



The perception of values in food commercials on the part of young people with and without eating disorders

Valores percibidos en la publicidad de alimentos por jóvenes con y sin trastornos de la conducta alimentaria

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ABSTRACT Advertising uses stereotyped body images to promote physical ideals and unhealthy eating habits related to food products which are targeted especially at young people. The purpose of this study, carried out in Barcelona (Spain) in May 2013, was to test the perception of 139 young people of university age – with and without eating disorders – regarding 25 values in seven food commercials that did and did not use body image strategies. Results show that only the group of young people with eating disorders considered commercials using body image strategies to have a very negative influence on values such as health, well-being, family and effort. In contrast, the assessment of the two groups regarding the rest of the commercials greatly coincided. These results show that today's university youth have accepted as normal a beauty canon based on the prevailing social and economic order, while young people in treatment for eating disorders have learned to denaturalize such messages.

KEY WORDS Eating Disorders; Food Publicity; Reference Values; Communications Media; Spain.

RESUMEN La publicidad utiliza imágenes corporales fuertemente estereotipadas para promocionar cánones físicos y conductas alimentarias no saludables asociadas a productos de alimentación dirigidos sobre todo a jóvenes. El objetivo de este estudio, realizado en Barcelona (España) durante el mes de mayo de 2013, es testear la percepción de 25 valores en siete spots televisivos de alimentación (con y sin estrategias de imagen corporal) en 139 jóvenes con y sin trastornos de la conducta alimentaria (TCA). Los resultados muestran que solo el grupo de jóvenes con TCA considera que los spots con una estrategia comercial basada en la imagen corporal influyen muy negativamente en valores como salud, bienestar, familia y esfuerzo. En cambio, se ha observado una gran coincidencia entre los dos grupos cuando se evalúa el resto de los spots. Estos resultados señalan que los jóvenes universitarios españoles de hoy han aceptado como normal un canon de belleza basado en el orden social y económico, mientras que los jóvenes en tratamiento por desórdenes alimenticios sí han aprendido a decodificar este tipo de mensajes.

PALABRAS CLAVES Trastornos de la Conducta Alimentaria; Publicidad de Alimentos; Valores de Referencia; Medios de Comunicación; España.

INTRODUCTION

Some of the most serious diseases threatening advanced societies are the result of eating disorders (EDs) in a broad sense. EDs are mental illnesses manifested by unhealthy eating habits. Although this type of disorder has important psychological connotations and is studied by psychology and even by psychiatry, there is a strong consensus regarding the influence that external, social, and cultural factors have on eating disorders.⁽¹⁾ These disorders are developed within advanced, modern societies with the best living conditions.⁽²⁾

Most experts consider that eating disorders seem to be boosted by the pressure of androcentric values exerted on women in a society that worships the body.⁽³⁾ When it comes to teenagers, data from research studies show that the causes of anorexia and bulimia are boundless. Thus, the genetic agents are more important in bulimia than in anorexia; although it is undeniable that sociocultural factors, such as eating habits, social pressure to meet beauty standards, values associated with the pursuit of thinness, and models imposed by the media, have influence on the development of such disorders.⁽⁴⁾

The collective social imaginary is full of media images proposed by advertising in which the bodies are presented as perfect, beautiful, slim, and presumably real.^(5 p.248)

We live immersed in a fully mediatized society, in which flows of communication are multiple, constant, and structural; a society in which a culture of the image has been imposed, determined by models and physical canons that work in favor of the market-based system through thousands of products related to people's physical appearance. This whole social framework, determined by productivity, pragmatism, and competitiveness, seems to have a strong influence on EDs.

This study deals with the influence of commercials on eating disorders and advocates for the need to strengthen the dimension of values in a media education environment.

Eating disorders and advertising

Changes in eating habits are mainly due to an alteration in the perception of body shape and weight called "dysmorphophobia."⁽⁶⁾ Although in any psychiatric mental disorder there is always a genetic predisposition, in accordance with the biopsychosocial model described by Lucas,⁽⁷⁾ this disorder cannot and must not be understood as detached from the social context.⁽⁸⁾

According to Ida and Silva,⁽⁹⁾ the relationship between a person and his or her body has evolved through time and undergone significant cultural and social changes in eating habits, the shaping of social groups, and interpersonal bonds. These changes are leading to an increase in the amount of diagnoses of this disorder. On the one hand, several studies demonstrate people's general dissatisfaction with their body image or personal self-image. On the other hand, such dissatisfaction seems to be manifested by eating disorders in an increasingly younger population. In fact, different studies show that around 40-50% of children between the ages of 6 and 12 are not satisfied with their physical image.⁽¹⁰⁻¹⁴⁾ In addition, recent studies such as the work carried out by Bird *et al.*⁽¹⁵⁾ associate the little value given to body image by children and adolescents with significant problems in their physical health (decrease in physical exercising and unhealthy behavior patterns) and psychological health (depression, anxiety, problems in interpersonal relations). The studies prove that there are different ideals depending on gender: girls often wish for a thinner body, whereas boys desire more muscles with a minimum of body fat. Mostly, women are the ones who express a greater degree of discontent with their bodies,⁽¹⁶⁾ although both genders reject and stigmatize obesity and are in search of bodies with a minimum of body fat, which Claude Fischer has called fat phobia in today's society.⁽¹⁷⁾

These fat-phobic canons of beauty are connected to success and social acceptance, which is why the media, mainly based on image, encourage that type of body stereotypes of gender to promote a standard body image of children, adolescents, and young people.⁽¹⁸⁻²¹⁾ The excessive use of such

images responds to a commercial strategy used by well-differentiated sectors: the agro-food industry (for example, with dietary products, diets, and so on), the fashion industry (sizes, clothing), the health industry (treatments, surgeries, implants, medication), and even the sports industry (fitness, gym, spas, among other things). Thus, the current canon of beauty is a social creation, as a result of multiple commercial interests.⁽²²⁾ Such interests guide the preferences and tastes of society through a symbolic violence, which in today's mediatised society may end up being distressing.

The current canons of beauty are unattainable for most of the population. These canons are based on a woman who is extremely slim, Caucasian (even looking pale or unhealthy), belonging to the upper-middle class,⁽²³⁾ very young (adolescent or "Lolita"),⁽²⁴⁾ and often with an attitude of trance or sexual subjugation to men, and with frequent allusions to androgynous, zoophilic, sadistic fantasies, as well as fantasies symbolizing rapes or orgies.^(25,26) It is also evidenced that women who are more exposed to magazines and television show greater discontent with their bodies.⁽²⁷⁾

These canons are expanding to childhood as well: society spreads through the media and advertising the canon of a thin and very active child, which collides with the continuous media's promotion of hypercaloric products that responds to other commercial interests, carrying serious health consequences.^(28,29) Childhood is an essential stage during growth, which is why rounded body shapes are normal just before getting an adult shape toward the end of adolescence.

Particularly, several studies have shown the importance of eating disorders associated with advertising in general.^(30,31) There have been research studies^(32,33) since the 1990s that indicate that the media and advertising are external factors triggering body image disorders. For the last two decades, the number of studies on the influence of advertising and entertainment content for children on their body self-image⁽³⁴⁻³⁷⁾ has increased. Such influence is growing, given that, in these days, children increasingly build their identities within a media culture of consumption, which is why they become consumers of all type of products from a very early age.⁽³⁸⁾ Those products are a complement to physical appearance often intended to modify it, for which purpose strategies are used to play

with the discontent and the desire of an ideal appearance. Exposure to the media and advertising images of ideally thin people is commonly associated with a concern about body image. Visual stereotypes are a significant source of simplified ideas that can strengthen prejudices and convictions concerning other people's bodies as well as one's own body. Particularly, the media promote the message that it is good to be thin; and being thin is connected with positive features such as popularity, esteem, physical activity, intelligence, among other features.⁽³⁹⁻⁴¹⁾

Eating disorders and education in values

The Preamble to the Constitution of the World Health Organization (WHO), which was adopted in 1946, provides a definition for health as follows: "Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."⁽⁴²⁾ Traditionally, families and schools have been in charge of educating individuals as upstanding citizens following an established universal moral. Generally, in educational institutions, the intention is to educate children to respect values such as dignity, responsibility, or solidarity.⁽⁴³⁾ Children are taught to face the different situations of life by means of specific values. In fact, at least from educational institutions, much work is being done to promote this global and positive concept of health in the form of values such as appreciation for hygiene, variety and richness of food, or the respect for the general care of the body. Recent research studies have detected small problems connected to body image throughout childhood and propose specific educational actions, like teaching values within family environments or day-care centers.⁽⁴⁵⁾ This line of work, which relates social and educational values to a broad concept of health, starts with the list of values suggested by Kahle, Beatty, and Homer⁽⁴⁶⁾: sense of belonging, fun and enjoyment of life, warm relationships with others, self-fulfillment, being well-respected, excitement, a sense of accomplishment, security, and self-respect. In this sense, Grunert⁽⁴⁷⁾ grounds his work on Maslow's basic needs and motivations⁽⁴⁸⁾ and attempts to study the values related to eating disorders in the German culture. In his research studies, this author

uses the *Dutch Eating Behavior Questionnaire*,⁽⁴⁹⁾ a tool based on values that is useful to study eating behavior and eating disorders, adapted to German society (*Fragebogen Ernährungsverhalten FEV*). Grunert⁽⁵⁰⁾ proposed an empirical study designed to verify the hypothesis that connected eating behavior, values, and personality, i.e. he claimed that values reflect personal shortcomings and are associated with compensatory disordered eating behaviors. Lack of “security,” for example, is connected to eating strategies that tend to contribute to an individual’s self-affirmation, which supports the thesis that values may be a good indicator of the influence of commercials in this sense. Therefore, the general hypothesis is formulated in these terms:

- H1. The perception of social, educational, and human values in food commercials on the part of young people is different depending on whether they have ED or not.

The organization Consumers International (CI) carried out a research study with consumers all around the world⁽⁵¹⁾ analyzing different aspects related to values in cereal commercials. The study considers that the use of cartoons with strongly stereotyped characters to promote food products with no healthy eating habits is irresponsible. This study links commercials to values like adventure, play, strength, affection, family, health, happiness, energy, intelligence, concentration, or sports. Although it is only emerging, this line of investigation seems to be divided into two branches: research studies applied to the identification and prevention of unhealthy conducts through the analysis of personal values, and research studies on the presence of values in the media and commercials.

The media in general and commercials in particular are some type of mirror in which society is reflected,⁽⁵²⁻⁵⁴⁾ given that they absorb reality and at the same time contribute to its construction.⁽⁵⁵⁻⁵⁷⁾ In a sense, they depend on a social, economic, or cultural order, which is affected by an important crisis of values, represented and stimulated by the media and summarized in commercials.^(58,59) Generally, eating disorders are a social or socialized disease⁽⁶⁰⁾ that society in general tends to silence or ignore.⁽⁶¹⁾ This may explain why young people are not able to detect the social causes of

this problem. However, this social silence should also be associated with the normalization of the canon of thinness by the media and with poor training in decoding the media. This certainty is leading the current research study toward a comprehensive educational approach to the problem, with the goal of young people suffering from eating disorders be able to identify this social and media distortion. This approach should consider the universal moral and ethical values (set out in socially recognized documents such as the declaration of human rights, or national and federal constitutions), and reconcile these values with an education in the media to help us have an in-depth understanding of the significance of media messages. In view of the foregoing, two sub-hypotheses may be formulated based on the type of advertising, the values defining it, and the analysis of the content of commercials (favorable or adverse) regarding these values:

- H1.1. The identification of the presence of values in a commercial varies depending on its content (degree of association between thinness and well-being, health, or success) among young people with and without EDs.
- H1.2. The evaluation of a commercial as favorable, or adverse, regarding each of the values identified in such commercial differs depending on its content and on whether or not the young people evaluating them suffer from EDs.

METHODOLOGY AND CONCEPTUAL BASIS

Procedure

A quasi-experimental design was applied during the month of June 2013, in which seven food commercials were presented to two groups of individuals from Barcelona with and without EDs. Immediately after each commercial, the participants answered a questionnaire about the perception of 25 values. We named this questionnaire Value Assessment Protocol or EVA Protocol [EVA refers to the Spanish “*Evaluación de Valores*”].

This Protocol defines, in the first place, an inventory of 25 values: friendship, well-being,

cooperation, culture, duties, democracy, rights, dignity, education, effort, family, justice/equity, equality, independence, intimacy, justice, freedom, morals/honor, order, peace, pluralism, health, responsibility, progress, and respect.

In the past few years, the concept of value has been defined by different authors in a very diverse way. Rokeach defines value as an "enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence"^(62 p.5); whereas Schwartz defines values as "desirable, trans-situational goals, varying in importance, that serve as guiding principles in people's lives."^(63 p.2)

With the purpose of adapting the concept of "value" to communication messages, we define value as follows:

...those elements of its contents and those features of the formal characteristics that form the set of qualities that give importance, validity or merit to a communication production, making it valuable for its adaptation to the needs of humankind and society.^(64 p.168)

Each value is developed in three dimensions^(64 p.172):

1. *Educational dimension*: its contents are aimed at improving human beings' intellectual, moral, and physical attributes.
2. *Human dimension*: its contents are oriented toward the defense of human beings' dignity as well as the fulfillment of their needs and their physical and mental development.
3. *Social dimension*: its contents are aimed at supporting human beings' inclusion, the defense of their rights, and the communication of their duties in social organizations.

Clearly, there is an educational dimension for each value, and there is an education value *per se* as well. On the one hand, the education value is focused on those aspects of advertising messages related to the educational system, which is why we define value as the representation, argumentation, or presence of favorable information or information that encourages the action and effect of developing human beings' physical, intellectual, and moral ability through teaching. On the other

hand, the educational dimension of each value focuses on the aspects based on human beings' intellectual, moral, and physical attributes, regardless of the educational institutions or a formal system of education.

There are other values in the inventory whose semantic fields could overlap, as in the case of health and well-being. As stated before,⁽⁶⁵⁾ the scope of the definitions of each value is limited with respect to the scope of the definitions of the rest of the values. Thus, as defined in the glossary we created, health is the representation, argumentation, or presence of favorable information or information that encourages a good physical or moral condition for oneself and for any other living being or community; and well-being is defined as the representation, argumentation, or presence of positive information or information that encourages the creation of material and social conditions that can provide the necessary elements for a good living and for a pleasant existence within society. In other words, health refers to a good physical and moral condition in a human being or group of human beings, whereas well-being refers to material and social conditions that enable human beings to live well within society.

This inventory has been tested in the Ibero-American area⁽⁶⁵⁾ and uses a positive formalization of the concept of value as a starting point, which is based on the analysis of three political documents having a universal nature, but with a different cultural origin: the Universal Declaration of Human Rights adopted by the United Nations, the Constitution of the Federative Republic of Brazil, and the Spanish Constitution.

In order to evaluate the presence of each value in a commercial, first the individual has to answer, value by value, whether he or she notices or not, the presence of values within the message, and subsequently the respondent has to make an assessment indicating the intensity of his or her perception on a seven-degree scale based on Osgood's semantic differential.⁽⁶⁵⁾ In this scale, the respondent decides if the content of the commercial is favorable or unfavorable regarding the value under analysis. Later, the answer will be codified as: -3, -2, -1, 0, 1, 2, 3. The total set of answers given by all respondents who answered the test is analyzed through an algorithm. This algorithm produces a rational number, also within

a range between -3 and 3. Such information expresses the relative weight of each one of the values in the commercial. The weighted sum of these relative weights, finally, helps measure the global burden of values in each commercial. The algorithm is calculated as follows:

1. *Measurement of the relative presence of each value:* the rate obtained by means of this procedure is the "intensity of value." This measure estimates the relative importance of each value and also compares the perception of the values within the same commercial on the part of different groups of participants. To calculate it, out of all the intensity data assigned to a value (between -3 and +3) by all the individuals assessing the commercial, we obtain the mode; and the mode of each value is weighted by its reliability, which is defined as the degree of consistency among all the respondents when deciding on the intensity of a specific value. Reliability is calculated by dividing the amount of equal answers by the total amount of answers obtained (respondents). The highest reliability would entail that all the respondents have assigned the same intensity to the value, in which case the mode reliability would be the highest possible, that is to say, 1. In the event of no consistency at all, reliability would be 0; and a reliability of 0.5 would show a consistency among half of the respondents choosing such mode. Thus, the intensity obtained (from -3 to +3) for each value is multiplied by the reliability value. In this way, the intensity of each value is weighed by the greater or lower consistency among the respondents' answers. Hence: [intensity of the value = mode \times reliability]
2. *Measurement of the global presence of values:* this second method of analysis produces a weighted rate that informs about the accumulated presence of values in the commercial. For its calculation, it is enough to sum up the "intensities of value" and to divide the result by the total amount of values of the inventory; that is to say: 25. This information, which we have called "global burden of values," helps us compare different commercials, in accordance with the global burden of values that each one of them can transmit. The global burden formula is: Σ (intensities of value) / No. of values assessed.

In order to compare the results obtained through this protocol from a conventional statistical perspective, the Student's t-test was applied through the statistical package SPSS.

The results will be presented using the algorithm created specifically for the analysis of values (EVA Protocol) along with the Student's t-test. On the one hand, it must be considered that the EVA Protocol makes a precise and independent calculation of each value, whose data help estimate the mode, that is to say, the coincident answers chosen by the majority of the respondents; therefore, the Student's t-test will only be applied to the mode of values. On the other hand, the Student's t-test searches for significant differences in the variance of each value assessed by one group of respondents or any other group, which is why the test will serve, mostly, to determine which values are assessed in a significantly different way in certain commercials.

To sum up, results must show: a) the degree of coincidence in the choice of values in each commercial; b) the intensity with which each value is perceived, particularly the sense of positive or negative assessment (favorable or unfavorable) of the content of the commercial regarding each value. Additionally, a reference to the global burden of value will be made, as this information indicates the degree of capacity (positive or negative) of the commercial to transmit values.

Materials

For this study, seven commercials were used. These commercials were being broadcast in the Spanish and/or Latin American television at the time the study was carried out (June 2013). The first commercial is related to training. It is a commercial about a charity marathon organized annually by the Catalan public television channel (TV3), based on the transmission of positive values: solidarity, tolerance, and friendship. The following six commercials deal with food products and have been used and classified by Casalé and Añaños.⁽⁶⁶⁾ The second commercial, a commercial for the brand Donuts, is part of a corporate campaign to celebrate the 50th anniversary of the brand, for which purpose the commercial uses a storyline about the freshness of the product and its

traditional and homemade production along with the emotive nature of the plot. In the third commercial, Activia targets women and invites them to “free themselves” and to have positive and brave attitudes to face life. The plot shows a woman who, when consuming the product, is able to get out of a labyrinth, and a part of the accompanying jingle lyrics, based on the message “free yourself,” says: “happiness is inside you.” The fourth commercial, a commercial for Special K, describes different types of jeans, showing slim models wearing these clothes, while modern and sensual music is playing. For one moment, a voice-over emphasizes: “your seduction weapon” and after that, this voice talks about a free calorie control program and the commercial ends with a close shot of the jeans brand in which it is written “Special K. Start paying attention to what you eat.” The fifth commercial, a commercial for Florette, uses a storyline about the freshness of its product (lettuce), and shows a group of people searching for the freshest lettuce in a field full of lettuces, then they collect and carry it (already packed in a bag) to a woman’s house. The sixth commercial, All Bran’s, argues that “dining too much can lead to a morning discomfort,” while the image shows a dog being rejected from its moody master’s room, who throws a pillow at it. The voice-over recommends (with a sexy voice) to only dine those “delicious” cereals while close shots of the cereals falling into a bowl are shown in slow motion. Finally, the voice says: “This way you will be healthier, and you will wake up in a better mood. If you feel healthy, you show it. Having All Bran for dinner, too.” The last commercial, again another commercial for Special K, shows a joyful young woman having her breakfast, and when she is about to bite a small *ensaimada* [light, spiral-shaped pastry typical of Mallorca], her imagination takes her to that dreaded moment of standing up on a scale followed by a moment of joy for having lost weight and the connection with happy images in which she is in front of a mirror wearing tight clothes. When the protagonist is back to reality, the commercial shows her rejecting the *ensaimada* in a happy and convinced way, taking the cereal box from a shelf, while the voice-over adds: “A bad choice can make you lose all that you have achieved. For that reason, maintain your

figure easily having a delicious bowl of Special K regularly for breakfast.”

Those ads that use a stereotyped and standardized human body and base their “reason why” on an ideal body image have been considered commercials “with body image strategy.” These are commercials number 4, 6, and 7. The other three commercials (2, 3, and 5) show ordinary people, both regarding their features (elderly, adults with a natural physique) and the way image is handled (without travelling shots of the protagonists’ bodies or close shots to different parts of their bodies). During the experimental test, participants could look up in a glossary containing definitions of the 25 values, with their three dimensions itemized.

Participants

This study had 139 participants from two well-differentiated groups: the first group comprised 66 individuals (women) with EDs, patients of the Institut de Trastorns Alimentaris in Barcelona, aged between 18 and 25. The patients presented the following disorders: non-purging anorexia, purging bulimia, and eating disorders not otherwise specified (EDNOS). These three types of conditions are eating and psycho-perceptive disorders with social causes, for they constitute a homogeneous study group regarding perception of values in advertising. The second group comprised 73 individuals without eating disorders (without diagnosed disorders), who were students of the Universitat Autònoma de Barcelona, 11 of whom were men (15%), and 62 were women (85%), also aged between 18 and 25. Therefore, the first group comprised people of only one sex (female), while the second group comprised people of both sexes, though mainly women. This difference does not affect the application or the result of the study, given that it is a generic test that does not make any references to gender issues.

The participants of the Institut de Trastorns Alimentaris in Barcelona were contacted through Antoni Grau, responsible for the area of Knowledge and Research of that institute, and the study was carried out with the fully informed consent of the patients.

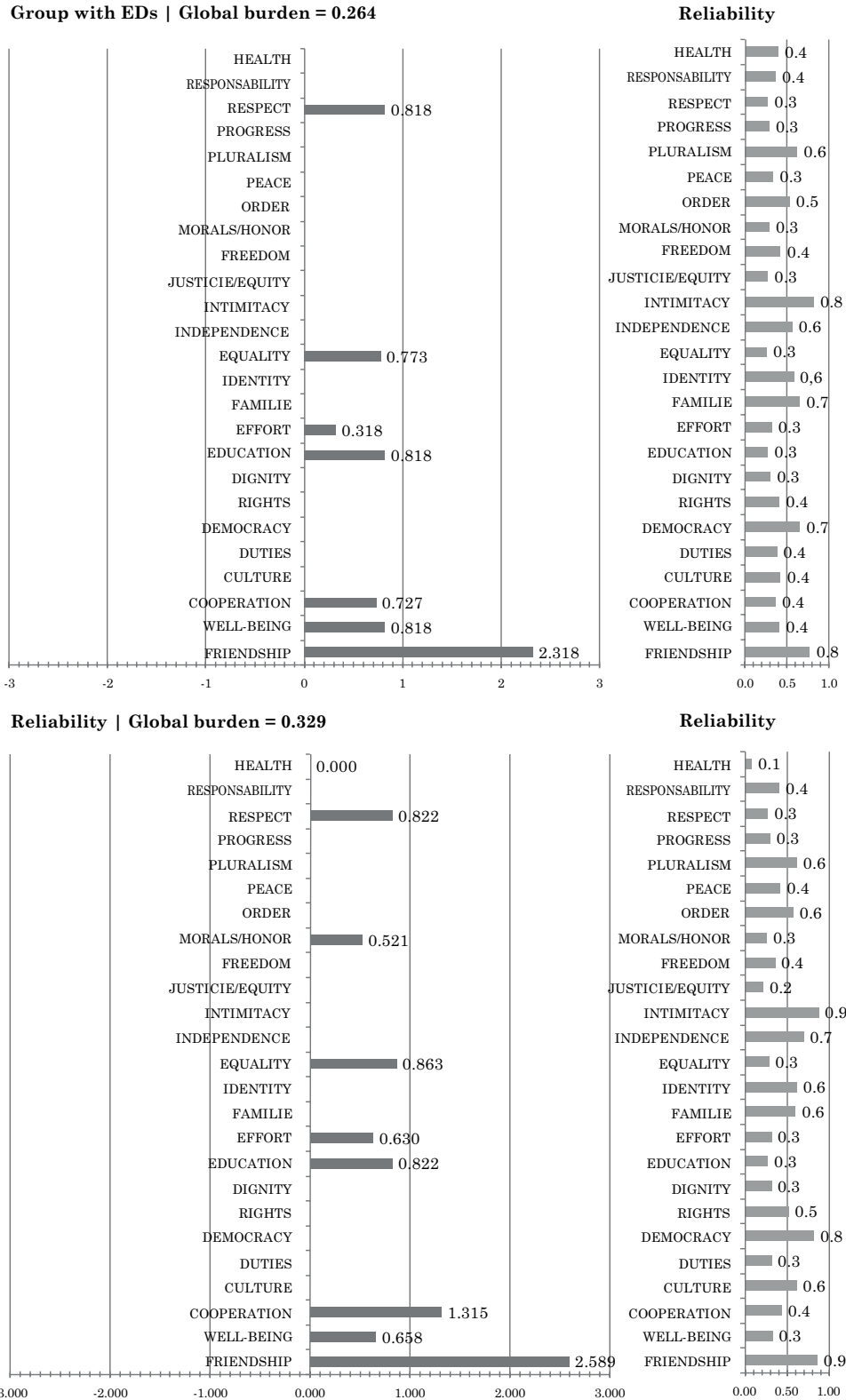


Figure 1. Global burden and reliability of commercial 1 (TV3), based on the spectrum of values of the EVA Protocol, in groups with and without eating disorders. Barcelona, 2013.

Source: own elaboration.
EDs = eating disorders.

RESULTS

As a general pattern, both groups (with and without EDs) have concurred in choosing values as the elements defining the seven commercials of the sample with an average reliability that goes from 0.3 to 0.6, depending on the values and the commercials (it should be noted that reliability is the degree of consistency in the choice and assessment of the value among the individuals: if there is unanimity, the reliability will be 1; if there is a consistency of 50%, reliability will be 0.5).

Two features generally differentiate the two groups. On the one hand, young people with EDs show less receptiveness to values. On the other hand, in those commercials with body image strategies, the group with EDs tend to assess the content regarding key values (i.e., values that are important when it comes to the topic of food ads) in an intensely negative way, whereas the group without EDs rate the contents of the commercials in a moderately positive way.

In the first commercial (Figure 1), the individuals with and without EDs agree on 7 perceived values out of the 25 available values (respect, equality, effort, education, cooperation, well-being, and friendship). Moreover, the assessment of these seven values is also very similar: for that reason, the Student's t-test is not important in any value. In particular, the value friendship predominates with positive scores of 2.3 (with EDs) and 2.6 (without EDs) respectively, and a high reliability degree of 0.8 and 0.9. The values respect, equality, education, and well-being obtained positive assessments of 0.7 (with EDs) and 0.8 (without EDs), with reliability degrees of around 0.3. The answers provided by the two groups of adolescents show a slight variation in two values: effort, with a value of 0.3 on the part of the group with EDs (reliability 0.3) and 0.6 on the part of the group without EDs (reliability 0.3), and cooperation, better valued by the latter group with a score of 1.3 (reliability 0.4).

The second commercial (Figure 2), the one for Donuts, shows results which are similar to commercial 1. In the first place, there is a consistency as regards the positive assessment of four values (friendship, well-being, cooperation, and effort), although less intensity is given by young

people with EDs (1; 0.5; 1.1; and 0.3 respectively) in relation to young people without EDs (0.7; 0.3; 1.7; and 0.8 respectively), generally, with a degree of reliability between 0.3 and 0.6. In the second place, there are some values that present differences, although the lack of a mode has prevented the EVA Protocol from detecting them. These values are responsibility and progress, which the Student's t test did detect. As evidenced in Table 1, the group with EDs make a significantly more negative assessment than the group without EDs. As a donut is such a high-calorie product, it makes sense to consider the commercial to be not responsible and not connected to progress.

The third commercial (Figure 3), the one for Activia, follows the pattern of the first and second commercials: both groups of young people chose the same values, and the intensities of the values are rather similar (slightly higher in the case of young people without EDs). Similarly, the global burden is twice as high in the individuals without EDs (0.194) than in those with EDs (0.11). Only the value health shows remarkable differences in the degree of positive intensity given by the group with EDs (0.6) compared with the group without EDs (1.6); and the value well-being also shows slight differences. The value freedom does not show substantial differences, as evidenced in the chart and the lack of statistical significance of the Student's t-test (Table 1).

The fourth commercial (Figure 4), the one for Special K, is the first commercial with a body image or weight-loss strategy. Remarkably, it shows a different pattern regarding the perception of values: the same values were chosen by both groups but with clearly opposing intensities. This commercial presents only two values – health and well-being – evaluated by both groups with opposed assessments (Table 1). In addition, the global burden of the commercial is negative for the group with EDs (-0.067), and slightly positive for the group without EDs (0.014).

The fifth commercial (Figure 5) – a food commercial, but without a body image strategy – shows the same two values, health and well-being, but in this case positively rated in a similar way by both groups (common pattern with the other commercials without body image strategy: commercials 1, 2, and 3), especially the value wellbeing, assessed with 0.6 by the group with EDs (reliability 0.3) and

Table 1. Burden, reliability, and statistical significance for concurrent values of the EVA Protocol in groups with and without eating disorders. Barcelona, 2013.

Values	EVA Protocol				Student's t-test			
	With EDs		Without EDs		With ED		Without EDs	
	Burden	Reliability	Burden	Reliability	Average	p- Value	Average	p- Value
Commercial 2								
Responsibility	-	-	0.8	0.4	1.37	<0.005	1.98	<0.005
Respect	-	-	0.6	0.3	1.73	0.198	1.42	0.198
Progress	-	-	0.7	0.3	0.64	<0.005	1.51	<0.005
Commercial 3								
Health	0.6	0.3	1.6	0.5	-0.87	<0.000	1.38	<0.000
Well-being	1.3	0.4	1.7	0.6	-0.41	<0.000	1.89	<0.000
Freedom	1.1	0.4	1.6	0.6	1.59	<0.050	2.29	<0.050
Commercial 4								
Health	-1.0	0.3	0.0	0.2	1.48	<0.001	2.32	<0.001
Well-being	-0.7	0.2	0.3	0.3	1.19	<0.001	-0.41	<0.001
Commercial 5								
Well-being	0.6	0.3	0.7	0.4	1.38	0.287	1.60	0.287
Health	0.8	0.3	1.2	0.4	1.53	0.001	2.23	0.001
Cooperation	-	-	0.5	0.3	1.56	0.119	1.20	0.119
Commercial 6								
Health	-0.4	0.2	0.8	0.4	-0.80	<0.000	1.68	<0.000
Family	0.2	0.2	0.8	0.4	0.94	<0.050	1.64	<0.050
Well-being	0.5	0.2	1.1	0.4	0.68	<0.000	2.07	<0.000
Commercial 7								
Health	-1.5	0.5	0.2	0.6	-1.55	<0.000	0.24	<0.000
Effort	-1.0	0.3	0.4	0.2	-0.88	<0.050	0.34	<0.050
Well-being	-1.0	0.3	0.2	0.2	-1.15	<0.050	-0.29	<0.050

Source: Own elaboration

EDs = Eating disorders.

Note = In this table commercial 1 was not included given that the Student's t-test was not statistically significant in any value.

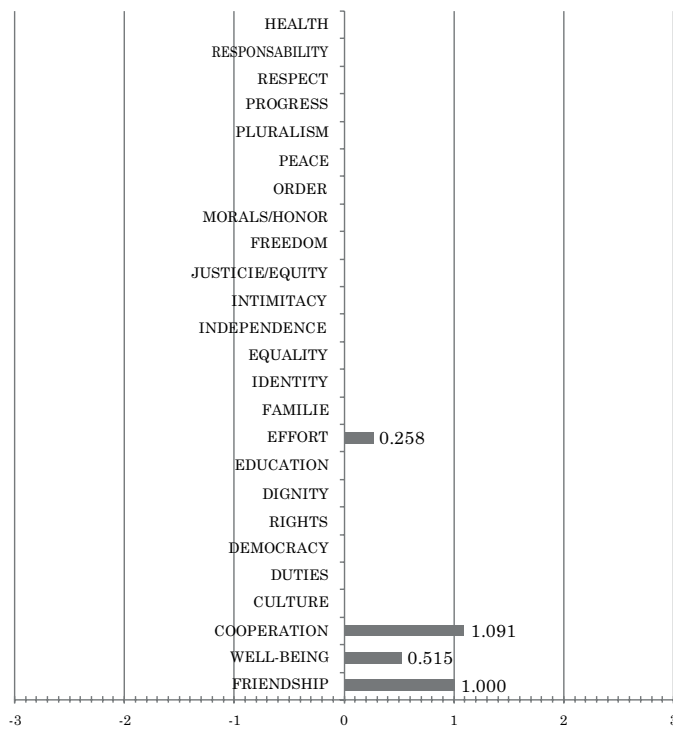
with 0.7 by the group without EDs (reliability 0.4). As far as the value health is concerned, it was evaluated with 0.8 by the group with EDs (reliability 0.3) and with 1.2 by the group without EDs (reliability 0.4). For that reason, the Student's t-test for equal variances only deems the latter significant (Table 1). Furthermore, only the group without EDs perceives the value cooperation, which was not detected by the Student's t-test.

The sixth commercial (Figure 6), the one for All Bran, has an impact on the creative strategy of staying fit, but not specifically of losing weight. Thus, the choice of values by both groups is identical (health, family, and well-being), but their

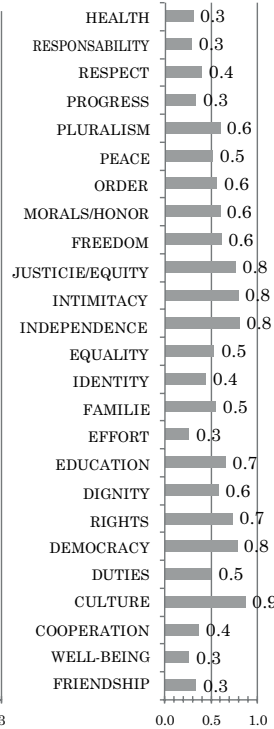
intensity is opposed in the case of health: -0.4 for the group with EDs, and 0.8 for the group without EDs (reliability 0.18 and 0.4 respectively); and it is slightly different in the case of family and well-being (Table 1).

The last commercial (Figure 7), the one for Special K, is the commercial which more clearly advocates for the storyline of losing weight, and the results are clearly in accordance with the pattern of perception of values in commercials with a body image strategy: both groups agree once again on the choice of the three values present in the commercial (health, effort, and well-being), but with intensities of opposite signs (Table 1).

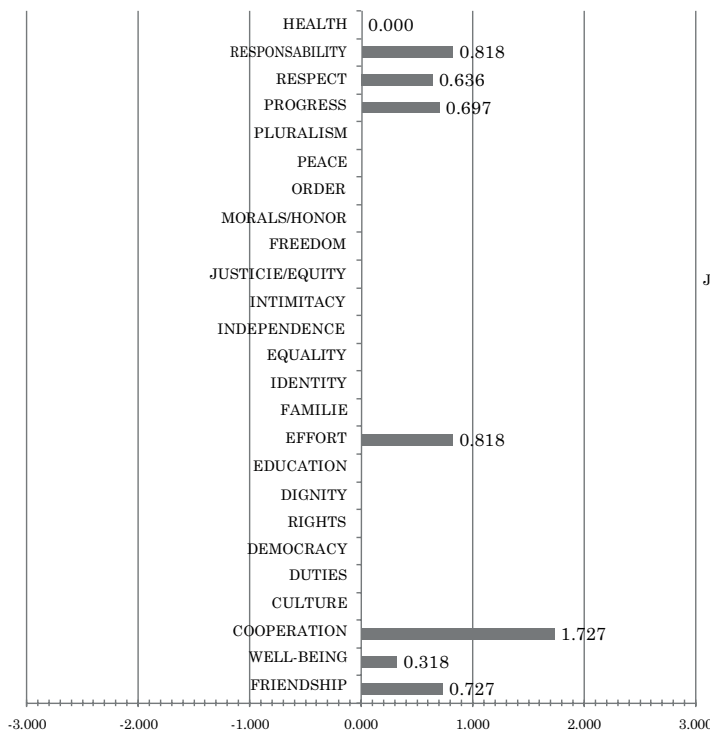
Group with EDs | Global burden = 0.114



Reliability



Group without EDs | Global burden = 0.230



Reliability

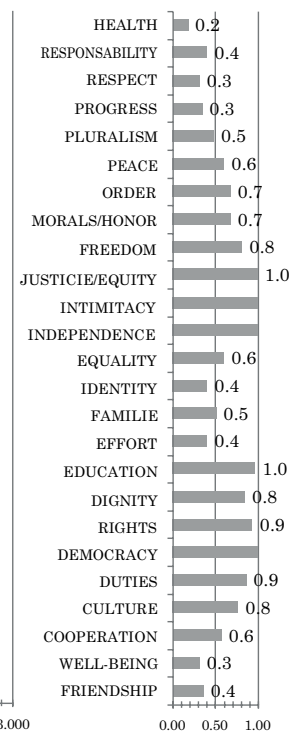


Figure 2. Global burden and reliability of commercial 2 (Donuts), based on the spectrum of values of the EVA Protocol, in groups with and without eating disorders. Barcelona, 2013.

Source: own elaboration.
EDs = eating disorders.

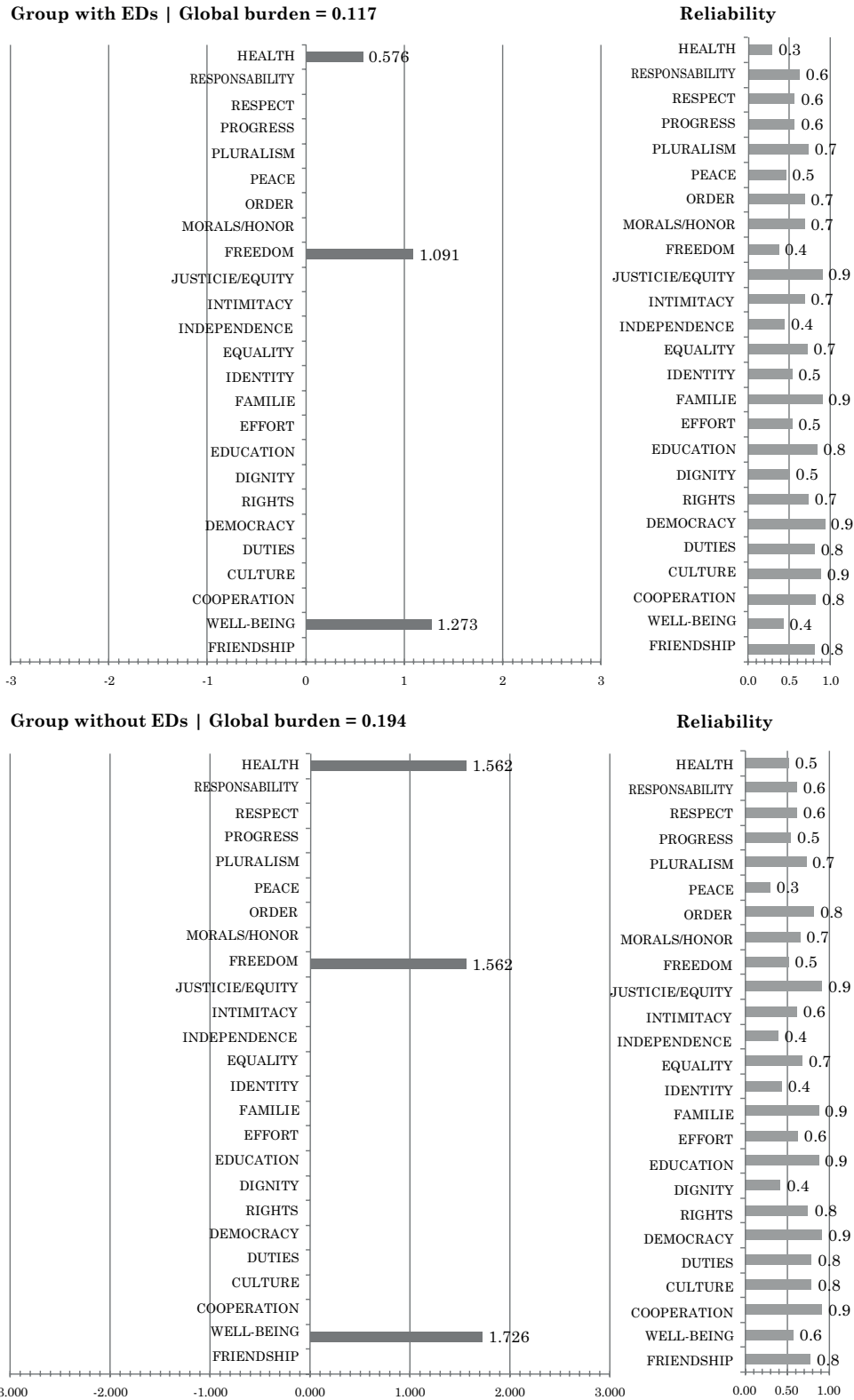


Figure 3. Global burden and reliability of commercial 3 (Activia), based on the spectrum of values of the EVA Protocol, in groups with and without eating disorders. Barcelona, 2013.

Source: own elaboration.
EDs = eating disorders.

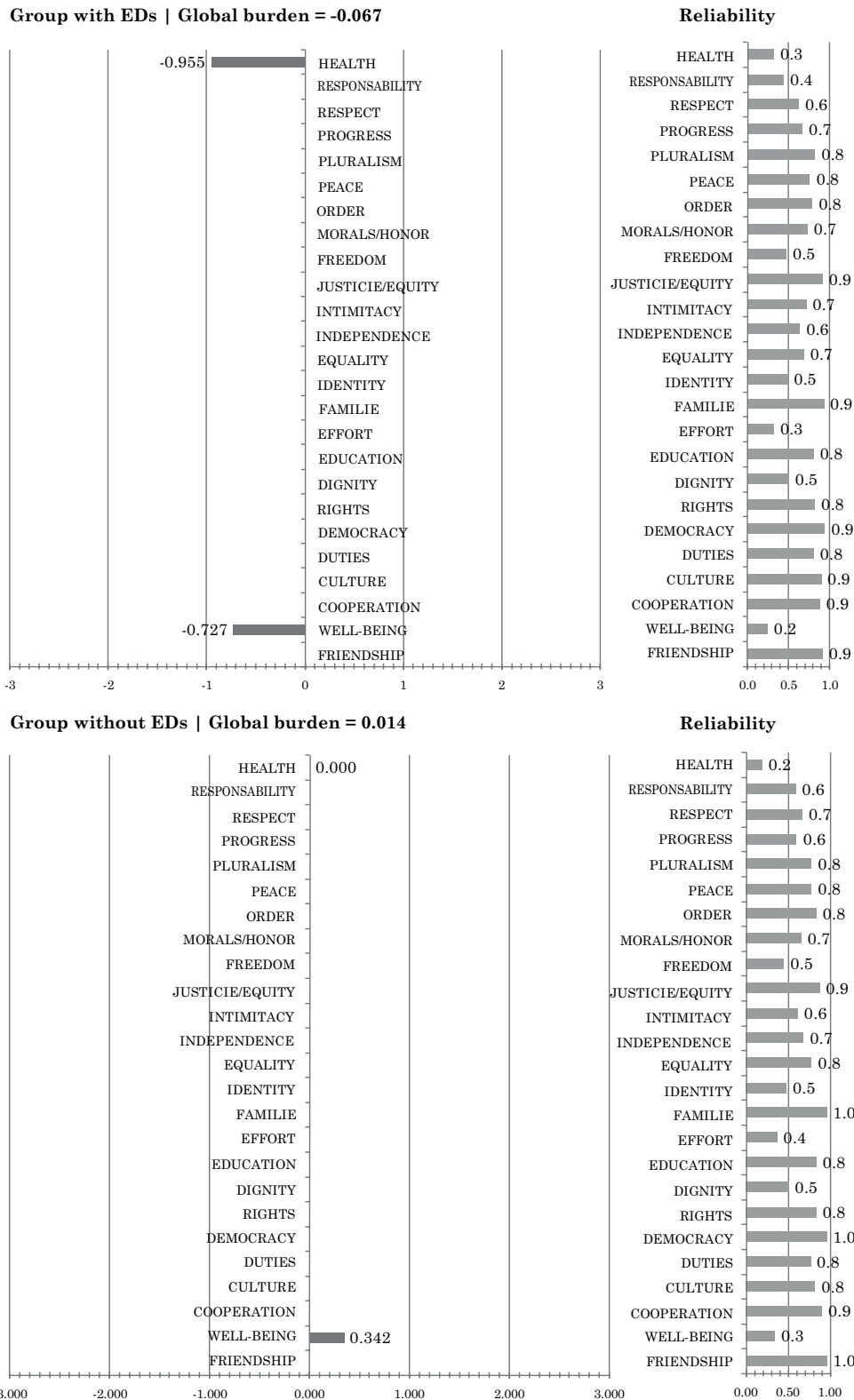


Figure 4. Global burden and reliability of commercial 4 (Special K), based on the spectrum of values of the EVA Protocol, in groups with and without eating disorders. Barcelona, 2013.

Source: own elaboration.
EDs = eating disorders.

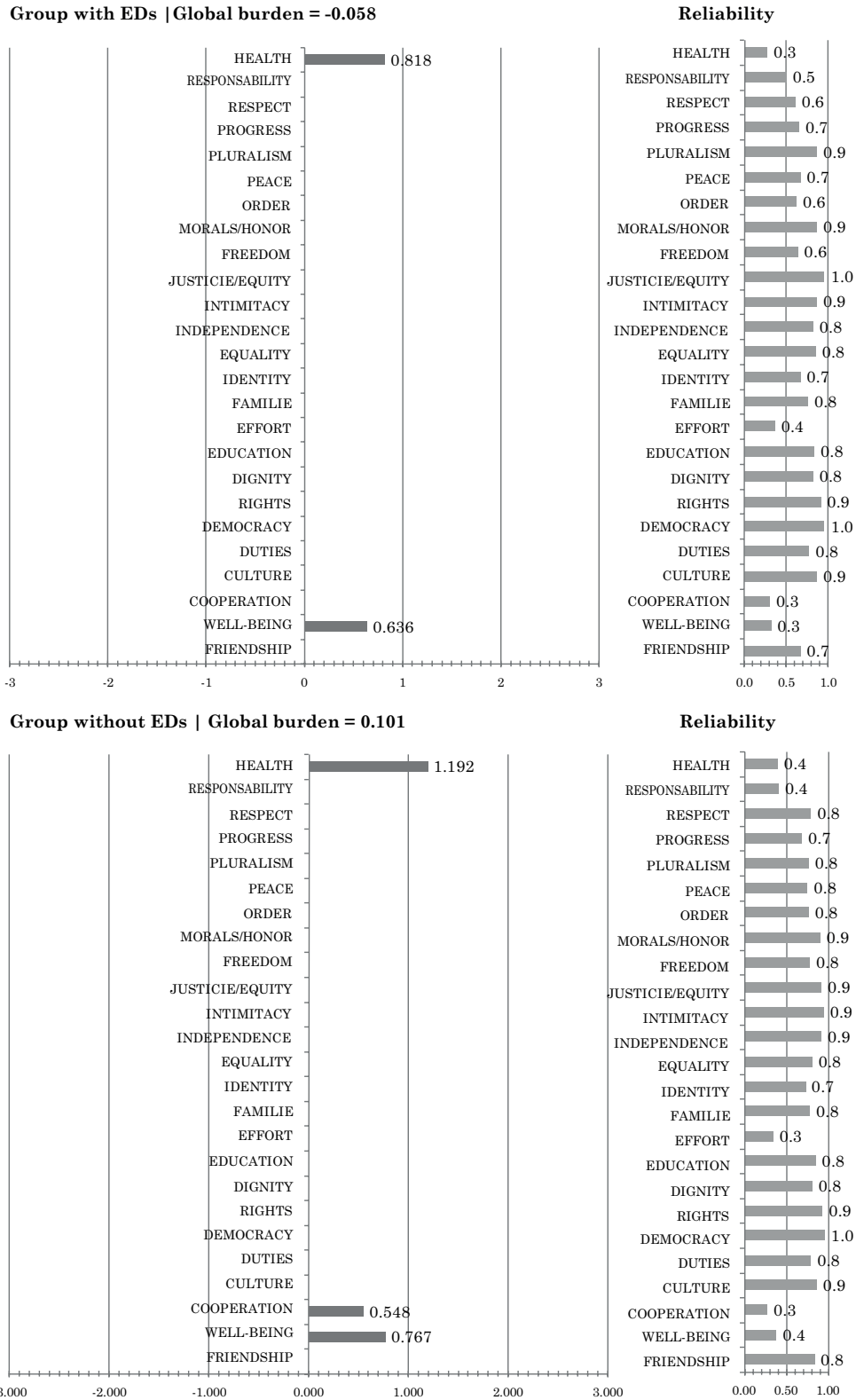


Figure 5. Global burden and reliability of commercial 5 (Florette), based on the spectrum of values of the EVA Protocol, in groups with and without eating disorders. Barcelona, 2013.

Source: own elaboration.
EDs = eating disorders.

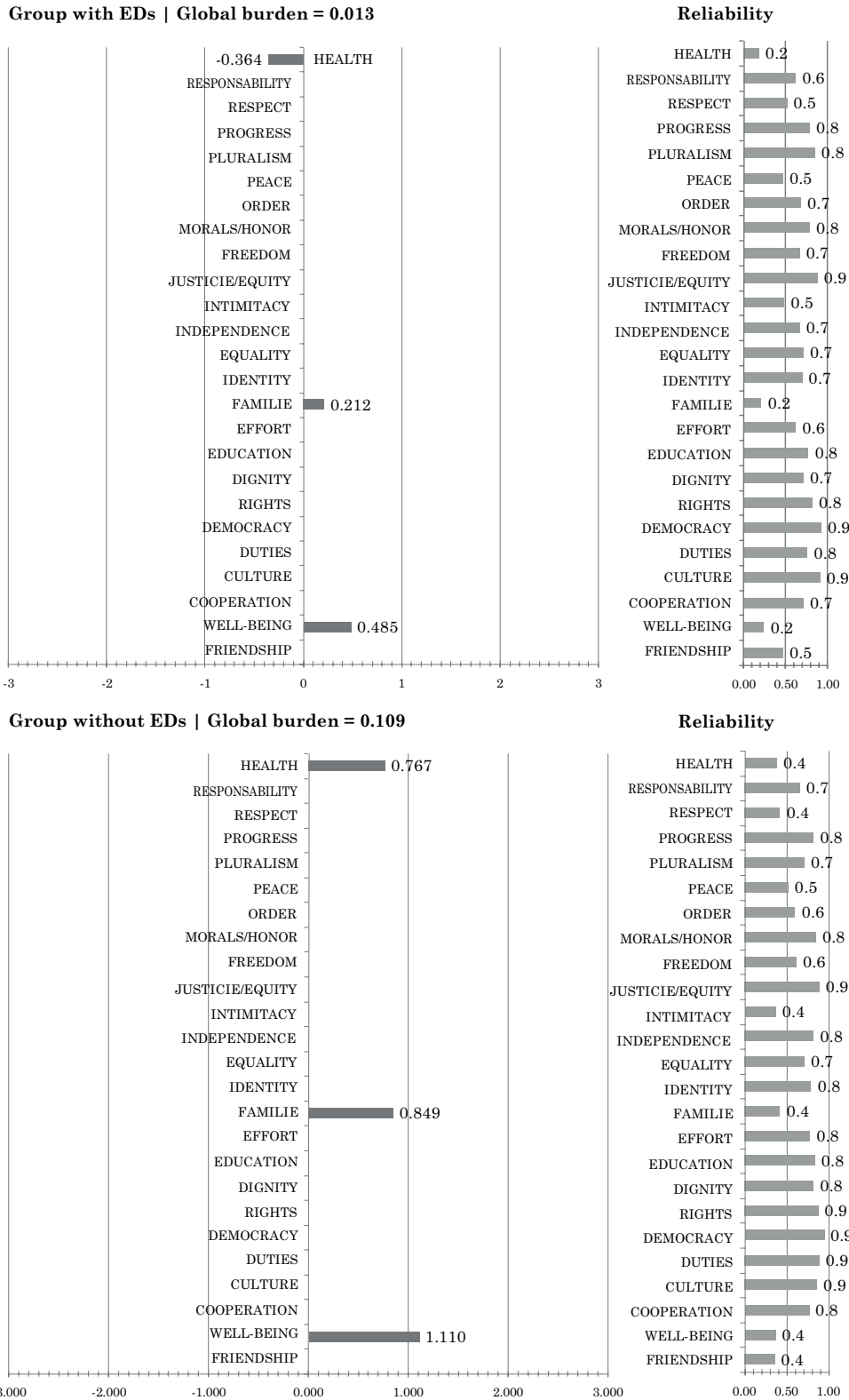


Figure 6. Global burden and reliability of commercial 6 (All Bran), based on the spectrum of values of the EVA Protocol, in groups with and without eating disorders. Barcelona, 2013.

Source: own elaboration.
EDs = eating disorders.

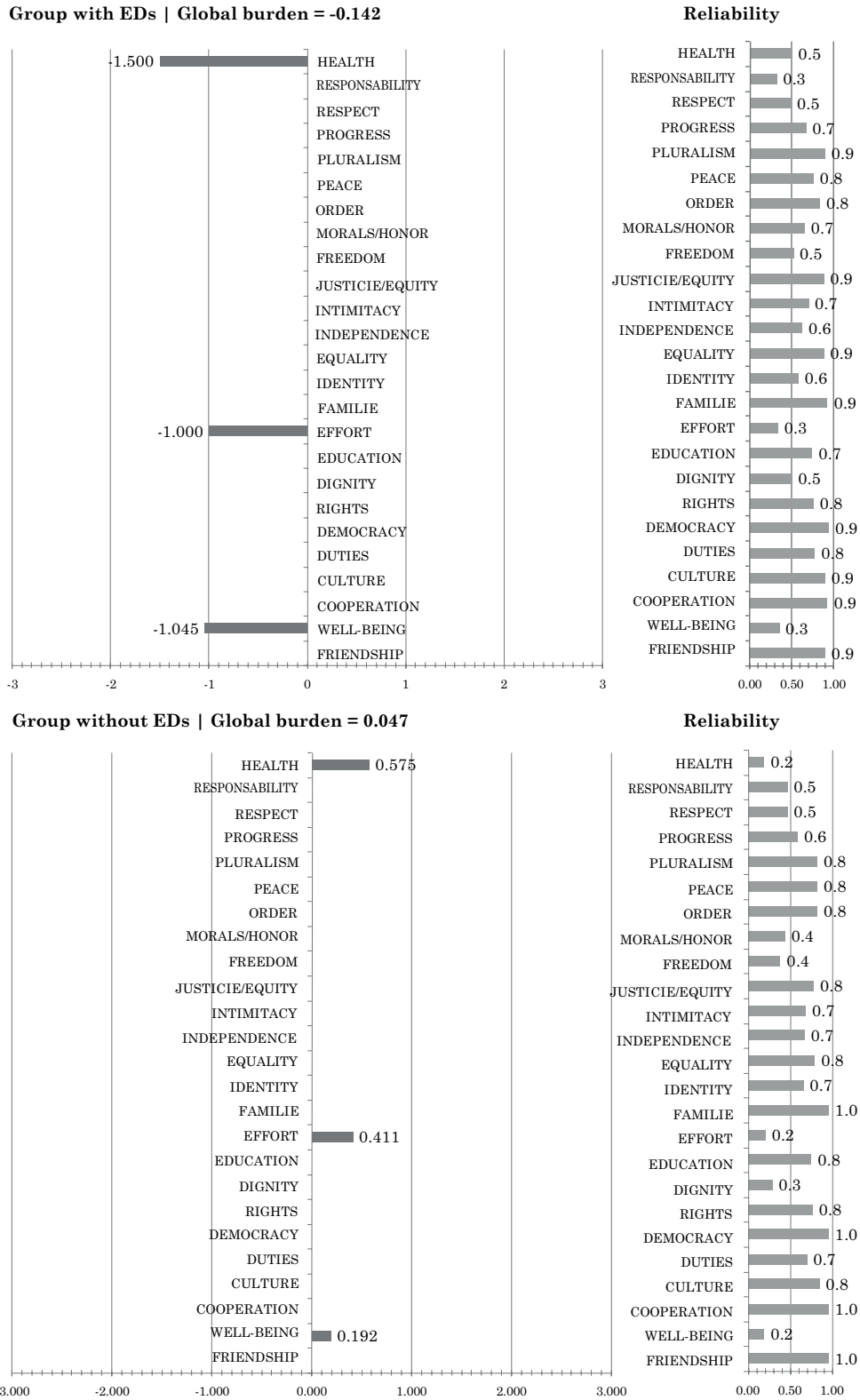


Figura 7. Global burden and reliability of commercial 7 (Special K), based on the spectrum of values of the EVA Protocol, in groups with and without eating disorders. Barcelona, 2013.

Source: own elaboration.
EDs = eating disorders.

DISCUSSION

Our study data show that the perception of social, educational, and human values in television food commercials⁽⁶⁶⁾ is indeed different in the group with EDs and the group without EDs; therefore, it can be affirmed that the main hypothesis is supported. The differences detected by this study consist in the fact that opposite assessments given by the two sample groups of individuals (with and without EDs) can be observed with respect to the influence (favorable or unfavorable) of the three commercials (the ones using body image strategies) in connection to the perception of values. This observation also demonstrates that the second sub-hypothesis is supported, whereas the first sub-hypothesis is not, given that the data indicate that there is a general consistency in the values identified by both groups as being present in the commercials under study.

The high degree of consistency in the values that young people with and without EDs perceived in the commercials shows that the EVA Protocol is effective for assessing values in communicative products. Furthermore, the parametric statistic Student's t test has confirmed the existence of substantial differences between both groups with regard to specific values. This helps us interpret the general coherence and the specific differences in certain commercials and certain values.

In commercial 1, there is coherence between the two groups, both in the identification of values and the degree of intensity perceived, as evidenced in Figure 1. There are differences only in two values not included by the Student's t-test. On the one hand, young people with EDs focus on cooperation or help among the protagonists of the commercial (the monkeys), whereas young people without EDs pay more attention to the effort put into learning. On the other hand, the value morals/honor is not considered present by the group with EDs, but it is considered present, and with a positive assessment, by the group without EDs. However, in general, except for the value morals/honor, the values represented, including cooperation and education, got very similar average scores, i.e. without substantial differences. As it is a commercial without body image references, it seems logical that the spectrum of values shows

a result with similar average scores between both groups in the main values that define it: friendship, well-being, cooperation, effort, and education.

The same happens in commercials 2, 3, and 5 (also without references to body image): the spectrum of values in each group (see Figures 2, 3, and 5) is very similar: presence of the same values and same degree of perceived intensity – favorable content assigned to the value (positive data) or unfavorable content assigned to the value (negative data) –, with the difference being that higher intensity is observed in assessments made by individuals without EDs. The global burdens of the values again tend to be higher in the case of individuals without EDs. Although the motivation has not been considered in this research study, the data obtained clearly demonstrate that young people without EDs are more sensitive to the perception of values in advertising.

Commercials 4, 6, and 7, which use body image strategies (diet and weight-loss), provide the second pattern detected: both groups perceive the presence of the same values (usually well-being, health, effort, and family), but in this case, each group assesses the contents of the three commercials with intensities of opposite signs (negative in the case of the group with EDs, and positive in the case of the group without EDs). Apparently, the individuals without EDs find it difficult to perceive the value health in these commercials, given that there is little consensus in the assessment of this value (low reliability). Conversely, the individuals with EDs give answers carrying a clearly negative judgment. Thus, while the group with EDs presents reactive answers that reveal certain ability to construe the negative consequences that this type of storylines about one's own health and well-being involves, the group without EDs does not go beyond the explicit message that justifies thinness and seems to accept it without further analysis. This interpretation of the results is consistent with the intense sociocultural, psychological, media, and advertising education received by the group of young people with EDs while they are being treated at the Institut de Trastorns Alimentaris in Barcelona.

The last commercial (Figure 7, Special K) is the one that provides clearer evidence of the social and media problem because this is the most direct and aggressive commercial: a small *ensaimada*

is rejected for breakfast as a way of staying fit. In this case, the three recurrent values in the creative strategies of the food products (health, effort, and well-being) are assessed in a radically opposite way by both groups. It should be highlighted that, in the negative assessment of this commercial, the group with EDs shows high reliabilities, which indicates that the majority of these individuals responded convincingly; whereas the group without EDs seems to have responded more doubtfully because their intuition tells them that the message does not clearly convey positive values.

CONCLUSIONS

The results obtained show that the perception of values in advertising has a major role in the serious social problem posed by altered eating behaviors as a result of the current body image of adolescents.

There is evidence about the high degree of consensus among individuals with or without EDs in the perception of values such as friendship, equality, security, education, and progress, in food commercials in general, but there are also significant differences in this type of commercials with body image strategies, particularly in the positive or negative assessment of the values health and well-being. In general, these commercials convey messages that clearly promote unhealthy behaviors (such as skipping dinner, feeling guilty for having a small *ensaimada* for breakfast, being obsessed with calorie counting), which is why it is significant that the group with EDs considers these values negative, and the group without EDs considers them positive, especially the values health and well-being, and sometimes, effort. All these data help us deduce that the former group of individuals has learnt to interpret this type of messages because of the serious consequences of the condition that affects them and the training and therapy they are receiving in the institution where they are being treated. The latter group makes an interpretation of these commercials perfectly assimilated into the advertising spots of the social context.

On the one hand, the group without EDs has not noticed the negative effect of the commercials on health and well-being related to the behavior

that these commercials promote. In addition, the individuals of this group seem not to be able to distinguish the real purposes of the commercials under analysis, given that they have completely assumed the media-advertising codes in the trending social and economic order. Consequently, today's Spanish university population is ill-equipped to foresee the adverse effects of the messages conditioned by commercial interests.

On the other hand, the group of individuals with EDs is formed by young people that, in the first place, are being treated in an institution where they receive a specific media education for this type of messages. The fact that they are held in institutions being treated for conditions caused by this type of behavior makes them more sensitive to these issues; this would explain the strong negativity when assessing the commercials with contents based on body image strategies regarding health, well-being, and effort. This answer can also be determined by personal situations, as they are high-risk individuals, and therefore, highly sensitive.

It can also be concluded that the use of strategies that we have called "body image strategies" in advertising goes against the values contained in the Universal Declaration of Human Rights and in the Constitutions of democratic countries. Therefore, we consider that the results of this study should raise awareness among public authorities about the importance of controlling these social dysfunctions when it comes to transmitting values through advertising, especially in food advertising addressed to young people.

As the alluded studies have shown, the role of media in general is of high importance in the creation of a collective consciousness, an advanced culture, and an integral education in values toward a comprehensive health, based precisely on the concepts of well-being and effort. This line of thought, introduced by Grunert, should pursue an integral media education based on the identification and reinforcement of education in values, and not just on a media education determined by the normalization and naturalization of canons constructed in a social and normative way by large western pressure groups.

Finally, the global coherence shown in the results validates the correct functioning of the tool. This is a tool for measuring the perception and assessment of values in populations that

receive audiovisual advertising material: the "EVA Protocol,"⁽⁶⁴⁾ which is a validated scientific procedure that enables the objective measurement and comparative assessment of the burden of human values, whether educational or social, contained in a message or a number of messages, and targeting a specific audience. The proper functioning of this procedure in the case we are presenting shows its great potential and its

usefulness to serve as a measurement tool in research problems related to the transmission and perception of values in any type of messages and fields. This tool may become a standard for controlling advertising messages about food products, detecting risks in mental disorders, and assessing the effects of learning processes that help compensate them.

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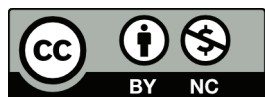
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