$t_{4,6} = 6.25$	0.00
		$t_{4,7} = 3.16$	0.03
		$t_{5,6} = 4.28$	0.00
		$t_{7,6} = 4.33$	0.01

Source: *own calculation*

Similar studies have shown, mixed results that are likely to be determined by culturally and nationally specific socio-psychological differences. For example, a survey of Western European consumers of products and services found the highest degree of influence from the application of scarcity and prestige (Jung & Kellaris, 2004). Therefore, consumers in Europe are more susceptible to persuasion by applying principle of scarcity (when advertising scarce products) and authority (when offered by reputable people), while young consumers in Bulgaria - to principle of commitment and consistency. Another survey among respondents from Canada and Nigeria shows that principle of commitment and principle of reciprocity are the most convincing, while principle of scarcity and principle of social proof are the least convincing (Oyibo, Adaji, Orji, Olabenjo & Vassileva, 2018). The differences in the results open a wide field for research of the nationally specific characteristics, which determine the susceptibility to persuasion through the application of the different persuasive principles.

In another aspect, Cialdini argues that the strength of influence depends on the complex application of different principles (Cialdini, 2001). There is no strict rule for combining them, but it is advisable to combine them to work completely.

Pearson's correlations show positive statistically significant relationships between the persuasive power of almost all principles with each other (Table 9).

The strongest proportional dependences for the studied sample show the following: (Table 9):

- greater persuasiveness of principle of reciprocity is associated with greater persuasiveness of principle of commitment and consistency ($R = 0.55$; $p < 0.05$);
- the greater persuasive power of principle of liking is related to the greater persuasive power of principle of reciprocity ($R = 0.58$; $p < 0.05$), principle of commitment and consistency ($R = 0.57$; $p < 0.05$) and principle of social proof ($R = 0.53$; $p < 0.05$);
- the greater persuasive power of principle of unity is related to the greater persuasive power of principle of scarcity ($R = 0.54$; $p < 0.05$) and principle of liking ($R = 0.55$; $p < 0.05$).

Table 9. Correlations between persuasion principles according to the strength of influence ($p < 0.05$)

Persuasion principles	Reciprocity	Scarcity	Authority	Commitment and consistency	Social proof	Liking	Unity
Reciprocity	-	0.34	0.35	0.55*	0.08	0.58*	0.33
Scarcity	0.34	-	0.36	0.33	0.32	0.40	0.54*
Authority	0.35	0.36	-	0.35	0.39	0.35	0.38
Commitment and consistency	0.55*	0.33	0.35	-	0.09	0.57*	0.33
Social proof	0.08	0.32	0.39	0.09	-	0.56*	0.11
Liking	0.58*	0.40	0.35	0.57*	0.56*	-	0.55*
Unity	0.33	0.54*	0.38	0.33	0.11	0.55*	-

Source: own calculation

Social proof is the only principle of persuasion, whose persuasive power does not correspond to persuasive power of three of the principles: principle of reciprocity, principle of commitment and consistency and principle of unity. This can be explained by the quantitative implication of advertisements, based on this principle (for example: "1 million people bought this product" or "the best-selling of all products", or "number 1 in sales") (Cialdini, 2007, p.102), while the three principles: principle of reciprocity, principle of commitment and consistency and principle of unity, have entirely qualitative dimensions and content.

Regression analysis was applied to determine the impact of susceptibility to persuasion strategies on advertising effectiveness, based on different persuasion principles (*Table 10*).

Table 10. Influence of susceptibility to persuasion strategies on advertising effectiveness with different persuasion principles, regression analysis (β , p)

	Susceptibility to persuasion strategies								
	Reciprocity	Scarcity	Authority	Commitment and consistency	Social proof	Liking	Unity	Total	
Advertising effectiveness with different persuasion strategies (memorization of advertisement)	Reciprocity	0.04	-0.01	-0.05	-0.01	0.057	-0.04	0.059	-0.09
	Scarcity	-0.10*	0.047	0.03	0.07	0.14*	0.05	0.052	-0.43*
	Authority	0.028	0.047	0.005	-0.03	0.02	-0.03	-0.02	0.06
	Commitment and consistency	-0.06	0.27*	-0.04	-0.01	0.005	-0.03	0	0.003
	Social proof	-0.03	0.034	0.038	0	0.42*	-0.058	0.42*	-0.01
	Liking	0.042	0	0.074	0.003	0.083	-0.01	-0.07	0.04
	Unity	0.06	0.015	0.22*	0.003	0.008	-0.43*	0.037	0.082

Source: own calculation

Only susceptibility to persuasion with principle of social proof determines the memorization of advertisements, based on the same principle ($\beta = 0.42$; $p < 0.05$), (*Table 10*). It has already been hypothesized that this principle is realized through content-wise different advertising messages, most often quantitative, in contrast to the messages, based on other

principles, which most often have qualitative dimensions and content. Quantitative data is known to be easier to remember than qualitative data, so the susceptibility to persuasion through social proof is likely to affect the memorization of advertisements, based on the same principle.

Among other persuasion principles, such a statistically significant causal relationship, is not observed in the present study for advertisements in which persuasion takes place peripherally, when people are distracted and not motivated to think about quality messages, even when these messages are based on persuasion principles to which people are susceptible (Petty and Cacioppo, 1986a). In future research, it is useful to test the same dependencies when persuasion is central route.

In *Table 10* contains other information on determining the effectiveness of advertising to susceptibility to persuasion principles:

- the effectiveness of advertising, based on the principle of scarcity, increases from susceptibility to principle of social proof ($\beta = 0.14$; $p < 0.05$), but decreases from susceptibility to principle of reciprocity ($\beta = -0.10$; $p < 0.05$);
- the effectiveness of advertising, based on principle of commitment and consistency, is increased by susceptibility to principle of scarcity ($\beta = 0.14$; $p < 0.05$);
- the effectiveness of advertising, based on principle of social proof, is increased by susceptibility to principle of social proof ($\beta = 0.42$; $p < 0.05$) and principle of unity ($\beta = 0.42$; $p < 0.05$);
- the effectiveness of advertisements, based on principle of unity, increases from susceptibility to principle of authority ($\beta = 0.22$; $p < 0.05$), but decreases from susceptibility to principle of liking ($\beta = -0.43$; $p < 0.05$).

At the application level, and if confirmed in future research, these dependencies can be a useful guide to increase the advertising effectiveness that rely on peripheral persuasion.

Conclusion

The formation of individual differences in the susceptibility of people to persuasion by applying different principles of persuasion in advertising is a task that many organizations, that offer products and services on the Bulgarian market, are trying to cope with. In general, the present study offers some significant evidence, regarding persuasion achieved through the application of persuasion principles, as well as their combined effects in advertising (Cialdini, 2007; Kaptein, 2009). In order to throw some light on the subject, the objective of this paper has been two fold - firstly, it aims to establish the degree of susceptibility to different principles, as well as to derive a causal relationship between the persuasion principles of R. Cialdini and memorization of advertisements in Bulgaria. Second, it aimed to determine the extent to which the achieved high memory effect determined peripheral route influence among subjects, presenting no evidence for central route influence. According to the first purpose, the study presented here supports the existence of a positive relationship between user gender and advertising effectiveness, based on two of the seven principles of persuasion - liking and social proof (Chalidini, 2001, p. 74). It is concluded, that women's relative to men's higher susceptibility to these persuasion principles, achieved peripherally, increases the effectiveness of these organizations' advertisements. In addition, susceptibility to persuasion, achieved through the following principles: reciprocity, commitment and consistency, liking and unity, was statistically significantly higher in women, than in men when the influence of advertising was not taken into account. The findings, described earlier, also demonstrate the high effectiveness of advertisements, that focus on consumers of one gender, but not on both genders at same time (Johnson, 2021; Darley & Smith, 2013; Wolin, 2003; Meyers-Levy & Sternthal, 1991; Rutledge, 2016). The ways in which information is processed should not be underestimated: men – selectively and objectively, and women – holistically and subjectively

(Jung & Kellaris, 2004), which allows deducing a certain valence (positive or negative) and intensity (strong or weak) on reactions to advertisements (Spasova & Taneva, 2021).

The susceptibility of consumers to advertising in Bulgaria depends to a large extent on belonging to a certain age, and in the present study, relatively close average values were derived for each of the persuasion principles, with the exception of the principle of liking, the susceptibility to which is significantly lower and for the three age groups. The strongest impact of the following principles was found for the three age groups: for consumers aged 18 to 20, the principle of social proof has the strongest impact; for users aged 21 to 24 - the principle of unity and for users aged 25 to 35 - the principle of commitment and consistency. The claim from previous empirical evidence, that older adults prefer rational and positive messages over negative emotional messages (McKay-Nesbitt, Manchanda, Smith & Bruce, 2011), is also supported, because the largest age group, was influenced by the principle of commitment and consistency, that is, these users are motivated to act on their social commitments (Hoy, 2007, p. 160). In contrast to this age group, the youngest users, who, according to other authors, remember emotional messages, especially negative ones, better than rational ones (McKay-Nesbitt et al., 2011), an impact of the principle of social proof, that is based on the idea that people follow the lead of most other people (Cialdini, 2001, p. 75). Therefore, the presence of emotional messages in the advertisements of the organizations in Bulgaria would achieve higher effectiveness among young people aged 18 to 20 years, and rational, engaging messages - among consumers aged 25 to 35 years. In interpreting this finding, it can be added that the oldest respondents (aged 25 to 35) remember advertisements, based on the principle of commitment and consistency, as an explanation for this result can be found in theory of cognitive dissonance (Festinger, 1957). The author subscribes to the statement that susceptibility to persuasion through the principle of consistency is explained by the internal need of individuals to maintain homogeneous and harmonious attitudes and beliefs towards certain entities (Festinger, 1957; Baca-Motes *et al.*, 2013), for example, products and services in advertising. On the contrary, younger respondents (from 20 to 24 years old), who have more unstable and changeable attitudes and views of the world, as well as poorer life experience, are influenced by the principle of unity, that is, influence achieved through advertising was found, „when the influencer and the influence share a same identity“ (Chaldini, 2016, p. 101). In order to determine the reasons for these differences, future research on the principles of persuasion in advertising should take into account other demographic or socio-psychological factors.

In addition, consumers of different genders and ages show different degrees of susceptibility to persuasion principles in the advertisements of organizations in Bulgaria, with empirical evidence showing the strongest causal relationship between the principle of social proof and remembering the advertisement, persuasion being carried out by peripheral route (Petty and Cacioppo, 1986b). This finding and some previous conclusions, if supported by other researchers, would become a useful guide for advertisers, marketers, as well as for specialists, working in the field of social and personality psychology.

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