OFFENSIVENESS OF CONTROVERSIAL PRODUCTS FOR STUDENTS OF THREE DIFFERENT FIELDS OF STUDY IN BRAZIL

PRODUTOS CONTROVERSOS NO BRASIL: A INFLUÊNCIA DA ÁREA DE CONHECIMENTO

ABSTRACT

Purpose: investigate the offensiveness of controversial products in Brazil, especially the influence of the field of study.

Design/methodology/approach: a questionnaire with 11 controversial products was conventionally answered by a sample of 368 college students from the three most popular fields of study in Brazil (i.e. Human Sciences, Biological and Health Sciences, and Exact and Technological Sciences). The offensiveness of each controversial product was measured and compared across those fields of study through t-tests.

Findings: Controversial products did not easily offend respondents being guns, weight-loss medicine, and female underwear the most offensive ones. In general, students of Human Sciences are the most easily offended and those of Exact and Technological Sciences the least offended. In addition, results showed differences and similarities between people from each field of study.

Originality/value: Improvement of our knowledge about controversial products in Brazil, especially about the influence of the field of study in the offensiveness of controversial products.

Keywords: Controversial products; Unmentionable products; Socially sensitive products Advertising offensive products; Fields of study.
RESUMO

Objetivo: investigar a ofensividade de produtos controversos no Brasil, principalmente a influência da área de conhecimento.

Design/metodologia/abordagem: um questionário com 11 produtos controversos foi convencionalmente respondido por uma amostra de 368 universitários das três áreas de conhecimento mais populares no Brasil (i.e., Ciências Humanas, Ciências Biológicas e da Saúde e Ciências Exatas e Tecnológicas). A ofensividade de cada produto controverso foi medida e comparada entre essas áreas de conhecimento por meio de testes t.

Descobertas: Produtos controversos não ofenderam facilmente os participantes, sendo armas, remédios para emagrecer e roupas íntimas femininas os mais ofensivos. Em geral, os estudantes de Ciências Humanas são os mais facilmente ofendidos, e os de Ciências Exatas e Tecnológicas os menos ofendidos. Além disso, os resultados mostraram diferenças e semelhanças entre as pessoas de cada área de conhecimento.

Originalidade/valor: Aprimoramento do nosso conhecimento sobre produtos controversos no Brasil, especialmente sobre a influência da área de conhecimento na ofensividade de produtos controversos.

Palavras-chave: Produtos controversos; Produtos não-mencionáveis; Marketing de produtos ofensivos; Áreas de conhecimento; Produtos socialmente sensíveis.

1 INTRODUCTION

During the marketing communication process, companies always seek effective ways to deliver their messages without causing any negative feelings; therefore, there is special care for advertisements not to produce undesired effects, with their decency being a matter of social responsibility that always generate concerns for companies (Shao, 1993).

However, there are products, services, or concepts that can cause unwanted sensations in people, leading ads involving them to provoke discomfort, disgust, outrage, and offense (Wilson & West, 1981), with related advertising being constantly banned by governments, companies, and self-regulation (Shao & Hill, 1994; Boddewyn, 1991; Google, 2019). As well, many investors constantly avoid companies involved in those businesses (Chatjuthamard, Wongboonsin, Kongsompong, & Jiraporn, 2018). According to Waller (2005), academic research described these products, services, and concepts in several ways, like controversial products, unmentionable products, decent products, offensive products, and socially sensitive products (during this study, we will use the term controversial products).

It is not hard to instance controversial products as there are classic examples widely known, such as cigarettes, alcohol, gambling, and drugs (Waller, 1999). Moreover, Tariq and Khan (2017) argue that if there are people offended by some advertisement of a product, it becomes controversial. Nevertheless, one product may be controversial for a person and not for another, with several possible reasons, which brings extra challenges for marketers. Therefore, conducting studies about controversial products is important because it helps companies in the development of global promotion strategies, the development of creative ways to communicate a message without generating offense, and the growth of new media (Waller et al., 2005). In addition, the fact that people are becoming more aware of some products makes studies about them even more necessary. Moreover, players such as advertising designers also benefit by developing an understanding of what some people perceive as offensive (Waller, 1999).

Whether they are moral, psychological, or emotional, understanding the reasons why a product is controversial is critical (Katsanis, 1994) since lower offensiveness of controversial products may lead to a more positive brand attitude and greater purchase intention (Fam, Waller, & Yang, 2009). Thus, trying to understand those reasons, several studies have been conducted seeking to
find possible influencers of people’s behavior in finding the advertisement of a controversial product offensive or not, such as gender (Akhter, Abbasi, & Umar, 2011; Waller, 1999; Fahy, Smart, Pride, & Ferrell, 1995; Fam et al., 2009; Jensen & Collins, 2008), and geographical location (Waller, Fam, & Erdogan, 2005; Fam & Waller, 2003; Shao & Hill, 1994). However, this is a poorly studied topic. Thirty-eight years after Wilson and West’s (1981) pioneer article, there are fewer than 20 articles truly related to understanding more about them in the Scopus database, the largest abstract and citation database of peer-reviewed literature (Scopus 2019). Then, there is a clear need to increase knowledge about controversial products.

In Brazil, studies with students from different fields of study are quite common, covering different types of researches (Giraldi, 2006; Gasparotto, Gasparotto, de Salles, & Campos Martins, 2013; Martins, Santos & Bariani, 2005; Alencar, 1997; Miranda, Filgueiras, Neves, Teixeira, & Ferreira, 2012) as people can choose different fields of study to meet different needs and particular desires (Giraldi, 2006).

The choice of an undergraduate degree can be affected by psychological factors, such as the motivations for further education (Skatova & Ferguson, 2014). Therefore, as disciplines vary about their capacity to fulfill these motivations, it can be expected similar people in a particular field of study, with distinct stereotypes about students and professionals in each field of study, with the holding of specific appearance, behaviors, personalities, and attitudes (Bruun, Willoughby, & Smith, 2018). As well, if there is a lack of the feeling of belonging in a field of study, people are less likely to persist in their studies because of our strong desire for social belonging (McMenamin, 2017). Therefore, it is more likely that someone persists in a degree or field in which there is social and ability belonging (Lewis & Hodges, 2015; Lewis et al., 2017). Thereby, it is important to understand the relationship between controversial products and fields of study to improve companies’ abilities to market and advertise those products as well as to reach a better understanding of different social restrictions related to advertising.

On this, the objective of this study is to investigate the offensiveness of controversial products for Brazilian college students, especially the influence of the field of study, focusing on the similarities and differences between Brazilian students of Biological and Health Sciences, Exact and Technological Sciences, and Human Sciences.

This article is organized in the following sections: Introduction; Theoretical Background, including controversial products and fields of study; Hypotheses; Method; Results and Discussion; Conclusion, Limitations, and Future Research Directions; and References.

2 THEORETICAL BACKGROUND

2.1 Controversial products

Wilson and West (1981) were the first to mention controversial products. Their pioneer study has brought insight by showing that for reasons of morality, decency, delicacy, or even fear, certain products may provoke reactions of indignation, disgust, or offense when mentioned or presented openly, causing them to be controversial products. The authors have also divided them into products (e.g. toiletries, contraceptives, and drugs), services (e.g. abortion, euthanasia, vasectomy, sterilization, treatment for sexually transmitted diseases (STD) and funeral services), and concepts (e.g. unconventional sexual activities, racism, and terrorism); and in desirable, that are the ones that society normally accepts but is resistant to discussing or being exposed to (e.g. toiletries), and undesirable, that are the ones considered unpleasant by most of the population but has a certain demand (e.g. prostitution, pornography, and guns).
Later, Wilson and West (1995) defined a three-level hierarchy for controversial products: (1) ‘taste’, arising from messages that would violate the limits of what is considered “good taste” (e.g. weight-loss or gain products for aesthetic reasons as they suppose an ideal pattern of physical appearance); (2) ‘ethical’, representing things that, according to current values, are considered unethical (e.g. the sale of a house without mentioning that it is located next to a noisy place); and (3) ‘legal’, the ones current illegal (e.g. cocaine). According to the authors, all of them have the same potential to inhibit the actions of marketers, however, taste is the most difficult to deal with as it may be irrational, unstable, and vary between different geographical areas. For example, birth control pills are usually not prohibited, but exposure to them can generate insults, as there are groups of people who consider them of bad taste. Nevertheless, unethical or illegal products are not always considered of bad taste as some people have a strong desire for some currently banned controversial products to be released to the population (e.g. abortifacients, recreational drugs, and firearms). Therefore, we can say that there are legal and social restrictions when advertising controversial products (Shao & Hill, 1994).

Those restrictions during the advertising of controversial products vary between countries (Taylor & Raymond, 2000) while Governments often heavily regulate them (Shao, 1993). In Brazil, the Art. 220 of the Brazilian Constitution (Constituição da República Federativa do Brasil, 1988) establishes that only the Union (Executive Power plus Legislative Power) can legally dispose about advertising restrictions. Therefore, all censorship of political, ideological, and artistic nature is prohibited, with only tobacco, alcoholic beverages, pesticides, medicines, and therapies subjected to legal restrictions, containing, whenever necessary, a warning about the harm resulting from its use. However, Brazil has a self-regulation advertising council, the National Advertising Self-Regulation Council (CONAR), which is a non-governmental organization that seeks to promote freedom of advertising expression and defend the constitutional prerogatives of commercial advertising (Conselho Nacional de Autorregulamentação Publicitária, 2021). Hence, Brazil has restrictions due to law enforcement and self-regulation.

The CONAR has a code with principles, responsibilities, and penalties that must be followed by advertising agencies in Brazil. In the special advertising categories, there are controversial products, such as alcoholic beverages, health-related products, tobacco, unhealthy beverages and food, guns, and pesticides, with specific restrictions for each one (Código Brasileiro de Autorregulamentação Publicitária, 2021).

Besides government and self-regulation, companies also act as regulators since some also refuse to advertise some controversial products. Google, for example, prohibits the advertising of what they call dangerous products and services (e.g. weapons and tobacco products) and has restrictions to the advertising of other controversial products (e.g. alcohol, gambling, games, medicines, and political content) (Google, 2021).

Thus, it is easy to understand that the existence of products that may be controversial in some way generates great frustration among marketers, since powerful tools may become ineffective for these products (Wilson & West, 1995). As well, it can be extremely hard to develop a socially responsible brand while manufacturing this kind of product although creating awareness about the risk associated with the products may be a good strategy to overcome this (Gupta, 2016). It is also important to know that a controversial product is different from controversial advertising, that is when an advertisement causes controversy due to its content regardless of the product (e.g. sexual appeal) (Waller, 2005).

In this way, controversial products must be treated differently from conventional products, with a balance between the risks of being too bold in their sales efforts against the risk of being too timid (Alter, 1982). To facilitate understanding, Fam and Waller (2003) and Fam, Waller, and Erdogan...
(2004) have classified them into four well-accepted different groups: (1) Gender/sex-related products (e.g. condoms and female contraceptives); (2) Social/political groups (e.g. political parties, religious denominations, and funeral services); (3) Addictive products (e.g. alcohol and cigarettes); and (4) Health and care products (e.g. charities and sexual diseases (AIDS, STD prevention)). Likewise, Fahy et al. (1995) grouped them into three main categories: alcoholic beverages, products directed at children, and health/sex-related products.

Thereby, understand which factors make people consider a controversial product offensive as well as which are the most offensive ones can be a marketing differential, but unfortunately, there is not much information available. Some factors like gender (Waller, 1999; Fahy et al., 1995; Fam et al., 2009; Akhter et al., 2011; Jensen & Collins, 2008), religion and religiosity (Waller, 1999; Fam et al., 2004; Farah & El Samad, 2014, 2015; Akhter et al., 2011; Tariq & Khan, 2017), age (Fam et al., 2009), geographical location (Waller et al., 2005; Fam & Waller, 2003; Shao & Hill, 1994), and race, income and education (Fahy et al., 1995) were researched. Besides that, it is common studies about some specific controversial products to develop better marketing strategies related to them (e.g. gambling by Reast, Maon, Lindgreen, and Vanhamme, 2013; and the influence of music in the liking of condoms by Pitt and Abratt, 1988).

An interesting finding by Jensen and Collins (2008) is that the third-person effect, which “states that people will expect others to be more affected by media than they are” (Jensen & Collins, 2008, p. 228), as well as the first-person effect, which states that someone may believe that he/she would be more affected than others to a media-related issue (Jensen & Collins, 2008), can happen in controversial products advertising.

Despite all the problems related to them, manufacturing controversial products may present advantages. There is evidence that the demand remains relatively stable even during a stressful time, not being sensitive to an economic shock, like a great recession (Chatjuthamard et al., 2018).

Not only the fact that some products stop being controversial as time goes by demands attention. Some products are not considered controversial in a period but may be considered in another, for example, the constantly increasing concerns about animals’ well-being and planet sustainability made some products extremely controversial (e.g. animal-derived clothing and plastic bottles) (Katsanis, 1994; Wilson & West, 1995). In previous studies, some authors have claimed uncommon products as controversial, such as pawnbroking, that is the act of offering a loan secured by the pledge of an item of value (Edwards & Lomax, 2017), aspartame (Choudhary, 2018), palm oil (Sodano, Riverso, & Scafuto, 2018), e-cigarettes (Maclean, Oney, Marti, & Sindelar, 2018), recycled water (Tsagarakis, Menegaki, Siarapi, & Zacharopoulou, 2013), and American alligator leather accessories (Xu, Summers, & Belleau, 2004).

2.2 Fields of study

The representation of knowledge in some classification structure that allows the systematic organization of scientific production data is of fundamental importance for the areas of management and evaluation (Souza, 2004). Therefore, each higher education institution, regardless of where it is, is divided into fields of study (Davies & Guppy, 1997). According to Kirkeboen, Leuven, and Mogstad (2016), choosing your field of study is as important as the decision to enroll in college, being the choice of the undergraduate degree one of the first major life decisions young people take (Skatova & Ferguson, 2014).

Skatova and Ferguson (2014) identified that people may choose university degrees for four reasons: career concerns (Career), intrinsic interest in the subject (Interest), an opportunity to help others (Helping), and because they are looking for an easy option to get into higher education (Loaf-
ing), being each reason more strongly related with some degrees and personal characteristics. For example, “Career” is more related to the choice of medical and engineering degrees, while “Loafing” predicted the choice of arts and humanities. As well, people with “Loafing” as their motivation were identified as less sociable, less friendly, and more disorganized, while people with “Career” as their motivation were identified as sociable, friendly, organized, emotionally stable, and opened to new experiences. On the other side, Boudarbat (2008) argues that the choice of a field of study significantly depends on many variables like gender, parents’ education (including parents’ field of study), need for student loans, and working before starting college. However, both studies show that similar people and stereotypes exist in each field of study and degree.

Some of those stereotypes state that students and professionals of physical science, technology, engineering, and mathematics are usually seen as intelligent people (Ito & McPherson, 2018) and as people that pursue independence, rarely wishing to make a difference in people’s lives (Boucher, Fuesting, Diekman, & Murphy, 2017). Other stereotypes show computer scientists as socially awkward and singularly focused on technology, and chemists as innovative and results-oriented (Cheryan, Ziegler, Montoya, & Jiang, 2017).

In addition, comparisons between students in different fields showed that physicists were perceived as more unattractive, tech-oriented, awkward, and loners than biologists (Bruun et al., 2018); that physical and mathematical sciences were seen as involving others to a lesser extent than careers in medicine or education (Morgan, Isaac, & Sansone, 2001); and that education and social service careers were perceived as providing less opportunity for high pay and status relative to physical and mathematical sciences or medicine (Morgan et al., 2001).

In Brazil, the National Council for Scientific and Technological Development (CNPq) makes the official field of study classification. According to Souza (2004), the CNPq field of study table is the best-known and most recognized instrument for this division in Brazil. This is because it is the most widely used by the various institutions of the country’s science and technology system, and is the only one that has existed for a long time. Although its basic structure dates back to the 1950s, it has been reviewed several times over the years in an attempt to keep it current and consistent with the reality of the division of fields of study in the country. The main landmarks of change in the structure of classification were in the years 1976, 1984, 2001, and 2003 (Souza, 2006).

The 2001 classification is the most popular and used as a divisor for studies involving different fields of study. It classifies the large areas into only three: Human Sciences; Biological and Health Sciences; and Exact and Technological Sciences. Despite this, it is not the current official classification of the country, being the division into nine large areas, present in the CNPq table (CNPq, 2017), the official one. Still, this study used the 2001 classification, as it is the most popular and widespread, besides the impossibility of obtaining data from the nine large areas currently considered.

2.3 Hypothesis and Assumptions

With all the previously mentioned information regarding people in different fields of study, it is reasonable to argue that differences between people from different fields of study exist concerning the offensiveness of controversial products as other personal characteristics proved to make influence (e.g. gender, religion, and geographical location). Indeed, since students may choose their field of study according to their taste and abilities (Altonji, Arcidiacono, & Maurel, 2016), being this choice linked to personality traits, values, and interpersonal behavior (Malgwi, Howe, & Burnaby, 2005; Chen & Simpson, 2015), someone’s field of study could change the evaluation of how offensive a product is. In addition, this choice is affected by psychological factors (Skatova & Ferguson, 2014), personalities, and attitudes (Bruun, Willoughby, & Smith, 2018). On this, we hypothesize:
H1: The offensiveness of some controversial products vary due to people’s field of study.

Previous studies showed that some controversial products in comparison to others were too offensive for people regardless of different religion, gender, or geographical location. In the study of Waller (1999) and the study of Farah and El Samad (2014), for example, racially extremist groups were considered offensive for every category, as well as racially extremist groups, guns, and religious denominations in the study of Waller et al. (2005). On this, it is reasonable to make the following assumption:

Assumption 1: “Some controversial products are offensive regardless of people’s field of study”.

Conversely, many controversial products, such as condoms (Waller, 1999), pharmaceuticals (Waller, 1999; Farah & El Samad, 2014), female underwear (Waller, 1999), addictive products (Farah & El Samad, 2015), and weight-loss programs and charities (Farah & El Samad, 2014) were not considered offensive at all by every group in some studies. On this, it is reasonable to make the following assumption:

Assumption 2: “Some controversial products are not offensive regardless of people’s field of study”.

3 METHOD

To accomplish our objective, the first step was the selection of the controversial products to be used during the study. Since we did not know any other study about controversial products in Brazil, we first investigated which controversial products had already been researched in previous studies to check their suitability with this study.

As it can be seen in Table 1, we have found 21 controversial products already researched. Thereafter, to ensure what should be the right controversial products in the main study, a pre-test was carried out with a questionnaire containing advertisements of 19 controversial products and an advertisement known for its offensiveness to ensure respondents noticed offensiveness (i.e. a gym ad telling “Tired of being ugly and fat? Be just ugly!”).
Table 1 – Controversial products in previous studies.

| Controversial product       | Sources                                                                 |
|-----------------------------|-------------------------------------------------------------------------|
| Alcohol                     | Waller (1999), Fam et al. (2004), Katsanis (1994), Waller et al. (2005), Fam et al. (2009), Shao (1993), Fam and Waller (2003), Farah and El Samad (2014, 2015), Fahy et al. (1995), Shao and Hill (1994), Tariq and Khan (2017) |
| Charities                   | Fam et al. (2004), Waller et al. (2005), Fam and Waller (2003), Farah and El Samad (2014, 2015), |
| Children products           | Fahy et al. (1995)                                                      |
| Cigarettes                  | Waller (1999), Fam et al. (2004), Katsanis (1994), Jensen (2008), Waller et al. (2005), Shao (1993), Fam and Waller (2003), Farah and El Samad (2014, 2015), Akhter et al. (2011), Shao and Hill (1994) |
| Chat-line services          | Tariq and Khan (2017)                                                  |
| Condoms                     | Waller (1999), Fam et al. (2004), Katsanis (1994), Waller et al. (2005), Fam et al. (2009), Shao (1993), Fam and Waller (2003), Farah and El Samad (2014, 2015), Akhter et al. (2011), Fahy et al. (1995), Pitt and Abratt (1988), Shao and Hill (1994), Tariq and Khan (2017) |
| Contraceptives              | Waller (1999), Fam et al. (2004), Waller et al. (2005), Fam and Waller (2003), Farah and El Samad (2014, 2015), Fahy et al. (1995), Tariq and Khan (2017) |
| Female hygiene products     | Waller (1999), Fam et al. (2004), Jensen (2008), Waller et al. (2005), Shao (1993), Fam and Waller (2003), Farah and El Samad (2014, 2015), Akhter et al. (2011), Fahy et al. (1995), Shao and Hill (1994), Tariq and Khan (2017) |
| Female underwear            | Waller (1999), Fam et al. (2004), Waller et al. (2005), Shao (1993), Fam and Waller (2003), Farah and El Samad (2014, 2015), Akhter et al. (2011), Shao and Hill (1994), Tariq and Khan (2017) |
| Funeral services            | Waller (1999), Fam et al. (2004), Jensen (2008), Waller et al. (2005), Fam and Waller (2003), Farah and El Samad (2014, 2015), |
| Fur coats                   | Katsanis (1994)                                                        |
| Gambling                    | Waller (1999), Fam et al. (2004), Jensen (2008), Waller et al. (2005), Fam and Waller (2003), Farah and El Samad (2014, 2015), |
| Guns                        | Fam et al. (2004), Katsanis (1994), Fam and Waller (2003), Farah and El Samad (2014, 2015), |
| Male underwear              | Waller (1999), Fam et al. (2004), Waller et al. (2005), Shao (1993), Fam and Waller (2003), Farah and El Samad (2014, 2015), Akhter et al. (2011), Shao and Hill (1994), Tariq and Khan (2017) |
| Massage parlors             | Tariq and Khan (2017)                                                  |
| Pharmaceuticals             | Waller (1999), Fam et al. (2004), Katsanis (1994), Waller et al. (2005), Shao (1993), Fam and Waller (2003), Farah and El Samad (2014, 2015), Shao and Hill (1994), Tariq and Khan (2017) |
| Political parties           | Waller (1999), Fam et al. (2004), Jensen (2008), Waller et al. (2005), Fam and Waller (2003), Farah and El Samad (2014, 2015), |
| Racially extremist groups   | Waller (1999), Fam et al. (2004), Jensen (2008), Waller et al. (2005), Fam and Waller (2003), Farah and El Samad (2014, 2015), Akhter et al. (2011), |
| Religion                    | Waller (1999), Fam et al. (2004), Jensen (2008), Waller et al. (2005), Fam and Waller (2003), Farah and El Samad (2014, 2015), Akhter et al. (2011), |
| Sexual diseases prevention  | Waller (1999), Fam et al. (2004), Waller et al. (2005), Shao (1993), Fam and Waller (2003), Farah and El Samad (2014, 2015), Fahy et al. (1995), Shao and Hill (1994) |
| Weight-loss                 | Waller (1999), Fam et al. (2004), Katsanis (1994), Waller et al. (2005), Fam and Waller (2003), Farah and El Samad (2014, 2015), Akhter et al. (2011), Tariq and Khan (2017) |
The 19 controversial products were selected mostly based on the most common products present in Table 1. The main exceptions were products that represented concepts of racial extremism as, in Brazil, there is no widespread group of racial extremism as is the case of the Ku Klux Klan in the USA; also, due to the 2018 elections in the country during the time of the study, it was decided to substitute the suggestion of products or ideas that represented political parties as it could influence the results (Jensen & Collins, 2008) by the most famous program of income transfer in the country, which is usually considered controversial (i.e. Bolsa Família). In addition, at the authors’ initiative, a portable anal shower and a personal lubricant were added, as these are products usually associated with homosexual sex.

Nineteen students of an Advertising School answered the pre-test questionnaire enabling the classification of the 11 most offensive products to be in the main test, which were:

1. Guns;
2. Cigarette with no warning about its risks;
3. Cigarette warning about its risks;
4. Weight-loss medicine;
5. Portable anal shower;
6. Funeral services;
7. Income transfer program;
8. Emergency contraception (morning-after pill);
9. Personal lubricant;
10. Female underwear; and
11. AIDS prevention.

Besides these 11 products, the previously mentioned offensive gym advertisement was also included in the main test.

The questionnaire had two sections, with the first one aiming to get demographic data of the respondents, and the second one about the offensiveness of the selected controversial products. Following the recommendations of Waller et al. (2005), Fam et al. (2009), Farah and El Samad (2014, 2015), Fam and Waller (2003), Tariq and Khan (2017), and Jensen and Collins (2008), advertisements of each of the 11 controversial products and the previously mentioned offensive gym advertisement were presented with instructions for respondents to indicate, through a five-point Likert scale, their level of “personal offense”, where 1 meant “Not offensive at all” and 5 meant “Extremely Offensive”. Proportionally, 1 represents 0% of offensiveness, 2 represents 25% of offensiveness, 3 represents 50% of offensiveness, 4 represents 75% of offensiveness, and 5 represents 100% of offensiveness.

The main questionnaire was presented in Google Forms. A sample of 368 college students from seven different universities of the Brazilian states of São Paulo (i.e. Universidade de São Paulo, Universidade Estadual Paulista, Universidade Federal de São Carlos, Universidade de Franca, and Estácio Uniseb Ribeirão Preto) and Minas Gerais (i.e., Universidade Federal do Triângulo Mineiro and Universidade de Uberaba) were recruited through social media and WhatsApp during April 2018.

Of those 368 college students, 149 (40.49%) were from Biological and Health Sciences (i.e. Biomedicine, Biological Sciences, Physical Education, Nursing, Physiotherapy, Medicine, Nutrition, and Occupational Therapy), 127 (34.51%) from Exact and Technological Sciences (i.e. Engineering, Physics, Mathematics, and Chemistry), and 92 (25.00%) from Human Sciences (i.e. Social Sciences, Geography, History, Letters, Psychology and Social Service), covering the three planed fields of study.

To verify H1, as done by Waller (1999), Farah and El Samad (2014), Jensen and Collins (2008), and Akhter et al. (2011), hypotheses tests for the difference of mean values (i.e. t-tests with 95% of confidence) were used to verify the existence of difference in the mean offensiveness for
each product among the people of the three fields of study. It is a good method, as inferences about
the difference between populations’ mean values are naturally based on their estimation of the
difference between the sample mean values. Furthermore, when the size of two samples is big (i.e.
greater than 30, usually), the mean values are approximately normal, as is the difference between
them (Johnson & Bhattacharyya, 2010).

To support Assumption 1, it was checked if there were products with mean offensiveness
greater than 50% (i.e. mean value higher than 3) for all the fields of study. Similarly, to support
Assumption 2, it was checked if there were products with mean offensiveness lower than 25% (i.e.
mean value lower than 2) for all the fields of study.

Besides verifying the Hypothesis and checking the assumptions, we also bring important
findings of the offensiveness of the controversial products studied. In the next section, the results
and discussion are presented

4 RESULTS AND DISCUSSION

The demographic data about the 368 respondents, including gender, age, sexual orienta-
tion, and religion is presented in Table 2. It is important to notice that most of the respondents were
young, female (66.03%), heterosexual (80.98%), and religious (64.13%).

| Total 368 | Gender | Religion |
|-----------|--------|----------|
|           | Male   | 33.97%   | Religious | 236 | 64.13% |
|           | Female | 66.03%   | Not religious | 132 | 35.87% |
| Age       | Mean   | 21.98    | Christianity | 214 | 90.68% |
|           | Maximum| 46       | Buddhism  | 2   | 0.85%  |
|           | Minimum| 17       | Candomblé | 1   | 0.42%  |
|           | Other  | 19       | Other     | 19  | 8.05%  |

| Sexual orientation | Intensity of belief |
|--------------------|---------------------|
| Heterosexual       | Mean 2.45           |
| Homosexual         | Mode 3              |
| Bisexual           | 9.51%               |
| I rather not say   | 1.90%               |

Note: Scale (Intensity of belief): 1 = not a devout follower, 5 = a very devout follower.

The data obtained for the 11 controversial products made it possible to make a compar-
ision between all the fields of study as well as to observe which are the most offensive in general.
Therefore, in the next section, we explore the general results.

4.1 General results

As seen in Table 3, gun was considered the most offensive product (μ = 3.28), followed by
weight-loss medicine (μ = 2.72) and female underwear (μ = 2.10). It may be observed that, in gener-
al, students of Human Sciences were the most offended, except for portable anal shower and funeral
services. Perhaps this can be explained by the study of Gondim (2002) as it mentions that “to be ethical” is a skill claimed by the students of Human Sciences. Furthermore, Exact and Technological Sciences’ students were the least offended, except for the portable anal shower.

In general, offensiveness was very low, rarely reaching mean values higher than 3. Hence, we can argue that Brazilians may not feel easily offended by controversial products advertising. Therefore, since there are law restrictions and self-regulation for a small number of product categories, many controversial products can be advertised without harm, especially female underwear, portable anal shower, funeral services, and personal lubricant as there are no regulations for them.

Table 3 – Offensiveness of controversial products for people of each field of study

| Product                              | Total (n = 368) | Exact and Technological Sciences (n = 127) | Human Sciences (n = 92) | Biological and Health Sciences (n = 149) |
|--------------------------------------|----------------|--------------------------------------------|-------------------------|----------------------------------------|
|                                      | μ   | s | μ  | s | μ   | s | μ  | s | μ   | s |
| Guns                                 | 3.28| 1.58| 2.83| 1.65| 3.83| 1.46| 3.32| 1.49|
| Weight-loss medicine                 | 2.72| 1.53| 2.13| 1.42| 3.24| 1.38| 2.89| 1.56|
| Female underwear                     | 2.10| 1.30| 1.82| 1.20| 2.78| 1.34| 1.93| 1.20|
| Cigarette with no warning about its risks | 1.98| 1.21| 1.80| 1.09| 2.38| 1.39| 1.90| 1.15|
| Cigarette warning about its risks   | 1.76| 1.16| 1.64| 1.07| 2.03| 1.31| 1.69| 1.13|
| Morning-after pill                   | 1.71| 1.20| 1.59| 1.11| 1.96| 1.30| 1.66| 1.19|
| Portable anal shower                 | 1.71| 1.08| 1.78| 1.06| 1.52| 0.90| 1.77| 1.19|
| Funeral services                    | 1.67| 1.08| 1.56| 0.96| 1.67| 1.03| 1.77| 1.19|
| Income transfer program             | 1.62| 1.12| 1.65| 1.15| 1.65| 1.18| 1.57| 1.07|
| AIDS prevention                      | 1.62| 1.17| 1.44| 0.92| 2.02| 1.48| 1.52| 1.08|
| Personal lubricant                   | 1.52| 0.94| 1.39| 0.77| 1.65| 1.12| 1.54| 0.94|

Note: Scale: 1 = not offensive at all, 5 = extremely offensive.

The high level in the offensiveness of guns could be because in Brazil, unlike the USA, for example, there is not a tradition of owning weapons as a cultural/patriotic expression, with an existing appeal in disarmament campaigns that sought to disassociate guns with manhood, with phrases such as “a man who is a man does not need a gun” (Lessing, 2005). However, Brazil is not the only country presenting those results since studies in the United Kingdom and Turkey showed a very high level of offensiveness towards guns advertisements (Waller et al., 2005). However, there may be countries where guns are not offensive at all due to fair reasons (e.g. self-defense) (Farah & El Samad, 2015).

Unlike previous studies (Waller et al., 2005; Waller, 1999; Akhter et al., 2011; Tariq & Khan, 2017; Farah & El Samad, 2014), weight-loss medicine was considered very offensive, being the second most offensive product. This may have happened because some Brazilians have a predominantly negative general attitude toward this kind of medicine, with some people claiming it as unhealthy, suspicious, harmful, unnecessary, inconvenient, and ineffective (Huertas & Campomar, 2008). In addition, advertising weight-loss medicine can encourage its use without a prescription or medical follow-up, as well as usage by people who do not have medical reasons for it.

A great surprise came from the results of female underwear. Even though no Muslim took part in the study and Brazil is predominantly a Christian country, its ranking position is close to the results from Islamic devotees (Akhter et al., 2011; Tariq & Khan, 2017). This result could be because of the sensation of sexualization and objectification of women in front of those advertisements,
since, according to Boddewyn’s (1991) classification, this was the reason that mostly caused controversy with advertisements in Brazil. In addition, the presence of women who fit in an almost unattainable ideal pattern of physical appearance, as well as the use of image editing tools such as Adobe Photoshop, makes ads for these products constantly controversial.

The prevalence of cigarettes as one of the most offensive products comes with no surprise since it usually emerges in top positions. The nuisance suffered by non-smokers in front of people smoking is the main reason. Of course, another possible reason is related to the health issues widely associated with smoking, with the existence of at least 20 malignant tumors associated with it (Wünsch Filho, Mirra, López, & Antunes, 2010). It is worth mentioning that the presence or not of warnings about the dangers of its usage almost did not change the results.

The reasons why “AIDS prevention” has achieved a low level of offensiveness can be explained by the study by Wilson and West (1995), which shows that the AIDS crisis has played an interesting and unexpected role in accelerating the process of changing perceptions related to AIDS prevention marketing. They explain that the press treated the issue as front-page headlines, with the death of celebrities by the disease being widely publicized, as well as a broad war against it, such as the National STD and AIDS Program in Brazil as well as the encouragement for suppliers of products that could inhibit the spread of AIDS in the USA. In addition, there is even the case of celebrities saying publicly that they have the disease or the HIV virus, as was the case of the actor Charlie Sheen and the basketball player Magic Johnson.

Concerning funeral services, low offensiveness was expected as observed since in Brazil, as in other Western countries, it does not happen the same way as in countries such as Turkey, where contracting a funeral service to deal with the death of a relative represents a shame for family members who are still alive (Waller et al., 2005).

The low offensiveness of personal lubricant may be explained by the fact that society is already accepting products related to sexual practice. Moreover, in the study by Giraldo et al. (2013), 24.5% of the women interviewed reported using lubricants, which shows that there may not be such an obvious association of its use with homosexual sex as first suggested.

4.2 Hypothesis and Assumptions Verification

The hypothesis was tested through multiple t-tests for each of the controversial products. The tests sought to verify if there was statistical evidence of differences in the mean values between the fields of study. The statistical data and the results of the comparison can be seen in Table 4.
Table 4 – Results of the comparison between the fields of study

| Product / Service                                      | Exact and Technological Sciences and Human Sciences | Exact and Technological Sciences and Biological and Health Sciences | Human Sciences and Biological and Health Sciences |
|--------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------|--------------------------------------------------|
| Guns                                                   | t -4.74                                             | t -2.60                                                          | t 2.59                                           |
| df 208                                                 | df 257                                             | df 196                                                          |                                                  |
| Probability 0.000                                      | Probability 0.009                                   | Probability 0.010                                                |                                                  |
| Different mean values                                  | Same mean values                                    | Same mean values                                                 |                                                  |
| Cigarette warning about its risks                     | t -2.37                                             | t -0.40                                                          | t 2.07                                           |
| df 171                                                 | df 271                                             | df 171                                                          |                                                  |
| Probability 0.019                                      | Probability 0.686                                   | Probability 0.040                                                |                                                  |
| Different mean values                                  | Same mean values                                    | Same mean values                                                 |                                                  |
| Cigarette with no warning about its risks             | t -3.36                                             | t -0.77                                                          | t 1.66                                           |
| df 163                                                 | df 271                                             | df 278                                                          |                                                  |
| Probability 0.001                                      | Probability 0.440                                   | Probability 0.006                                                |                                                  |
| Different mean values                                  | Same mean values                                    | Same mean values                                                 |                                                  |
| Portable anal shower                                   | t 1.94                                              | t 0.11                                                           | t -1.80                                          |
| df 212                                                 | df 273                                             | df 230                                                          |                                                  |
| Probability 0.053                                      | Probability 0.915                                   | Probability 0.072                                                |                                                  |
| Same mean values                                       | Same mean values                                    | Same mean values                                                 |                                                  |
| Personal lubricant                                     | t -1.90                                             | t -1.39                                                          | t 0.82                                           |
| df 151                                                 | df 274                                             | df 168                                                          |                                                  |
| Probability 0.058                                      | Probability 0.165                                   | Probability 0.412                                                |                                                  |
| Different mean values                                  | Same mean values                                    | Same mean values                                                 |                                                  |
| Morning-after pill                                     | t -2.18                                             | t -0.53                                                          | t 1.74                                           |
| df 177                                                 | df 272                                             | df 180                                                          |                                                  |
| Probability 0.030                                      | Probability 0.595                                   | Probability 0.082                                                |                                                  |
| Different mean values                                  | Same mean values                                    | Same mean values                                                 |                                                  |
| AIDS prevention                                        | t -3.32                                             | t -0.62                                                          | t 2.83                                           |
| df 141                                                 | df 274                                             | df 151                                                          |                                                  |
| Probability 0.001                                      | Probability 0.530                                   | Probability 0.005                                                |                                                  |
| Different mean values                                  | Same mean values                                    | Same mean values                                                 |                                                  |
| Income transfer program                                | t -0.04                                             | t 0.56                                                           | t 0.54                                           |
| df 193                                                 | df 260                                             | df 178                                                          |                                                  |
| Probability 0.967                                      | Probability 0.576                                   | Probability 0.589                                                |                                                  |
| Same mean values                                       | Same mean values                                    | Same mean values                                                 |                                                  |
| Weight-loss medicine                                   | t -5.04                                             | t -3.38                                                          | t 1.91                                           |
| df 217                                                 | df 257                                             | df 218                                                          |                                                  |
| Probability 0.000                                      | Probability 0.001                                   | Probability 0.057                                                |                                                  |
| Different mean values                                  | Different mean values                               | Same mean values                                                 |                                                  |
| Female underwear                                       | t -5.47                                             | t -0.74                                                          | t 5.01                                           |
| df 183                                                 | df 267                                             | df 176                                                          |                                                  |
| Probability 0.000                                      | Probability 0.460                                   | Probability 0.000                                                |                                                  |
| Different mean values                                  | Same mean values                                    | Different mean values                                            |                                                  |
| Funeral services                                       | t -0.84                                             | t -1.58                                                          | t -0.63                                          |
| df 189                                                 | df 273                                             | df 214                                                          |                                                  |
| Probability 0.403                                      | Probability 0.114                                   | Probability 0.530                                                |                                                  |
| Same mean values                                       | Same mean values                                    | Same mean values                                                 |                                                  |

Note: “Same mean values”: there is no statistical evidence that the mean values between the two fields of study are different at 95% of confidence; “Different mean values”: there is statistical evidence that the mean values between the two fields of study are different at 95% of confidence.

Through the results presented in Table 4, we can see that 7 from the 11 controversial products had significant differences in the mean value between at least two fields of study (i.e. guns, cigarette warning about its risks, cigarette with no warning about its risks, morning-after pill, AIDS prevention, weight-loss medicine, and female underwear). Therefore, H1 (i.e. the offensiveness of some controversial products vary due to people’s field of study) was supported.

The first assumption (i.e. some controversial products are offensive regardless of people’s field of study) could not be confirmed as no controversial product reached mean offensiveness greater than 50% for all the fields of study (see Table 3). Thereby, we argue that controversial prod-
ucts do not easily offend Brazilian college students, which goes in a different direction from some previous studies since they had products offensive for every group researched. Some examples were cigarettes and female hygiene products (Akhter et al., 2011), condoms and underwear (Tariq & Khan, 2017; Akhter et al., 2011), alcohol, massage parlors and pharmaceuticals (Tariq & Khan, 2017), female contraceptives (Tariq & Khan, 2017; Farah & El Samad, 2014), gambling, guns and funeral services (Farah & El Samad, 2014), racially extremist groups (Waller, 1999; Waller et al., 2005; Farah & El Samad, 2014), and social/political groups (Fam et al., 2004).

The second assumption (i.e. some controversial products are not offensive regardless of people’s field of study) could be confirmed as six of the 11 controversial products (i.e. morning-after pill, portable anal shower, personal lubricant, income transfer program, AIDS prevention, and funeral services) did not reach mean offensiveness greater than 25% for all the fields of study. Surprisingly, this may be the first study in which no group was offended by funeral services and the second one in which no group was offended by female contraceptives (Waller, 1999). To the best of our knowledge, in every study that researched female contraceptives, at least one group considered them offensive (Waller et al., 2005; Farah & El Samad, 2014; Tariq & Khan, 2017).

In the next section, we bring the conclusion, limitations, and future research directions.

5 CONCLUSION, LIMITATIONS, AND FUTURE RESEARCH DIRECTIONS

During this study, we explored controversial products in Brazil, seeking to enhance our knowledge on the topic, which is beneficial for marketers because if a specific consumer can be targeted, some products that would normally be extremely controversial can be advertised (Jensen & Collins, 2008).

Through the finding, including a ranking of the most offensive products, we can say that controversial products do not easily offend Brazilian college students. Especially, we have shown that someone’s field of study can affect the offensiveness of controversial products similarly to gender (see Waller, 1999), religion (see Farah & El Samad, 2014), geographical location (see Waller et al., 2005), and age (see Fam et al., 2009) in previous studies. Hence, our results fortify the existence of differences between people from different fields of study as well as help companies willing to advertise controversial products in Brazil.

Along the three fields of study investigated, students of Human Sciences were more easily offended by that kind of product than the ones from Biological and Health Sciences and Exact and Technological Sciences. In addition, similarities between the samples suggest that some controversial products should only be advertised in Brazil if done carefully, as well as that some products that claimed to be controversial apparently do not generate offense, making advertising possible. This suggests future research to understand the reasons that make this behavior difference happen.

Our results together with previous studies’ findings reinforce the affirmation that some specific controversial products can be advertised without the generation of offense as long as it is targeted to the right consumers, which is possible nowadays with tools such as Data Mining and Big Data.

The main limitation of this study was the lack of a big sample for each of the degrees, which would have allowed a comparison between degrees as well as the nine official fields of study in Brazil. Thus, a similar study could be done seeking to group the students only by their degrees to check if differences exist both inside and outside their field of study, as well as comparisons involving the nine official fields of study of Brazil. Another limitation is the impossibility of isolating all the variables, which can somehow influence the results.
As it is not easy to find studies about controversial products in Brazil, future studies should seek to understand Brazilians behavior in front of these products. Especially, factors already investigated in previous studies (e.g. religion and gender) should be investigated in Brazil as well as comparisons between the different generations existing in Brazil.

Still, to the best of our knowledge, there is no study about the influence of sexual orientation on the offensiveness of controversial products, suggesting future research. Furthermore, age, income, and education level seem to influence results (Fahy et al., 1995) besides been factors poorly studied, demanding future research.

Moreover, Brazil is an important country globally, making cross-cultural studies involving the country as the ones did by Waller et al. (2005), Fam et al. (2004), and Fam and Waller (2003) very useful as there are a lot of global companies in Brazil’s market. Besides that, according to the classification of Boddewyn (1991), Brazil was a country in which the biggest cause of controversy in advertisements was the objectification of women, which suggests studies to check if this is still true as well reasons for this to happen.

Lastly, a great option for more confident results is the usage of experiments with neuro-marketing techniques, such as eye tracking and electroencephalography (EEG), since they can measure brain activity and eye variations thus being more independent from self-reported measures.

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|------------------------------------------------------------------------------|------------|------------|------------|
| 1. Definition of research problem                                           | √          | √          | √          |
| 2. Development of hypotheses or research questions (empirical studies)      | √          | √          | √          |
| 3. Development of theoretical propositions (theoretical work)               | √          |            | √          |
| 4. Theoretical foundation / Literature review                                | √          | √          | √          |
| 5. Definition of methodological procedures                                  | √          | √          | √          |
| 6. Data collection                                                           | √          |            |            |
| 7. Statistical analysis                                                      |            | √          |            |
| 8. Analysis and interpretation of data                                      | √          | √          |            |
| 9. Critical revision of the manuscript                                      |            | √          | √          |
| 10. Manuscript writing                                                       | √          |            |            |
| 11. Other (please specify)                                                  |            |            |            |

**Conflict of Interest**

The authors have stated that there is no conflict of interest.

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