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Psychophysiological Analysis of Advertising Archetypes in the Female Population for the Promotion of Alternative Tourism

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ABSTRACT

The present quantitative and qualitative research work shows that psychophysiological reactions in personality archetypes are presented differently and, therefore, there is another way to study the youth market in which precise results can be obtained in the attention directed with respect to tourism promotion campaigns, measuring preferences in the activities da tourists and comparing them according to their physiology and self-concept to determine which strategy of emotional loads is more efficient to include in advertising aimed at each segment of personality to attract demand and generate "brand personality" for tourist sites, The results of surveys and psychophysical laboratory tests particularized in female population demonstrate this. There are few recent experiences of measuring psycho physiologically and applying the management of emotions from the base of the personality to attract demand with positive results, cinematography is a case (Ale, 2016, Iñarritu 2015 and Nava 2016).

Keywords: tourism, advertising, archetype, psychophysiology, youth, women

1. INTRODUCTION

Since its creation, Psychology has helped other disciplines such as Marketing and Neurology. Hand in hand with Psychology, Marketing has proposed some personality models, this to offer customers products or experiences related to their tastes.

A few years ago Neuromarketing was created whose purpose is to go beyond conventional advertising, this is responsible for measuring through physiological studies the way in which products or services can be offered to different market segments, .(Moreno, 2017)

In the digital age we leave traces on the internet about our tastes, hobbies, preferences, personality traits that are combined in databases that serve to offer us, through social networks, applications, internet marketing; products that fit with our tastes or needs.

As we can see, Psychology has been fundamental for the development of increasingly complex and innovative marketing strategies that yield very effective results.

This study aims to create a new trend to advertise using Psychology, Marketing and Physiology by segmenting groups based on the typology of personality and identifying stimuli that are significant in advertising for the person to create demand.

2. RESEARCH DESIGN

2.1 Type of research

*T*he research carried out is of a quantitative type presented as an exploratory analysis (first time

carried out), quasi-experimental (some variables are controlled) mixed (qualitative and quantitative methods are used). At the beginning of the study, a personality survey was applied to divide into 4 groups: sexy, shy, adventurous, without a defined archetype (control variable). (Hernández Sampieri, Fernández Collado, & Pilar Batista, 2014)

At the end of the study, the F results obtained from the ANOVA test in the groups are compared to know if there were psychophysiological changes in the participants when they were presented with the stimulus.

2.2 The objectives achieved in the research were the following:

Analyze psychophysiological characteristics in 4 groups of people with profiles of the archetypes: adventurous, shy, sexy and control

Compare the results of the experiment with the groups obtained from the personality survey

Compare the results of the experiment with the proposed hypotheses.

2.3 Question to answer with the research

On a psychophysiological level, how much does tourism advertising influence the personality of an individual?

Particularized questions to be answered in the study on tourism and emotion management:

Do beach party advertising videos modify the person's physiological cues compared to baseline in the sexy archetype?

Do skydiving advertising videos modify the person's physiological signals compared to the baseline of the adventurous archetype?

Do camping advertising videos modify the person's physiological signals compared to baseline in the shy archetype?

Do the advertising videos shown in the experiment modify physiological signals compared to baseline in the control archetype?

2.4 Hypothesis

H1: Women who fit the sexy archetype will show significant changes in their physiological cues when watching videos about beach partying.

H0: Women who fit the sexy archetype will not show significant changes in their physiological cues when watching videos about beach partying.

H2: Women who fit the adventurous archetype will show significant changes in their physiological cues when watching videos about skydiving.

H0: Women who fit the adventurous archetype will not show significant changes in their physiological cues when watching videos about skydiving.

H3: Women who fit the shy archetype will show significant changes in their physiological cues when watching the video of going camping.

H0: Women who fit the shy archetype will not show significant changes in their physiological cues when watching videos about going camping.

H4: Women who fit the control archetype will show significant changes in their physiological cues when watching any video

H0: Women who fit the control archetype will not show significant changes in their signals when watching any video.

2.5 Participants

A sample of 18 people was chosen, all of whom are women aged 18 to 23; students from the Faculty of Psychology, Autonomous University of Coahuila and the Benemérita Escuela Normal de Coahuila both located in northeastern Mexico.

For the present research, inclusion criteria were used, healthy women between 18 and 23 years old residing in the city of Saltillo, Coahuila. The exclusion criteria are people who have not traveled previously in a period of 6 months.

3. MATERIALS AND TOOLS

For this study, the Thought Technology biofeedback equipment will be used, Procomp2 model with capacity for 6 channels (breathing, temperature, skin conductance, muscle activity and

heart rate) Owned by the Psychophysology laboratory of the Faculty of Psychology.

Survey. For the selection and segmentation of the groups, a survey was used, which determined to which archetype the personality of the young woman belongs. He was then asked if he wanted to participate in an experimental study. If your answer is yes, you are asked for data to locate you. The first part of the survey is composed of 16 adjectives with their antonym at the other end, in the middle of these two words is located a scale of 10 frames where the person is asked to choose a picture as he believes his personality is; the closer the picture you choose to a word, the more the personality of the individual will resemble the adjective of one of the extremes. The second part of the survey is 4 questions related to the frequency and tastes in trips of the person with reagents of a) b) c), etc. The third part is a series of statements, on one side of each sentence there is a scale of 1 to 5 (1 strongly disagree, 5 strongly agree) where the person is asked to choose the circle that best represents their current opinion. In the last part, the person is asked about their preferred tourist activity and asked to briefly explain why they chose that activity.

Psychophysiological tests in the laboratory with EMF. For the projection of the advertising videos, a 50-inch screen connected to an hp laptop with an HDMI to VGA cable was used.

The videos were selected from advertising pages of tourist sites, any logo or reference to any brand or tourist site was removed. 3 videos were chosen that better define the personality of each archetype, for the sexy archetype a party on a beach in Croatia was chosen, for the adventurous archetype a video was chosen parachuting in the city of Dubai: For the shy archetype a video about camping in a forest in the United States.

For the measurement of physiological signals, a Procomp infiniti equipment was used, which is an eight-channel encoder with real-time multimodality for biofeedback devices, computerized for the acquisition of physiological data. It has 8 pin sensor inputs protected with two channels sampled at 2048 s/s and six channels sampled at 256 s/s. the encoder can process a wide and complete range of physiological signs used in the clinical observation of a biofeedback. The sensor technology is completely non-invasive and requires little skin preparation when used for feedback effects (cleansing the skin with a little alcohol and cotton). These sensors are specialized to perform Electromyography (EMG), Electroencephalography (EEG), Electrocardiogram (EKG), Pulse Blood Volume (BVP), Skin Conductance (SC), Patient Breathing and Body Temperature. (Thought Thecnology Ltd., 2003) (Thought Thecnology Ltd., 2003)

3.1 Procedure

After having completed the survey and formed the groups according to the archetypes, an appointment was granted for the participants in the experimental phase which was carried out in the Psychophysiology Laboratory of the Faculty of Psychology; where they were asked to enter the Gessell chamber, there inside there was only a projector, a lap top, place to sit (chair / sofa) and biofeedback equipment; they were then connected to the equipment; with this, the participants were measured: heart rate, sweating on the skin, breathing, among other variables that involved psychophysiological changes. For these variables, a baseline was set that, according to the responses to the stimuli they received during the study, it was known whether their reaction was modified or not.

Then, the door was closed, and the projector began to play a black background of 30 seconds, (this background appeared between each of the videos and at the end of the presentation for about the same time), then the first video (camping), second video (skydiving) and third video (party).

For segmentation, a Cluster analysis with a dendogram was used to corroborate that there are 4 groups of archetypes that are formed in the subsample of women with the characteristics desired by the study: shy, sexy, adventurous and control group.

In the statistical analysis of the data, an ANOVA test was used which, through the F-value, explains whether there were psychophysiological modifications in the participants in response to the stimuli (videos) detected through the biofeedback channels, for this the SPSS version19 statistical

package was used. Below is an outline of the study carried out:

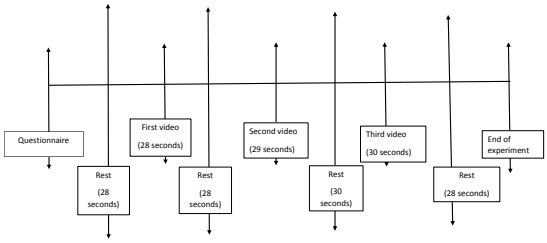


Figure 1 Diagram representing each of the steps followed in the exploratory study

4. DATA RESULTS AND ANALYSIS

For a better analysis of results, the analysis procedure is divided into 2: *"quali"* analysis and *"quanti"* analysis.

4.1. Analysis "quali".

The qualitative analysis of data from the sample focused on Jung's theory redefined by Santander, which proposed the archetype model in which a Likert-type instrument was used to define and segment the groups in which the participants would remain according to their self-concept (Table 1), a posteriori their responses would be compared with the characteristics of each archetype; the responses of the participants are those that determine how similar their self-concept is to that of each archetype, in this way each of the groups and . (Gustav, 1982)(Santander, 2016)

Table 1 Personality attributes of women included in the study by self-qualification by survey

Tabla 1 Atributos de personalidad de las mujeres incluidas en el estudio por auto calificacion

arquetipo	trabajadora	extrovertida	expresiva	innovadora	planificadora	confiada	precavida	sexy	alegre	hogareña	liberal	manipuladora	segura	fiel	divertida	alborotadora
1	2	6	6	7	8	5	4	4	9	2	4	2	3	2	1	2	7
1	1	4	5	5	3	6	2	4	3	6	6	4	3	3	4	3	5
4	2	6	7	8	5	5	3	7	2	3	4	4	7	6	2	1	4
1	2	4	1	1	2	3	1	3	5	3	10	2	1	3	1	1	8
1	2	5	3	5	5	7	7	4	6	5	5	5	5	6	5	5	5
4	2	4	3	4	3	5	2	4	4	5	7	7	4	3	1	2	8
1	2	2	2	3	1	1	2	1	2	1	1	3	4	1	3	1	2
1	2	2	2	1	2	1	3	2	2	2	3	3	1	2	2	2	4
3	1	6	1	1	3	4	2	5	2	1	1	2	5	3	2	1	1
4	2	5	4	5	4	6	5	7	5	4	6	4	6	4	1	3	2
4	2	7	3	5	4	6	9	7	5	7	5	5	4	7	7	4	4
4	2	3	7	4	3	3	4	3	5	4	3	6	5	4	5	5	7
2	2	5	8	8	6	3	6	6	3	6	6	6	6	6	1	5	10
2	2	7	7	4	7	4	8	5	8	4	9	6	5	7	1	3	5
2	2	7	8	5	3	7	3	3	4	1	1	4	8	4	1	1	1
3	2	6	7	7	6	5	6	6	5	2	5	4	6	5	5	5	6
3	2	2	6	3	4	8	9	9	3	1	10	2	1	3	6	3	5
3	1	6	5	5	6	4	2	3	5	4	4	3	10	4	1	2	4

Source: Questionnaire

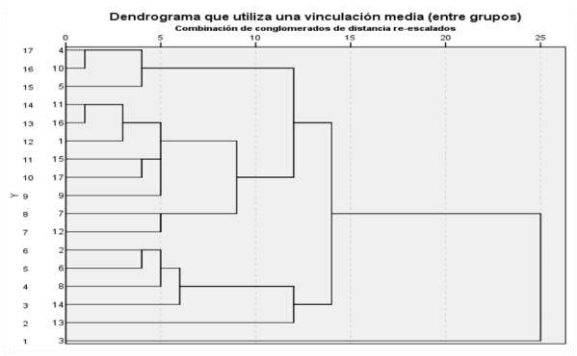
Sexy Adventurer Shy Control

This section of the questionnaire consists of 16 reagents, each one has a scale pigeonholed from 1 to 10, at the left end of the scale appears an adjective that is antonym of its counterpart on the far right. The participants marked on the scale the extent to which they considered to be between the two ends of the adjective scale of each reagent.

Subsequently, a Cluster analysis was carried out which confirms the segmentation of four groups, obtained based on the answers given by the participants in the self-concept questionnaire. The dendogram (Figure 2) divides into 3 main groups such as those proposed by Santander in its research, in addition to the cases with characteristics of two or more archetypes that make up the control group. (Santander, 2016) Associating the different personalities of the respondents, 4 large groups stood out, confirming the archetypes proposed by the researcher which are:(Santander, 2016)

- ✓ Group 1: safe, liberal, faithful, fun and cheerful people.
- ✓ Group 2: those cautious women, planners and trusting, are related to each other.
- ✓ Group 3: expressive, innovative, sexy, hard-working, and outgoing women. They have similarities according to their personality. Although to a lesser degree they are associated with the fact of being somewhat manipulative.
- ✓ Group 4: people with an indefinite archetype because they possess characteristics of 2 or more archetypes

Figure 2 Dendrogram, group segmentation based on questionnaire responses



Source: Own elaboration based on data from the Questionnaire

Note: To distinguish the groups should be located from the far left of the dendogram where the numbers start, to the number 5 located at the top; the lines that exceed this number are counted as isolated cases in which they do not fit completely into a group, due to some characteristics other than the definition of the archetype as such.

4.2 "Quanti" analysis

The strategy used for quantitative analysis was an analysis of variance on three of the physiological indicators. Tables were made for each indicator, the first presents the values obtained from each participant during the experiment while, in the second, it is presented how far or close the data obtained in the first table were positioned with respect to the baseline:

Table 2

Electromyography (EMG) variations obtained in the laboratory

Archetype	LBPVMaxEMG	LBSVMaxEMG	LBTVMaxEMG	LBPVMinEMG	LBSVMinEMG	LBTVMinEMG
Sexy	-4.09	6.19	5.69	-0.23	0.39	1.98
Sexy	0.04	-0.5	0.06	0.02	0.03	0.04
Sexy	0.7	0.83	-2.57	0.01	0.02	0.02
Sexy	612.08	612.09	99.22	-0.01	0	-0.01
Sexy	5.4	-94.93	-122.26	0.01	0.43	0.7
Sexy	0.05	0.05	0.05	0.02	0.01	0.01
Shy	5.4	-94.93	-122.26	0.01	0.43	0.7
Shy	0	-0.03	-0.06	0.02	-0.02	-0.05
Shy	-447.54	7.21	-581.79	6.03	5.58	7.59
Adventuress	-186.82	45.43	122.29	0.01	-0.04	0.02
Adventuress	0.27	-238.65	-224.03	0.01	0	0
Adventuress	0.06	-65.59	-74.01	0	-33.06	-1.7
Adventuress	0.7	0.83	-2.57	0.01	0.02	0.02
Control	-0.1	-3.6	-0.87	0.03	-0.08	-0.24
Control	1.86	1.86	-3.14	0	0	0
Control	17.34	304.68	344.57	-2.01	-2.95	-8.14
Control	-47.57	-256.38	-114.14	0	-0.18	0.01
Control	-47.57	-256.38	-114.14	0	-0.18	0.01
Media	-4.98833333	-1.76777778	-43.8866667	0.21833333	-1.64444444	0.05333333
Desv. standard	190.091905	200.050103	181.337005	1.52621504	7.98794623	2.78303897

Below standard deviation — Below standard deviation

Above the standard deviation — Above the standard deviation

Table 2 presents the values obtained from each participant with respect to the electromyography indicator, you can see the higher and lower values in the experiment and to which archetype they belong, in the same way the values that are above and below the standard deviation are presented.

The results obtained from the ANOVA for Electromyography in the values of maximums and minimums compared between the situations of the first video, second video and third video against the baseline used during the study; show as its highest F value: 1.478 (p = 2.63) being not significant so in the variable d electromyography the hypothesis of nullity is accepted: there are no significant differences.

Table 3

Breathing variations obtained in the laboratory

Archetype	LBPVmaxRESP	LBSVmaxRESP	LBTVmaxRESP	LBPVminRESP	LBSVminRESP	LBTVminRESP
Sexy	-0.1	-0.1	-0.33	0.21	-0.02	-0.18
Sexy	-0.13	-0.66	-0.7	0.66	0.76	0.72
Sexy	0.61	1.54	-0.26	0.1	0.17	0.22
Sexy	-0.44	0.48	0.95	-0.18	-0.22	-0.35
Sexy	-0.64	0.01	0.33	-0.52	-0.28	-0.36
Sexy	-1.99	-1.96	-1.15	0	-0.06	0.91
Shy	-0.64	0.01	0.33	-0.52	-0.95	-0.36
Shy	0.07	-0.17	0	0.28	0.19	0.35
Shy	2.31	2.5	2.54	-0.33	-0.37	-0.36
Adventuress	1.07	0.05	0.67	-0.32	-0.13	-0.22
Adventuress	-0.37	-0.1	0.03	0.1	0.12	-0.2
Adventuress	0.7	1.13	0.09	0.36	0.32	0.51
Adventuress	1.36	1.54	-0.26	0.1	0.17	0.22
Control	-0.21	0.59	-1.41	0.12	0.06	0.14
Control	1.41	1.91	1.73	0.02	-0.07	0.14
Control	-1.59	-0.11	-0.24	-0.43	-0.75	0.12
Control	-0.36	-0.06	0.19	-0.17	0.37	-0.08
Control	-0.36	-0.06	0.19	-0.17	0.37	-0.08
Media	0.03944444	0.34666667	0.15	-0.03833333	-0.01777778	0.06333333
Deviation Standard	1.06196528	1.00795658	0.93280727	0.31930531	0.40689001	0.37979871

Below standard deviation — Below standard deviation

Above the standard deviation — Above the standard deviation

Table 3 presents the values obtained from each participant with respect to the breathing indicator, you can see the higher and lower values in the experiment, to which archetype they belong and which are above or below the standard deviation.

The results obtained from the ANOVA for the breathing indicator in the values of maximums and minimums compared between the situations of the first video, second video and third video against the baseline used during the study; show as its highest F value: 1.691 (p = 0.215) being not significant so in the electromyography variable the nullity hypothesis is accepted: there are no significant differences.

Table 4

Temperature variations obtained in the laboratory

archetype	LBPVmaxTEM	LBSVmaxTEM	LBTVmaxTEM	LBPVminTEM	LBSVminTEM	LBTV
Sexy	-0.15	-0.68	-0.9	-0.02	-0.48	
Sexy	-0.28	-0.33	-1.01	-0.11	-0.26	
Sexy	-0.37	-1.12	-3	-0.22	-0.12	
Sexy	-0.12	-0.82	-1.41	0.07	-0.49	
Sexy	0	-0.1	-1.21	0.21	0.29	
Sexy	-0.08	-0.35	-0.78	0.07	-0.01	
Shy	0	-0.01	-1.21	0.21	0.25	
Shy	-0.01	0.35	-0.2	0.32	0.51	
Shy	-0.51	-0.92	-1.64	-0.38	-0.59	
Adventuress	-1.3	-2.04	-2.31	-0.62	-1.74	
Adventuress	-0.75	-2.02	-2.3	-0.56	-1.4	
Adventuress	-0.03	-0.37	-0.45	0.2	-0.1	
Adventuress	-0.37	-1.12	-3	-0.22	-0.12	
Control	-0.03	-0.12	-1.04	0.21	0.13	
Control	-0.14	-1.06	-1.37	-0.08	-0.49	
Control	-0.01	0.14	0.07	0.28	0.31	
Control	0	0.25	-0.66	0.19	0.02	
Control	0	-0.2	-0.66	0.19	0.02	
Media	-0.23055556	-0.58444444	-1.28222222	-0.01444444	-0.23722222	-0.9
Standard deviation	0.34066496	0.70061504	0.87963599	0.28588814	0.57702896	0.8

Below standard deviation — Below standard devia

Above the standard deviation — Above the standard d

Table 4 presents the values obtained from each participant with respect to the temperature indicator, you can see the highest and lowest values

in the experiment, to which archetype they belong, and which are above or below the standard deviation.

The results obtained from the ANOVA for the temperature indicator in the values of maximums and minimums compared between the situations of the first video, second video and third video against the baseline used during the study; In this table we can see the indicators: LBPVMaxTEMP (Baseline of the First Maximum Video of temperature) Sig: .047 , LBSVMaxTEMP (Baseline of the Second Maximum Video of temperature) Sig: .019 , LBSVMinTEM (Baseline Second Minimum Video of Temperature) Sig: .056 which have values similar to 0.5 so it is considered that there were physiological modifications with respect to the stimulus. Therefore, a Bonferroni test was carried out to verify with respect to each of the archetypes the maximum and minimum variations of modification in relation to temperature. Corroborating the results of the ANOVA.

5. DISCUSSION

Although it has been justified that the environment is an important factor in the definition of personality, we were able to observe through this study that other factors such as the character and motivation of the person are determinants for the definition of this.(Skinner, 1987) (Allport, 2016)

With regard to the formation of personality, Cattell and Bandura propose the most attractive models for the explanation of the formation and understanding of personality characteristics, since they include three main factors: temperament, character and intelligence; although the environment is important, the person has the ability to learn from the situations that arise throughout his life and. (Cattell, 1978)(Bandura, 1969)

As mentioned above, Jung's archetypes have played an important role in multiple sciences and not only in psychology, but other disciplines have also managed to adapt their model based on their needs and studies, thus demonstrating that their study has been a pillar in the study and understanding of personality in individuals. (Gustav, 1982)

In this digital age, concepts proposed by Locke and Jung have undergone changes in their definition, however, the essence of what they mentioned in their theories prevails, even large companies have had to adapt, and mold based on the place, values and culture with the type of personality they want to look like to empathize with their consumers (Locke, 2006)(Gustav, 1982) (Aaker, 1997).

Women over the years were gaining ground in advertising to become an important market for the promotion-sale of products and recently services; With what Gaballí mentioned: (Gaballí, 1934)*"Women in advertising are fundamental for the creation of content and advertising"* led to the inclusion of women in the creation and production of advertising for*marketing*, this was an important factor for the redefinition of the concept about women in the era in which we live, this has been achieved because the person is analyzed by society and adjectives are attributed based on the personality that decides to adopt The changes in the way of thinking of society originated through the aptitudes that were modifying the characteristics of the personality of the current woman and the constructs that society has about the archetypes of the woman(Ernesto, 2005) (Kelly, 1955) (Mischel, 1973)

The sexy, adventurous and shy personalities defined by Tungate, become relevant in the self-definition of personality by adding the self-qualification of attributes of the subjects under study, cited by Papalia (2004), who expanded the work done by Cattel by increasing to 16 the possible traits that defined the personality of an individual. The three personalities mentioned above are also confirmed in the study carried out by Ricalde by characterizing by personality segments the tourists who arrive in the Mexican Caribbean through cluster analysis, where the 52 nationalities found are not a determining factor for the definition of personality attributes. (Tungate, 2011) (Cattell, 1978) (Ricalde, 2009)

From the above it can be inferred that the "tabula rasa" cited by Locke becomes relevant, where the individual is a blank sheet at birth that over time will adapt to the various circumstances and environment in which it develops, therefore, cognition, learning and the environment will be part of the process of personality development and, although Mischel's cognitive social learning is diverse from the origin or nationality in which they operate, character and temperament are

determinants of personality in terms of the physical and human characteristics of each individual that tend to be grouped into certain stereotypes, as well as extraversion, neuroticism and psychoticism (communication with other people, attitude and reasoning, respectively) according to Eynseek. (Locke, 2006) (Merfi Raquel Montaño Sinisterra, 2009) (Bandura, 1969) (Mischel, 1973) (Tungate, 2011) (Eynseck, 1967)

Today the functional benefits in products and services are replaced by characteristics or attributes that are more adapted to their personality or self-concept in the present or towards that archetype of how they visualize themselves in the future and (Lenk, 2003)(Keller, 1993)(Saavedra & Pirella, 2005)

Marketing has studied that personality traits are created and communicated by attitudes through direct or indirect contact with products and services provided by attributes given through the Brand which are durable and predictable. He interprets it as human symbols in brands or better known in commercial language as "brand personality" and what he calls the choice of brands as friends. (Ambroise, Ferrandi, & Merunka, 2004)(Aaker, 1997) (Sung, 2005)(Azoulay, 2003)

(Ouwersloot, 2001) points out that to create brand personality it is necessary an adequate mix of marketing where factors such as price, is fundamental to create an emotional stimulus appropriate to the personality segment to which you want to direct pointed out this within the Stimulus-Response (E-R) process based on the individual goes beyond the stimulus reaction Response (E-R) in a certain environment by pointing out that advertising and marketing based on personality archetypes they awaken emotions that are reflected in images that endure and are added to the personality of the individual and that he decides to adopt. All the above allows us to understand that women, by ceasing to be a minority due to lack of economic power in the past, have become more perceptive and more interested in their personality image, coupled with this social change it is demonstrated with the present study that in young women it is feasible to find personality archetypes with attributes and preferences that in the past turned out to be unpredictable. The results shown in the previous section agree that a small population of women qualitatively self-evaluated in three of the most frequent archetypes (sexy, adventurous and shy) cited in the same way the prevalence of a control group with poorly defined personality characteristics are part of a lack of self-definition (Table 1).(Hull, 1943)(Atamara-Rojas & Castañeda-Purizaga, 2017) (Ernesto, 2005) (Beaudoux, 2014)(Santander, 2016)

The results also coincide with those obtained with respect to group segmentation based on tourist preferences; In this way a woman with sexy perceptive personality extroverted to prefer (Ricalde, 2009) (Santander, 2016) (Carl, 2002) going out to nightclubs, attending events or parties on the beach. The friend or shy introverted sensitive to will lean towards activities such as: camping, walking to admire the landscapes or visiting museums. And the intuitive heroine extroverted to prefer tourist activities such as: descend in Rapell, descend in zip line, descent of rapids in kayak, etc. (Santander, 2016)(Carl, 2002)(Santander, 2016)(Carl, 2002)

As for the psychophysiological study, it was obtained that, the physiological responses of a person not only serve as indicators of stress in neuropsychological therapies but can also be used to measure the preferences of an individual based on personality, these being the product of a behavior that is the emerging property of an organizational model in a neural network, measurable through personality. This is how tourists determine their preferences regarding the activities to be carried out (Ricalde, 2009; Güemes and Ramírez, 2012).(Cranny, 1992) (Allen, 1991) (Varela F. H., 1997)

The electromyographic variation differences did not show significant differences, based on the ANOVA test obtained during the test (Table 3); similarly, the breathing indicator (Table 5) did not demonstrate significant variations in the archetypes studied, so in the present study they are discarded as a psychophysiological indicator to define preferences in tourist activities to be carried out. The last of the study indicators, temperature (Table 7) yielded significant results according to the values of F to indicate a psychophysiological preference for a specific advertising video. For further studies with biofeedback devices, it is

recommended to include electrocardiogram and skin conductance indicators along with a larger sample of participants. (Carrobles, 1991) (S., 1994) (Allen, 1991)(Lawler, 1980)

Finally, the combination of subjective evaluation "quali" with psychophysiological measurements turn out to be complementary in the analysis to obtain results based on personality archetypes such as those of this study. As mentioned, and. (Dominguez, 2000) (Stevens, 2003)

Regarding the hypotheses proposed for the study, only one of the indicators used in the study found psychophysiological modifications to prefer some type of tourist advertising; the data obtained confirm null hypotheses in two of the indicators and psychophysiological changes in the temperature indicator.

6. CONCLUSIONS

How it was observed during the procedure the objectives of the experiment were achieved, which were: to analyze psychophysiological characteristics in 4 groups of people with profiles of each of the archetypes, to compare the results of the experiment with the groups obtained based on the survey and to compare the results of the experiment based on the proposed hypotheses.

Regarding the main question of the experiment: On a physiological level, how much does tourism advertising influence the personality of a person? We can conclude that, of the 3 indicators that were analyzed in only one, it was observed that advertising could influence the physiological level of the participants.

The study favors the complementation of both qualitative and quantitative methods through the segmentation of 4 groups of women which through a physiological experiment that tested the hypotheses proposed in the methodology fulfilling the objectives mentioned above. This study tried to explain how female personality archetypes are constructed based on the self-concept of women and determinants in the choice of tourism-type or tourism-related activities as well as used to determine the choice of purchase in tangible products. The self-concept of the person determines the preference of those brands that tend to identify with a personality similar or proper to the self-concept of the consumers who choose it.

Therefore, it is possible to use personality archetypes depending on the activities they commonly choose to carry out tourist activities and in the same way achieve with this, generate a "brand personality" for those who offer this type of services in the main tourist destinations.

In the same way, implement the use of the strategy of attracting female audiences to carry out activities based on their archetype of personality, which represents an opportunity for the adventure and nature tourism market that today only represents 2% of tourism in the world (general)

In the research carried out through the analysis of the self-concept of the personality of women or aimed at the female segment between 18 and 25 years old (young adults), it is observed that they are as susceptible as the male gender to develop or react towards the preference of activities that are usually cataloged exclusively for the male sector, at the same time it is perceived that it is possible to identify them in the segment of women, archetypes of personality commonly as in the male sector: sexy, shy, adventurous and a combination of all these, which would break the traditional scheme of the stereotype assigned to women and the promotion and advertising strategies previously used.

Regarding the qualitative methodology developed in the research, we can mention that Jung's proposal is the best alternative for the division of groups in the market field which are susceptible to adapt to the new method related to the subject as an analysis study to discover their preferences, particularizing in a segment little studied regarding the social change of the representation and participation of women as an important segment and the same level as that of the male sector.

The qualitative analysis using the technique of segmentation by clusters is appropriate in the definition of personality archetypes as shown in the section of the results, which leads to propose it as a method to follow in future research related to the psychological field, as well as in its fields of application.

The quantitative method can provide scientific conclusions where a cause-effect relationship or a

more accurate characterization of possible psychophysiological variations related to stimulus-response studies is sought. Undoubtedly, the results obtained are preliminary in relation to the field of application, however, it represents for psychology an important contribution to the application of this in new fields of action so new studies are suggested in relation to it. This in the end shows that Psychology serves in an important way as a multidisciplinary science.

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