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RISK TOO MUCH TO GAIN TOO LITTLE:

ASTROTURFING STRATEGY, ITS PRESUMED EFFECTS AND LIMITATIONS

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RISK TOO MUCH TO GAIN TOO LITTLE:

ASTROTURFING STRATEGY, ITS PRESUMED EFFECTS AND LIMITATIONS

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GAYLORD COLLEGE OF JOURNALISM AND MASS COMMUNICATION

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Abstract

Astroturfing strategies are deceptive mechanisms that hide the source of the information from the publics. By not disclosing the persuasive intent and identity of the sources behind these communicative efforts, organizations expect to get more benefits from their crafted messages. However, the discovery of astroturfing and the real source of the messages could produce negative effects for the organization, often triggering the anger of publics.

Effects of astroturfing differ depending on the situation: successful astroturfing, failed one, and disclosure of the identity of patron and its persuasive or promotional intent. This study creates three possible astroturfing situations and compares their relative effects on credibility, purchase intention, attitude towards the brand and megaphoning produced across the situations, using two different brands scenarios. Based on the findings, the potential costs for the communicators, organizations, and public relations as a profession generated by astroturfing strategies are also discussed.

Keywords: astroturfing, deception, effects, public relations, transparency.

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Introduction

Today, we live in a world in which the Internet has taken over in many fields. Social network systems have grown and generated interactive communication tools that connect people and expand their social connections (Chun & Lee, 2016). The shift to a digitally networked world provides unprecedented interactive, communicative opportunities for citizens and publics as well as organizations to connect amongst themselves. Organizations such as corporations, governments, or non-profit organizations can easily and cheaply deliver their messages to potential customers and stakeholders who impact the success in their stated missions, whether commercial or otherwise.

The ease of delivery messages for organizations generates greater competition for attention-gathering. People in digital network environments evolve into highly curated selectors of what they read and view. Selectivity and the empowerment of effective filtering information for net users make organization and communicators anxious. Impatient and brutal personal censorship of what is relevant or good to know increases temptation on the part of organizations to exaggerate the "goodness" of their work for organizations. In the worst cases, communicators from corporations or interest groups yield to temptations for deceiving or exaggerating for the allure of audience good will.

Giving a false front to hide vulgar self-interest embedded in messages is called astroturfing. It is an extremely common deceptive communication strategy corporations and

interest groups use to lure people who read or view messages into forming favorable attitudes or behaviors consistent with what the messages suggest. For example, Walmart was charged with astroturfing when it paid bloggers to tell a well-crafted story about the supermarket chain (Chung & Lee, 2016). Those readers/viewers did not know the intentions of the organization, especially as the message was deceptively coming from a third-party, allegedly having no connection to Walmart. The credits of the message and the impacts of positivity implicated in the bloggers' message seemed to create good wills among viewers and readers. The expected positive effect, however, dwindled quickly as viewers and readers discovered the false front or a bogus face of Walmart hiding in paid promoters of stories.

According to Vujnovic and Kruckeberg (2016), public relations practitioners at times use "manipulative strategies, rather than truth, to promote the hidden strategic action" (p.121). Covered information disseminated online by apparently reliable, or at least not sponsored sources, lays in the category of manipulative strategies. Public relations practitioners may then pursue pseudo transparency, in which they try to appear transparent by creating a sense of transparency, rather than disclosing the stakeholder-derived source of the information and being truthful to their publics (Vujnovic & Kruckeberg, 2016).

Astroturfing practices damage the organization and public relations discipline's reputation and credibility (Avery, 2010). Recovering from the consequences of revealed astroturfing requires efforts to build up strategies that can restore public trust (Avery, 2010). Astroturfing is relevant since it is both more generalized because of the Internet expansion, and secondly because of its great impact in the public relations field.

Public relations skeptics criticize the whole field because of lack of scruples in lying to publics to attain objectives no matter the consequences for their publics (Boulay, 2012). However, the public relations discipline and practitioners acknowledge the existence of an internal code of ethics that would be violated by the adherence to astroturf techniques (Demetrious, 2008).

Due to the conceptualization of public relations inclusive of the ethical standards of the profession, astroturfing should not be an option for public relations practitioners. However, real life can still complicate practice. With the availability of the Internet, organizations, through their public relations staff, can hide their purpose and identity easily and with very low costs (DiStaso & Bortree, 2012). Astroturfing on the Internet age seems like a shortcut to achieve desired results for public relations practitioners.

In this thesis research, I delve into astroturfing strategies frequently found in promotional or advocacy communication. This investigation is timely and relevant for advancing a body of knowledge in public relations as there are few studies empirically conducted to determine the expected effects of astroturfing to publics' minds and behaviors. Further, the study clarifies rich practical implications to delineate a realistic sense of the gains and losses of astroturfing strategy in communication. In the absence of empirical and conceptual inquiries of astroturfing, practitioners retain a rather naïve assumption that the false front or astroturfed messages are worthwhile for creating good will and behaviors aligned with their cause and purpose of messaging. Thus, it is necessary to explore the boundaries of actual effects of astroturfing for the organization by considering possible situations organizations and communicators could encounter and choose from. Organizations and public relations practitioners should be able to

weigh the possible positive outcomes this shortcut provides them, and the potential negative effects astroturfing can lead to for the organization if the practice is discovered.

In sum, this thesis research is to introduce a framework for thinking and calculating the cost-benefits of astroturfing, which will be useful for both scholars and practitioners. In the case of scholars, they will be able to understand the effects of astroturfing for their organization, and learn some normative evidence in thinking about pseudotransparency techniques. For practitioners, the framework will provide guidelines on how to act, making the decision-making process easier when astroturfing strategies are involved, and develop a new sense of thinking about the troubling strategy. It might be the case that ethical communication by revealing the purpose or intent of promotional communication would still be effective in advancing their interests. Astroturfing might not be that meritorious as our common sense seems to indicate on the surface.

Literature Review

Defining Astroturfing

Astroturf is fake grass, which is plastic and has no roots. Astroturfing refers to the attempt at implying a policy, personality, product or service has already earned supporters or early adopters, with an expectation that such precursors warrant subsequent support at the grass-roots level. In the practice of troubling public relations, astroturfing refers to situations where organizations and communicators pretend or exaggerate voluminous and voluntary social supports for their stance or cause of actions, while there are little or none.

In astroturfing campaigns, the first general public supporters were fake, they were paid by an organization, or are obscured voices of the organization. Practitioners or people hired by

an organization act like "grassroots" while they *hide* their real *identity* (Boulay, 2012) and the *purpose* behind their words (Peng et al., 2016a).

As the term "grassroots" itself implies, there are roots within these movements. The appearance of naturally originated, more precisely, voluntarily arisen support is the key to astroturfing.

Fallin (2014) defined astroturfing as the "movement that appears to be grassroots, but it is either funded, created or conceived by a corporation or industry trade association, political interest group or public relations firm" (p. 322). Peng et al (2016b) provide another definition for the phenomenon: "The practice of masking the sponsors of a message or organization to make it appear as though it originates from and is supported by grassroots participants" (p. 20).

Examples of Astroturfing

As it was mentioned above, astroturfing can be used to emulate and impulse the support of policies, personalities, products and services. Astroturfing covers a wide range of fields, such as politics, commercial products and health issues (Boulay, 2012). This public relations tool is observable in many subfields of communication and reaches many activities. One area in which astroturfing communication strategy is used commonly is lobbying.

For instance, tobacco companies provided money to create groups of people who would be against anti-tobacco regulation or lower taxes involving tobacco consumption (Fallin *et al*., 2014) – tobacco companies relied on this group to fight for pro-tobacco regulations with Washington D.C. lawmakers. More people gathered around this group, despite its being founded and funded by tobacco companies. With success of this strategy, other companies from the food sector also decided to give money to this group so that they would support the deregulation of sugar and health requirements for food and beverage companies (Fallin *et al*., 2014).

The group grew bigger with the funding of tobacco and food companies, and growing notoriety among Washington lobbies. Finally, the group and the ideas the group fought for merged within the political atmosphere, creating a more extreme faction of the Republican Party known as the so-called Tea Party.

Another example of public relations related activity that uses astroturfing is blogs. Blogs are common spaces to develop astroturfing (Lee, 2010). McDonald's used a *flog* or fake blog in which a fictional character wrote about the fast-food giant and their products with the aim of promoting the brand (Demetrious, 2008). There are two different approaches to these blogs. There are blogs managed by organizations known as organic blogs, and sponsored blogs in which bloggers and writers are paid by organizations to write about certain topics or products (Ballantine & Au Yeung, 2015).

Astroturfing techniques are not new, they have been used since the early 1900s (Lee, 2010). In 1909, a paper cup businessman disseminated pamphlets to warn people about the health risk of using normal cups – called public cups. In this publication, sharing cups was identified as a potential source of infection. The businessman did not disclose his real identity when recommending paper cup use instead of standard cups (Lee, 2010). The use of astroturfing strategies grew exponentially during the 1980s decade, also called "greedy 80s" (Roschwalb, 1994). That decade brought scandals and unethical activities that increased the visibility of unethical public relations. According to Roschwalb (1994), "the cozy relationships among lobbyists, congress, and the executive branch became publicly evident in one scandal after another. Members of congress worked in tandem with lobbyists to generate 'grass-roots' support for pet issues" (p. 269-270). Therefore, astroturfing in lobbies became popular during the 80s, in a period of proliferation of unethical activities by heavily regulated business and organizations.

In fact, one of the most well-known cases of lobbying astroturfing happened in 1992. Citizens for Free Kuwait was a pseudo-organization funded by the Kuwaiti Government. The organization aimed to convince the United States to join in a war against Iraq. Citizens for Free Kuwait hired Hill & Knowlton to manage their public relations in the States. The firm brought Nayirah, the Kuwaiti Ambassador's daughter in the States, to testify in the Congressional Human Rights Caucus. The problem is that her identity was not revealed or known when she explained an invented story of Iraqi soldiers killing babies in a hospital in Kuwait. This testimony, which was broadly displayed by media and repeated by politicians, generated a reality. This generated reality became "the reality" (Mickey, 1997).

Then, in this case, astroturfing happened not once, but twice. First, Citizens for free Kuwait is bankrolled by the Kuwaiti Government in order to influence American public opinion - the source of CfK's funding was never revealed (Basen, 2009). Secondly, the speech of Nayirah was staged by Hill & Knowlton, who also did not disclose the identity of this witness. As Roschwalb (1994) explains "it was not that Hill & Knowlton created Citizens of Free Kuwait as a pseudo organization to represent a questionable cause. It is the use of the Kuwaiti Ambassador's daughter in Congressional testimony without full disclosure that comes in for censure" (p. 272).

It is important to distinguish these two astroturf actions, since the actors were different within the same case. However, the case was made public and heavily criticized by media, so that public relations as a profession got damaged as a result. Most of the criticism focused on Hill & Knowlton actions, rather than on the Kuwaiti Government actions. While it is true that a controversial client has right to be represented, as Hill & Knowlton alleged (Roschwalb, 1994), one sided public relations that uses a deliberated action of shading should be criticized (Basen,

2009), and the public relations agency should assume responsibility of the consequences of lying (Basen, 2009).

Explosive Use of Astroturfing in Digitalized Social Networks

Even in brief recent review of the strategy use, astroturfing is not new. What is critical for this phenomenon is, the strategy has increased dramatically in the last couple of decades (Demetrious, 2008; Campbell, 2012). Today, astroturfing is developed easily due to the anonymity the Internet provides (Peng *et al*., 2016a). It works like a mask for the sponsors of the message (Peng et al., 2016b), since it is a covert manipulation. The increase of astroturfing on the Internet seems obvious, since organizations have increased the overall usage of social network systems to communicate with their publics. Social media permit sharing information beyond the restrictions of time and space (Chun & Lee, 2016). Users share information about their experiences, express complaints and compliments, learn from other users' experiences and learn from other brands and products.

The Internet carries along many advantages and disadvantages. On the positive side, it enables understanding of the organization´s mission (Vujnovic & Kruckeberg, 2016), as well as makes possible two-way communicative interactions between the organization and its stakeholders (DiStaso & Bortree, 2012). On the negative side, the Internet fosters easier deception, because its nature makes it difficult to identify the source, it is less costly, and it increases the access to potential victims (Grazioli & Wang, 2001).

Theoretical Accounts of Mechanics of Astroturfing: Deception Theory

In deception theories, people assume the truth of statements and truthfulness of participants when they engage in a conversation (Burgoon & Buller, 1996; Park & Levine, 2015). Truth bias in deception theories comes from the evolution and deep study of Grice's

maxims. This truth bias makes people believe what they are reading does not have a covert interest, so that they may become potential victims of the hoax. Therefore, when people are exposed to astroturfed content, either on the Internet or in other scenario, their first impulse is to believe the content they are consuming. People falling for the hoax are both the main objective and risk of this technique.

The susceptibility of the public is the objective, since the public relations practitioner uses astroturfing as a tool for their organization´s covert interests. Then, the goal of the organization seems clear. Organizations seek to gain support for policies, products, individuals or the organizations themselves. Their focus is to benefit themselves (Campbell, 2012). The risk of astroturfing is, if discovered, it's use can damage the organization and the practitioner. All of this danger does not account for the damage incurred by publics.

Because of its low cost and impersonality of the source, the Internet is the preferred environment to develop astroturfing strategies. Social media are perfect scenarios for real people to write their opinions, which are neither commercially nor politically motivated (Peng *et al.*, 2016a). When astroturfing occurs, this freedom of thought is no longer that free – there is a covert interest. Adding up the premise of truth bias and the nature of social media mediated relationships; astroturfing in the Internet deceives people easily. The Internet increases the possible hazards publics can experience, because information spreads faster, with less examination, and with more efficiency. Despite the known risks of the mechanism, there are not differences between the trust publics feel towards the Internet and trust publics feel towards other media, with the exception of newspapers (Castillo, Mendoza & Poblete, 2013).

Deception theories have reached different conclusions and have considered different variables; however, truth bias is a constant and a starting point in all of them. Models such as the

IDT or Interpersonal Deception Theory (Burgoon & Buller, 1996) have also contemplated the possibility of expertise or familiarity to have an effect in the detection or not of the hoax.

This could make sense if the reader of certain blogs was another blogger who has received offers to promote certain organizations, policies or products and he or she was asked to not disclose that they received money from such company. If this person is aware of the existence of astroturfing, he could be more conscious about the content he or she reads in similar environments, and less vulnerable to the hoax.

Nevertheless, most audiences are not blog experts, and astroturfing purposely obscures the source identity. Identity is easy to falsify and difficult to authenticate (Peng et al., 2016b). Otherwise, there would not be that many studies to unmask astroturfers, and it would not be described as a difficult task requiring the use of psychometric profiles, semantic analysis and even analysis of meme usage (Peng et a., 2016b).

Theoretical Accounts of Mechanics of Astroturfing: Astroturfing and Transparency

Astroturfing is then almost always based on a hoax, a deception that affects the organization's stakeholders. It is dangerous because it has the power to influence people (Mathews Hunt, 2015). The hoax makes publics believe there is grassroots support when there is not. The disseminated message reflects the organization ideas or points of view (Mathews Hunt, 2015). People then end up forming their opinions based on messages that either lie or hide the truth, and this process would have not happened without the mediation and calculated misdirection strategy of the organization.

The development of astroturfing strategies implies an effective lack of transparency on the side of the organization. "Transparency in organizational communication is often viewed by public relations practitioners, and as well among journalists, as access to information and

openness to the process through which this information has been collected, organized, and disseminated" (Vujnovic & Kruckeberg, 2016, p. 123). Transparency is cheap to implement, especially in the age of social media, inherently transparent (DiStaso & Bortree, 2012) because of the searchable and public features of social media. The Internet provides a mask, where the real identity and purposes can be covered, at the same time, it gives a face to institutions and enables conversation or two-way communicative interactions (DiStaso & Bortree, 2012).

Transparency is chosen as the normative organizational behavior (Holland *et al*., 2018). It implies not only truthful information, but also disclosure. Holland *et al.* (2018) distinguish between *message transparency* and *organizational transparency*. Message transparency has influence on the overall organizational transparency. That is why astroturfed content, which violates principles of transparency and disclosure, has effects for the overall organization. At this point, it is important to mention that public relations are a discipline that merges organizations and management with media. Therefore, ethical principles of media transparency must also be involved in the use of astroturfing. Media ethical standards affect media relationships and activities (Tsetsura & Valentini, 2015). Media ethics – which are part of different disciplines, including both journalism and public relations- protect democracy, freedom, truth, honesty, and objectivity. These ethical standards require transparency and self-censorship (Tsetsura & Valentini, 2015).

One of the problems linked to transparency is the belief of the Internet fulfilling transparency's role (Tsetsura & Luoma-Aho, 2010). While the Internet makes information more accessible, it also helps to hide information. Tsetsura and Luoma-Aho (2010) define *media non-transparency* as the "distortion of an open and transparent exchange of information subsidies between media and news sources, such as public relations practitioners" (p. 32). The distortion of

the exchange can include monetary and non-monetary influences, both considered types of payment (Tsetsura & Kruckeberg, 2011). If these influences define media choices, instead of newsworthiness, then the non-transparency is effective. Another critical point it is the lack of information referring to this payment in the final journalistic product (Tsetsura & Kruckeberg, 2011).

To be measured, transparency uses perception scores including accountability, degree of secrecy and delivery of information. Perception measures such as attitude towards the organization and organization credibility are taken into account (Holland et al., 2018).

Vujnovic and Kruckeberg (2016) pointed out: "Transparency is a necessary goal of public relations, but its utility is of value only to the extent that it creates authenticity and trust for corporations, civil society organizations, and governments" (p. 133). Trust, credibility and authenticity are then the outcomes of transparency. Transparency is the norm because it provides information to publics, so they can decide based on complete knowledge, and it allows two-way engagement between organization and key publics (Waymer, 2007). The core definition of public relations collides with the definition of astroturfing. According to Lavah and Zimand – Sheiner (2016), "the role of public relations is to promote a favorable image of the organization by building mutually beneficial relationships between organizations and their publics (p. 397). Transparency enables two–way communication and a desirable way of engagement between the organization and its stakeholders; however, with the use of astroturfing the relationship between the organization and its publics becomes inherently conflicted.

In fact, online astroturfing is often mistyped as digital content marketing (DCM) or even native advertising, since organizations pay and do not fully disclose who is behind the information. The reason behind this action is to obtain more control of the information. Earned

media has greater credibility than paid media (O'Neil & Eisenmann, 2017). Since the objective of the practitioner is to get publics credibility of the message, they may not disclose the real purpose of the information, the identity or the payment – causing astroturfing, making blog posts and social media publications look like earned media or "grassroots" support, while in reality it was paid media. The line between public relations / earned media and advertising / paid media gets blurry (O'Neil & Eisenmann, 2017).

This strategy's use in marketing or advertising is contrary to the two-way symmetrical model, contrary to what public relations should aspire to be, and foremost, antagonistic to the definition of the practice of public relations. No dialogue can happen when there is a lack of trustworthiness. The planning or developing of astroturfing seems a violation of professional public relations' codes of ethics, and reduces the ability of practitioners to defend their publics (Demetrious, 2008). As a result, public relations practitioners are less trusted than common bloggers (Walden, Bortree & DiStaso, 2015). A study developed in 2000 brings the National Credibility Index of the United States (Budd, 2000), in which the credibility score of ordinary citizens (71.8), reporters for a local newspaper or tv station (65.8), reporter for a major newspaper or magazine (62.4) and political party leaders (48.6) are all higher than the score of the public relations specialist (47.6). The credibility and reputation of public relations as a discipline and public relations practitioners is far from being positive. Media non-transparency affects public relations practitioners' credibility and public relations discipline's credibility (Tsetsura & Kruckeberg, 2011).

Then, the next step for professionals is to solve ethical dilemmas involving truth, accuracy, transparency and fairness (Lahav & Zimand – Sheiner, 2016). The solution, Lahav and Zimand – Sheiner (2016) explain, is to avoid deception, follow public relation guidelines,

eschew secrecy, advocate for two – way communication and advocate for values like respect, honesty and integrity. Only then will the organization effectively enhance their relationships with stakeholders, achieve organizational effectiveness and get greater profits.

Presumed Effects of Astroturfing

Astroturfing is said to be serious because of the reach of the deception and its power to influence people (Mathews Hunt, 2015). To fully understand how big this influence is, it is worth investigating the gap between the presumed and the actual effects of astroturfing. As explained under the discussion of transparency, the lack of authenticity, truthfulness and disclosure brings ethical consequences, as well as negative effects for the public. Astroturfing is not a failure in communication, because it is not accidental. It is instead a deliberated action aimed at influencing publics without disclosing the real interest behind it (Grunig & Grunig, 1996; Peng *et al.*, 2016a). Ethical concerns arise because of the clear intentionality of deception in the use of astroturfing as a communication strategy (Cox, Martinez & Quinian, 2008).

Problems with ethics often lead to conflicts with the common good (Demetrious, 2018), and here everybody is at risk of being exposed to hoaxes and suffering from their consequences, although some individuals will be more disproportionately affected than others.

Transparency is one of the main characteristics of ethical public relations, (Grunig *et al*., 2009) and is violated when organizations exercise astroturfing strategies. There are specific fields in which the source has to be disclosed due to legal requirements (Peng, 2016). This is the case of health and safety fields, in which funding sources have to be identified, as required by the law. Other than ethics, astroturfing also damages the trustworthiness of what people read on social media (Peng *et al.*, 2016a). This strategy is also only useful in short periods of time,

because it creates volatile relationships (Demetrious, 2008). Long-term relationships are built on trust, which implies the need of transparency and credibility.

Credibility. Then, it is vital to note the effects of astroturfing for organizations that practice this kind of strategy. The first one seems clear. It affects credibility. Trustworthiness, trust, credibility and sincerity are often referred to as the same effect, since the limits of each are blurred and they are used to measure each other. The definition of each term depends on the author. For Budd (2000), credibility is a more explicit term than trust. While trust represents a philosophical view of morality, credibility is concrete, "the real bottom-line of persuasion on decision making" (Budd, 2000, p.22). Trust is therefore constructed as deeper, an overall concept, while credibility remains context specific. For Holland et al. (2018), credibility and trust were the outcomes of transparent organizational behavior. For Avery (2010), trust and credibility are similar – trust is "both constitutive and function of credibility" (p. 82). Credibility is the key for practitioners to raise their voices, gain power (Avery, 2010) and maintain the profession's reputation and so the organizations' (Budd, 2000).

At the same time, credibility can be referred to as source credibility, message credibility and medium credibility among others (Norris Martin & Johnson, 2010). The operationalization differs depending on the type of credibility being measured. In the case of this study, the focus is source credibility – very similar to scales of trust. Source credibility or source trust is "critical to motivate audiences to follow important directives as trusts determines message acceptance" (Avery, 2010, p. 81). Also, it is important to note that messages affect the overall credibility of blogs and organizations (O'Neill & Eisenmann, 2017). Source credibility and trust are often operationalized with very similar scales, and both are important in the process of building relationships in the future. The notion of trust is vital in relationships (Lock & Seele, 2017),

especially in the long run. Trust, authenticity and credibility are key elements for the legitimacy of not only organizations but also public relations as a profession.

Despite the many similar professional outcomes of credibility and transparency, they are far from being the same concept. Both are multi–dimensional concepts. Transparency is related to constructs such as openness, clarity and accuracy (Holland et al., 2018), rather than truthfulness and authenticity. Transparency is not synonymous with truth (Vujnovic & Kruckeberg, 2016). Of course, transparency has effects on credibility and trust (Holland et al., 2018), which do not imply a credible organization being always transparent. In fact, practitioners often consider transparency a tool rather than a value, since it is the chosen mechanism to implement trust on the organization (Vujnovic & Kruckeberg, 2016). Trust and credibility gain relevance when compared with transparency because of the concern of different social actors they provoke.

It is therefore necessary to consider differences in credibility as an effect of astroturfing because grassroots communication is the baseline of source credibility (Budd, 2000). As astroturfing is the opposite of grassroots communication, it is logical to expect variations in credibility. Besides, trust and credibility vary depending on issues, they are not stable for organizations through situations (Budd, 2000).

Purchase Intention. Other effect of astroturfing is purchase intention. Purchase intention is the extent to which publics are more likely to purchase or acquire a product. Astroturfing affects purchase intention because of different factors. First, it has been found that symmetrical practices have a significant effect on purchase intention (David et al., 2005). As it was detailed in previous sections, transparency and lack of astroturfing are clear markers of dialogue and symmetrical approaches. Then, astroturfing, because of its involvement in dialogue disruption

and one-way practices and objectives, will have an effect on purchase intention. Second, as astroturfing produces effects on credibility, credibility has influence on brand attitude and purchase intention as well (O'Neil & Eisenmann, 2017). This does not imply credibility being a mediator, especially because other research has considered them as effects rather than cause variables (Ballantine & Au Yeung, 2015; O'Neil & Eisenmann, 2017), and both can show effects due to the change in transparency, however the direction of them as effects is the same.

In addition, astroturfing tactics imply the existence of hoaxes. Publics can see the hoax as a risk. Since there is a lie, publics may consider the information as given twice, and question the product characteristics or the organization. Studies of consumer behavior explain that publics – here consumers- tend to avoid risks, "meaning that when they perceive risks that seriously affect the purchase intention, they often experience decrease purchase intention" (Wu, Yeh & Hsiao, 2011, p. 35). Other factors, such as the price of the product, become less important when making decisions if the risk is high. These factors become more relevant when the perceived risk is low (Wu, Yeh & Hsiao, 2011).

There are also positive effects on purchase intention or financial rewards when organizations are socially responsible (Budd, 2000). Social responsibility compiles both CSR and charitable activities and ethical behaviors. Transparency, or at least, avoiding astroturfing are examples of ethical behaviors. Ethical action predicts purchase intention (David *et al.*, 2005), and astroturfing produces a lack of transparency that may affect publics' purchase intention.

In many cases, organizations use astroturfing techniques in digital environments, thanks to the Internet and social media. Technology has enabled an increase in deceptive tactics including astroturfing (Boulay, 2012), taking advantage of its wide reach and the phenomenon of social contagion, which can even produce effects in sales and markets (Bollen, Mao & Zeng,

2011). Then, this type of deceptive practice affects both markets in a wide scale, and individual organizations. Previous research about blogs, a type of platform in which organizations frequently introduce astroturfed content today, also explains that purchase intention among blog readers increase or decrease because of the blog post consumption (Ballantine & Au Yeung, 2015).

The reading of blogs is a common activity of Internet users, in fact, there were more than 181 million blogs by the end of 2011 (Walden, Bortree & DiStaso, 2015). Individuals can use blogs, but blogs are also a key to send messages to stakeholders (Kiousis & Dimitrova, 2006). As paying on the Internet without full disclosure becomes more and more common, blogs earned and paid information does not get differentiated (Lahav & Zimand – Sheiner, 2016). Blogs themselves influence purchase intention, so it is important to differentiate the effects of astroturfing when it appears on blogs as well.

Attitude towards the brand. Attitude towards the brand or organization is another measure linked to transparency and relationships. A positive attitude towards an organization is needed to get positive outcomes for both the organization and stakeholders (Holland *et al*., 2018). Attitude towards the brand is related to not only relationship building, but also reputation and publics' experience. Transparency contributes to demonstrate accountability, it shows an ethical behavior, and provides a positive experience to the public, as well as creates a more positive reputation, which contributes to the publics' development of a better attitude towards the brand or organization. As an outcome, stakeholders and organization will develop a better relationship, which will allow the organization to achieve its goals, and will allow the stakeholders to be more satisfied (Holland *et al.*, 2018).

In a previous study that examined the effects of type of source, there was a significant effect on attitude towards the brand (O'Neil & Eisenmann, 2017). The model included paid, earned, shared and owned sources, and used blog posts to develop the experiment stimuli. In the case of blog astroturfing, individual bloggers or public relations staff are paid sources, however, they hide that fact, and appear instead as organic earned sources. Knowing that source itself has influence on attitude towards the brand, having a deception on the equation can show distinct effects. O' Neil and Eisenmann are not the only experimenters taking into account credibility, purchase intention and attitude towards the brand. In blog related research, more authors have measured these variables in order to understand the effects of blog source and blogger identity (Ballantine & Au Yeung, 2015).

Megaphoning. The concept of megaphoning is proposed by Kim and Rhee (2011) by further explication of the word-of-mouth phenomenon. Stakeholders such as employees or customers experience and accumulate their evaluation of interactions with organization or public figures and motivate to express their assessment. Megaphoning is rooted from the situational theory of problem solving (Kim & Grunig, 2011) and organization-public relationship theory (Grunig, Grunig, & Dozier, 2002). Megaphoning is evaluative -- either positive or negative information about the organization, products, services, or leaders, while information forwarding and information sharing related to a specific problem or issue. In other words, the unit of analysis is "organization" in relation to the cumulated assessment from previous to present experiences and thus cross-situational information, and the unit of analysis of information forwarding/sharing is the "problem" (Kim & Rhee, 2011).

Positive and negative megaphoning were tested in research about employee communication behaviors (ECB) mostly shaped and changed by their interactions and the

relationship quality one perceives with his or her organization (Kim & Rhee, 2011). Researchers tested megaphoning processes aimed to depict employees' external communication about their organization and their issues related to it. The concept's name comes from the way in which publics voice out information, spreading the publics' opinion about the firm.

Megaphoning as a reaction of publics to concrete actions makes it a possible effect of astroturfing, which happens when publics are exposed to content, whether there is or not an action of the company linked to it. Blog consumption may expose publics to information about the (promoted) contents (i.e., word-of-mouth) (Royo–Vela & Casamassima, 2010; Kulmala, Mesiranta & Tuominen, 2013). Astroturfing, which implies the company's deceptive action, if failed, may decrease positive megaphoning and increase negative megaphoning about the cause or products/service when detected by publics. Thus, by evaluating the responses of stakeholders or publics' positive and negative megaphoning about the organization and brand, we can estimate effectively the possible differences between presumed and actual effects of successful and failed astroturfing (deception) strategy.

Differences between Astroturfing, Failed Astroturfing, and Disclosure

In deception theories studies (Burgoon & Buller, 1996; Park & Levine, 2015) as well in astroturfing related work (Lock & Seele, 2017) there are only two conditions investigated; deception compared to non–deception, and astroturfing compared with non-astroturfing/grassroots. However, real life is distant from this polarization of options. First, organizations cannot control whether the hoax is or is not discovered. Literature defines astroturfing as the use of deceptive techniques (Boulay, 2012) but reality is more complex. The use of astroturfing does not imply publics learn about it every time, and vice versa, astroturfing techniques can be discovered and influence publics at any time. Then, astroturfing, in which

publics do not know about the hoax, is a possibility. Failed astroturfing, when publics are exposed to the hoax but learn about it, shape other possibilities.

Besides, in sponsored blogs or blogs operated by the company's staff – although it does not look that obvious - there is a line added-up. This type of blog includes a phrase that states the site is sponsored by the organization. The phrase is often written in smaller fonts, either at the beginning or the end of the post, or in a column apart from the text on the side of the page. The inclusion of this phrase makes organizations less criticized, since they mentioned the identity of the bloggers. This is then a third condition possible in real situation; its name in the present study is *disclosure*.

The covert source of information is the most unethical and damaging characteristic of astroturfing (Boulay, 2012), so disclosure not only eliminates the potential risks but it is undamaging for both publics and companies. Because disclosure is a good alternative which is not going to harm the organization, disclosure should produce significantly better effects than failed astroturfing.

As the introduction of this work foreshadowed, the study aims to distinguish the situation that occur in real life, and analyze whether there are differences among them. These situations will be the conditions of this study: astroturfing, failed astroturfing and disclosure. The differences among them will be detailed by the outcome variables (i.e., the effects of astroturfing strategy such as attitudes or megaphoning), as it will be further explained in the following section.

Research Questions and Hypotheses

A recent study about astroturfing strategies in lobbying (Lock & Seele, 2017) hypothesized companies that used astroturfing would be less trustful than those that did not use

astroturfing strategies. Lock and Seele (2017) asked participants to read online a case scenario, criticize the organizations in an open box format, and then answer questions regarding authenticity and trust. They were randomly assigned to one of the two conditions, astroturfing and non-astroturfing. Lock and Seele (2017) accepted the hypothesis about trust: organizations that used astroturfing strategies were perceived as less trustful than those pursuing grassroots lobbying.

Then, we can expect a similar reaction when it comes to astroturfing strategies in online spheres – not lobbying, even though Lock and Seele's sample is more limited (220 students) than the sample of the present study. This research sample is made up of a general population living in the United States, divided in two experiments with 252 and 256 participants each. In addition, literature about credibility and trust also suggest that deception techniques are harmful for organizations, having a negative effect on organization's credibility (Cox, Martinez & Quinian, 2008; Castillo, Mendoza & Poblete, 2013; Peng et al., 2016b). Ethical organizations have better reputations and credibility scores than unethical organizations. Disclosure is one of the characteristics of ethical organizations, hence, organizations that disclose the source of information are expected to retrieve higher credibility scores than those which lie to publics. Even though disclosure can be considered an ethical practice, there is a vested interest underlying the disclosure condition, which would trigger publics to exhibit fewer positive perceptions than a successful promotion with astroturfing.

H1: When publics learn about astroturfing, the credibility publics feel toward the organization will decrease in comparison to a situation in which the organization discloses the source of information. It is also predicted the credibility publics feel towards

the organization will be lower when the organization discloses the source of information than when publics do not know about the hoax.

Since asymmetrical and symmetrical practices – i.e., organization's effort to balance interests and the actions serve whose interests more – can produce effects on purchase intention (David *et al.*, 2005) and there is expected variation on credibility, there is also an expected difference in purchase intention, in which failed astroturfing will show the smallest purchase intention, followed by disclosure, and a higher ranked purchase intention for successful astroturfing. As it happened in the credibility condition, disclosure, although considered normally ethical, would encourage a more negative behavioral intent because of the promotional interest covered by the organization's disclosure. In other words:

H2: When publics learn about astroturfing, the publics' purchase intention will decrease, compared to a situation in which the organization discloses the source of information. In addition, publics exposed to a disclosure situation will show lower purchase intention than situations in which publics do not know about the hoax.

Ballantine and Au Yeung (2015) also measured attitude towards the brand in their experiment about sources behind blog posting in organizational settings. Truthful sources were linked to more positive attitudes towards the brand shown in those blogposts. Because of the expected results in credibility and purchase intention, failed astroturfing and organization disclosure will produce different perceptions in comparison to astroturfing situations undiscovered by publics.

H3: When publics learn about astroturfing, the attitude towards the organization will become more negative, compared to a situation in which the organization discloses the source of information. It is also predicted that the attitude towards the organization will be more negative in a disclosure situation than in a successful astroturfing situation.

Word-of-mouth or megaphoning is an effect of blog readership. Publics talk in a positive or negative manner after consuming blogposts (Kim & Rhee, 2011; Royo–Vela & Casamassima, 2010; Kulmala, Mesiranta & Tuominen, 2013). In the case of astroturfing situations, there are triggering cues for communicative actions. The organization lies about the source. This deceptive action will produce megaphoning with evaluating of the action and its personal consequence. Then, changes of positive and negative megaphoning can be expected in astroturfing situations happening in blog mediated scenarios. Since astroturfing is a negative action, the expectation includes a decrease in positive megaphoning, with publics less likely to express and spread positive information about the organization; and an increase in negative megaphoning, with publics more likely to express and spread negative information about the organization.

H4: When publics learn about astroturfing, the positive megaphoning towards the organization will decrease compared to a situation in which the organization discloses the source of information. It is also predicted that positive megaphoning will decrease in a disclosure situation than in a successful astroturfing scenario.

H5: When publics learn about astroturfing, the negative megaphoning will increase compared to both situations when they do not know about the hoax and when the organization discloses the information. At the same time, disclosure situation will increase negative megaphoning than astroturfing situations when publics are not aware of the hoax.

Methods

Participants

G*Power was used to develop power analysis to figure the needed sample to develop ANOVA tests which accounted for the three conditions as fixed factors. To detect significant

differences between groups with parameters set with a medium to small effect size (f = 0.25), alpha = 0.05, and 1- β = 0.95 a total of 252 participants (N = 252) were required to be able to test the main effect the 3 levels of the independent variable. Since participants can drop off the study or provide incomplete materials, an additional 10% (25 people) were recruited.

The first sample collection included participants that perceive the order of the stimuli number 1 (Coca Cola first, Walmart second). The second collection was identical to the first one, except for the order of appearance of organization stimuli, which was order 2.

Based on the calculation, once putting together both stimuli order samples, a total 522 participants (N = 522) participated. A total of 14 responses were removed because of missing data in the participant responses. Total 508 participants' responds were included in the final data analysis. Out of them, 174 were randomly assigned to the successful astroturfing condition, 159 to failed astroturfing condition and 170 to the disclosure condition.

For the first stimuli order, a total 254 participants completed the experiment. A total 252 data were used for data analysis after removing two cases that did not complete the survey. Participants were 50% male and 50% female. Participants were asked to self- identify their ethnicity. Reports show that 202 of the participants (79.5%) were White, 26 were Black (10.2%), 3 were American Indian or Alaska Native (1.2%), 10 were Asian (3.9%), 9 were Latin American (3,5), and 4 of them belonged to other ethnicities (1.6%).

For the second stimuli order, 268 participants completed the experiment. A total 256 were used for data analysis after removing 12 cases that did not finish the study participation. Participants were 55.6% male and 38.8% female. Again, participants were asked to self-identify their ethnicity. In this case, 196 of the participants (73.1%) were White, 21 were Black (7.8%), 3

were American Indian or Alaska Native (1.1%), 18 were Asian (6.7%), 12 were Latin American (4.5%) and 3 of them belonged to other ethnicities (1.1%).

Procedure

Participants were recruited through Amazon Mechanical Turk, and each were paid $0.75 for their participation. The only restriction applied in M-Turk was country of residence. Given that all participants must be familiar with two organizations (Walmart and Coca Cola) for the experiment, this study limited the area of residency to the United States. M-Turk redirected the participants' server to Qualtrics, where they were able to read consent information, instructions and proceed with the experiment and questionnaire. According to Dibble et al. (2016), MTurk is more representative than United States Colleges and convenience sample, and closer to general United States population.

Participants first completed a questionnaire that measured some of their habits and relationships with the brands Coca Cola and Walmart. This pre-test was a battery of questions about their habits in relation to the brands to measure involvement, referred to involvement with the product/ brand, as well to make sure that the organizations were well-known for the participants.

After the pre-test, participants were allowed to start the experiment. They were randomly assigned to one of the three possible conditions: astroturfing, failed astroturfing or disclosure. Since it is a 3x2 mixed experiment, each participant got assigned to one condition but to both brands in each condition. Participants had to read the text given to their condition. After reading, all participants answered questions that measured credibility, attitude towards the brand, purchase intention and megaphoning about the organization they had read text about.

Participants exposed to the condition "disclosure" had to answer an extra question to verify they read the manipulated phrase.

Once the question battery was completed, participants had to read a second text assigned to their condition. The condition is the same they were assigned at the beginning of the experiment, but the content was related to a different organization. Therefore, each participant read another text for the same condition, but a different brand. The same structure repeated: participants had to answer questions that measured credibility, attitude towards the brand, purchase intention and megaphoning. Participants who were exposed to the condition "disclosure" had to answer an extra question to verify they read the manipulated phrase.

Both experiments one and two showed the same stimuli and the same questions, the only variation was *the order* in which the stimuli and the battery of questions appeared. In experiment one, the first text and question were about Coca Cola, and the second was Walmart. In experiment two, the order was reversed, and Walmart was the first organization read about, and Coca Cola was the second. In both cases, there were two reversed items, to make sure the questions have been read and not answered systematically. Last, they were asked to fill some demographic questions. After the questionnaire was over participants were thanked and provided a code for them to input into MTurk to be compensated ($0.75). The experiment was approved by the University of Oklahoma's Institutional Review Board (IRB).

Design

The study uses a 3 (astroturfing conditions) x 2 (organizations) mixed design experiment. Astroturfing condition is the between- subjects factor. Every participant was assigned randomly to one of the three possible astroturfing conditions. Organizations are the within subjects factor, since all participants were exposed to messages about two organizations. Therefore, participants

were assigned to one of the astroturfing conditions, but received both of the organization messages.

The astroturfing conditions were successful astroturfing, failed astroturfing and disclosure. The two organizations that appear on the stimuli are Coca Cola and Walmart. The first condition is successful astroturfing. Here, the organization is behind the text provided, but participants do not know about the hoax, so they ignore the real source of the information. The cases selected and the texts provided are real cases of astroturfing. The aim of this first condition is to provide realistic examples, and second, do not produce negative information about brands which did not develop astroturfing strategies.

For Coca Cola, successful astroturfing condition contained the transcription of a video produced by the organization. A real Professor explains how a new foundation, Energy Balance Network, has found evidence that eating junk food or drinking sugary drinks did not affect people being unhealthy and fat, the only requisite to be healthy is to practice exercise. However, there are no data displayed that supports his words.

For Walmart in the successful astroturfing condition, participants read a blog post about bloggers traveling across America and sleeping in Walmart parking lots. The blog normally praised Walmart and its local staff and customers, gave tips for the planning of the visit, including even some ideas of things to do in the places bloggers were reportedly visiting. It belonged to the blog Walmarting Across America. Walmart sponsored the blog, although the site looked like it belonged to a couple of bloggers.

The second condition is failed astroturfing. The same case of the successful astroturfing condition was displayed, but participants learned about the bad practices of the company and they knew they have just been lied to. Then the same transcription of the video or blog appeared

in the participants' browser, with the addition of a news piece transcription. In the case of Coca Cola, the news piece explains how Coca Cola paid to create Energy Balance Network, and how the organization is behind the fake information, which lacked of support coming from data. For Walmart, participants were exposed to the same post of the successful astroturfing condition, and another post revealing how Walmart was secretly paying the bloggers. The project and trip were all planned and supported by Walmart.

This imitates real life situations, people are exposed to a hoax and they learn about it afterwards through other people or media.

The third condition is disclosure. As discussed previously, disclosure is the formula to follow to avoid consequences of astroturfing to both publics and organizations. In this case, the content displayed is the same as in the successful astroturfing condition, but there is an addition: the company states or discloses that they are sponsoring the information. The simple statement was added in both Coca Cola and Walmart information.

In both data collections , the independent variables coincide with the astroturfing conditions, and the dependent variables are credibility, purchase intention, attitude towards the brand, positive and negative megaphoning.

Instruments

Credibility. Participants answered a total of 6 items from the organization-public relationship assessment (OPRA) measures for trust (Grunig & Grunig, 2001) by assessing their agreement or disagreement in a 5- point item scale. In the first experiment Coca Cola (M= 3.07, SD=.88, α=.90) was displayed before Walmart (M=3.09, SD= .99, α=.90). In the second experiment, Coca Cola (M= 3.14, SD= .94, α=.90) was displayed after Walmart (M=3.27, SD=.97, α=.89). It included the following aspects: if participants felt they have been treated

fairly, concern of the organization about people, confidence about the organization's skills, ability of the organization to accomplish what they say they will do, and if the organization can be relied on to keep its promises.

Purchase intention. To measure purchase intention, participants had to read a scale of four items from Spears & Singh (2004). Again, they had to answer items for Coca Cola (M= 3.22, SD=.80, α =.91) and Walmart (M=3.30, SD=.77, α =.83) in the first experiment, as well as in the second, with items for Coca Cola (M= 3.25, SD=1.21, α=.88) and Walmart (M=3.84, SD=.86, α=.75) with the brands displayed in reverse order. Items surveyed the probability of purchasing the product and the existence of interest towards the brand's product and probability of consumption. Each participant had to rate these statements on a 5-point Likert scale which went from agreement to disagreement.

Attitudes towards the brand. Participants answered whether they agreed or disagreed in a 5 point Likert scale with five items referring to attitude towards the brand retrieved from Spears and Singh (2004). They answered these questions for both brands in the first experiment, Coca Cola (M=3.04, SD= 1.09, α= .95) and Walmart (M=2.98, SD= .82, α=.91). In the second experiment the order of the brands was reversed, with Coca Cola showing second (M=3.08, SD= 1.15, α=.95) and Walmart showing first (M= 3.08, SD= 1.05, α=.88*)*. Items include liking, finding the company appealing, considering that the organization's actions are done for good among others, and considering if their opinions were favorable.

Megaphoning. Megaphoning roots are word of mouth. Megaphoning can be positive (Coca Cola: M=2.20, SD=1.08, α =.92; Walmart: M=2.20, SD= 1.05, α =.90), when people are willing to speak well and give positive reviews about an organization, product, person or policy. It also can be negative (Coca Cola: M= 2.05, SD= 1.04, α =.90; Walmart: M=2.22, SD= 1.07, α

=.89), when people are likely to share their bad opinions and discourage use of a product, organization, policy or person. The second experiment repeated the same pattern, for positive megaphoning, with the brands Coca Cola (M=2.33, SD= 1.12, α= .92) and Walmart reversed (M=4.91, SD= 1.16, α=.93); as well for negative megaphoning (Coca Cola: M=1.5, SD=.99, α=.90; Walmart: M=2.35, SD=1.11, α=.89). Both positive and negative megaphoning items come from Kim & Rhee (2011), and these items were rated through a 5-point scale that when from agreement to disagreement.

Positive megaphoning included the following items: writing positive comments on the Internet, arguing against prejudices about the organization, praising the organization to people they meet and making efforts to persuade angry publics in favor of the company. Negative megaphoning included posting negative comments on the Internet, seconding negative comments, criticizing the organization to people they know, and talking to friends about how the organization does more poorly than other companies.

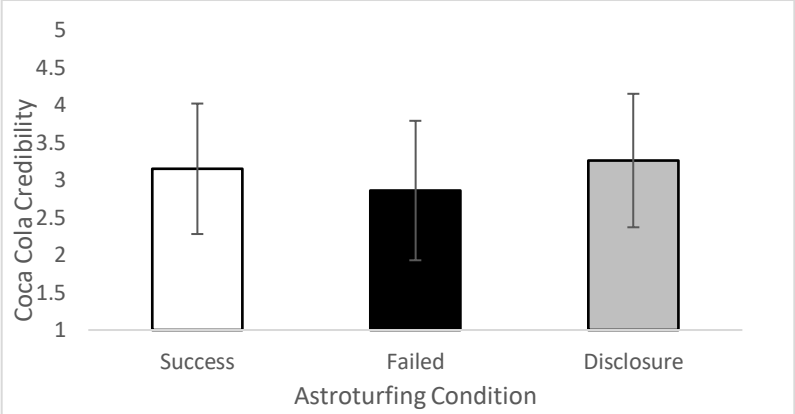
Results

To make sure the sample was homogeneous before merging both datasets, several t- tests were conducted. Both sets of participants were homogeneous in terms of gender, ethnicity, income and education level. As two randomized samples in order were known as not different in those profiles, other tests to check hypotheses were conducted (see appendix III).

In order to test H1, an ANOVA test was conducted to compare the effects of the three astroturfing conditions on credibility, for both organizations. The main effect for credibility of Coca Cola was significant ($F(2,508)=8.67$, $p=<.001$, $\eta^2=.033$). A post hoc Tukey test showed that there is a significant difference between failed astroturfing and disclosure ($p=<.001$) in which participants perception of credibility in the failed astroturfing condition (M= 2.86 SD=.93)

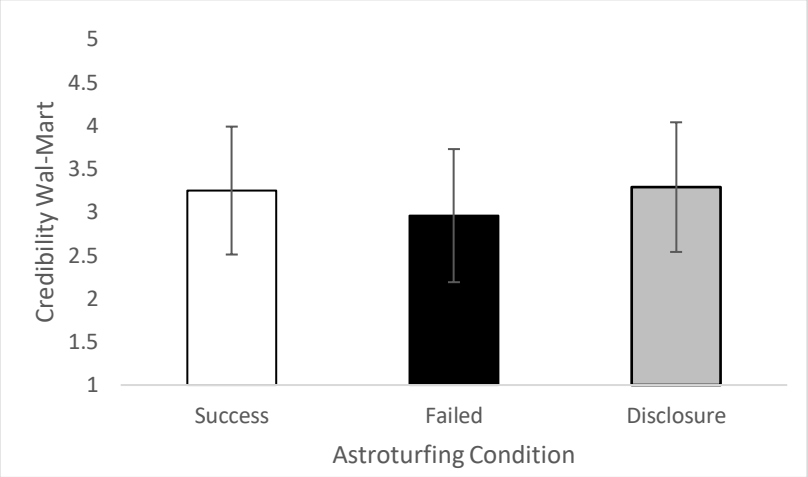
was lower than the scores for credibility in the disclosure condition (*M*= 3.26 *SD*=.89). The post hoc test also showed there is a significant difference between failed astroturfing and successful astroturfing (*p*=.008), with lower credibility in the case of failed astroturfing (*M*= 2.86 *SD*=.93) compared to successful astroturfing (*M*= 3.15 *SD*=.87). However, disclosure and successful astroturfing did not show significant differences in terms of credibility (*p*=.53). Figure 1 shows the differences among the condition means.

Figure 1
Mean differences and standard deviations: Coca Cola credibility



For Walmart there was also a significant difference ($F(2,508)=5.65$, $p=.004$, $\eta^2=.022$) when comparing the three conditions. The difference between failed astroturfing and disclosure was significant (*p*=.006). Participants' credibility towards Walmart when astroturfing failed (*M*= 2.96 *SD*=.77) was lower than the credibility perceived by those in the disclosure condition (*M*= 3.29 *SD*=.75), as shown in Figure 2. The difference between failed astroturfing and successful astroturfing was significant (*p*=.019), with lower credibility in the case of failed astroturfing (*M*= 2.96 *SD*=.77) compared to successful astroturfing (*M*= 3.25 *SD*=.74). However, disclosure and successful astroturfing did not show significant differences in terms of credibility (*p*=.91).

Figure 2
Mean differences and standard deviations: Walmart credibility



H1 was supported, since failed astroturfing produced lower credibility than both disclosure and successful astroturfing. The credibility of people exposed to disclosure, nevertheless, was not different from the credibility of those exposed to successful astroturfing. In other words, disclosure cannot be considered to produce less credible effects than successful astroturfing.

For purchase intention, when comparing the three conditions, no significant effect was found neither for Coca Cola *(F* (2,508) =1.02, *p*=.359, η^2=.004), nor for Walmart (*F*(2,508)= .97, *p*=.37, η^2=.004). Tukey HSD further indicated that there was no significant difference between any of the conditions.

Figure 3 and 4 show no significant differences among these three conditions, with small variance among their means. H2 was rejected. Purchase intention is not significantly different for either failed astroturfing, disclosure, or successful astroturfing situations.

Figure 3
Mean differences and standard deviations: Coca Cola purchase intention

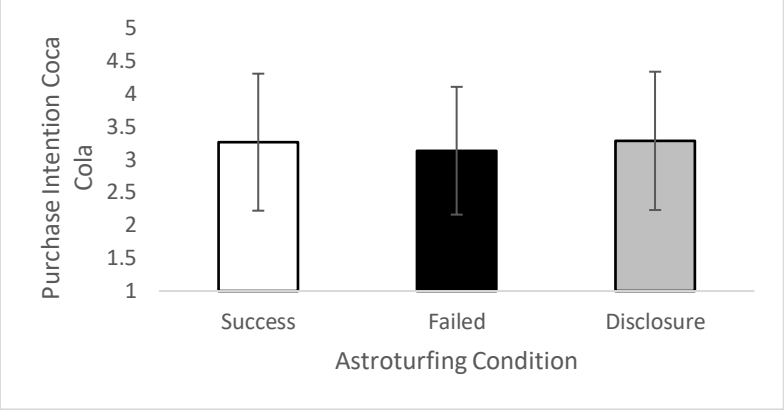
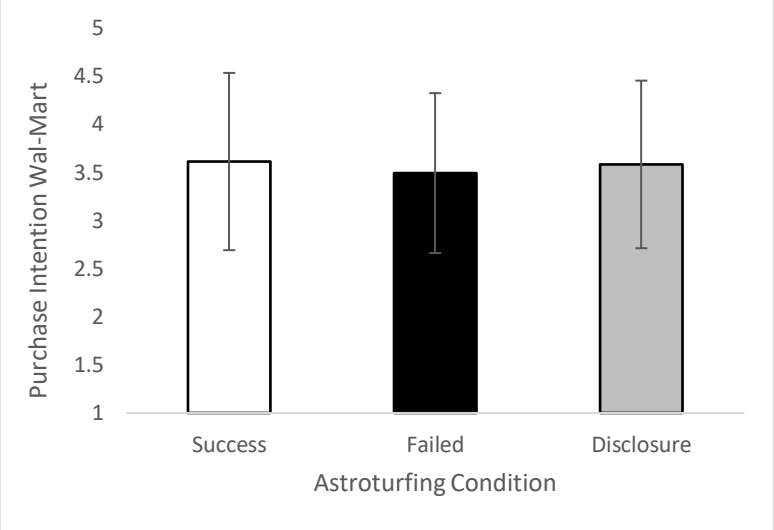


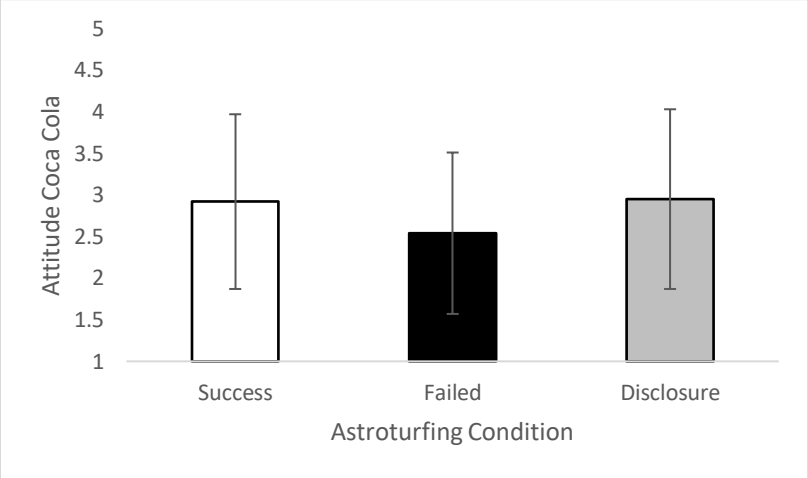
Figure 4
Mean differences and standard deviations: Walmart purchase intention



In the case of attitude towards the brand, there is significant difference for both Coca Cola ($F(2,508)=7.91$, $p<.001$, $\eta^2=.31$) and Walmart ($F(2,508)=9.27$, $p<.001$, $\eta^2=.03$) when considering the three conditions. In the case of Coca Cola, failed astroturfing and disclosure situations showed a significant difference ($p= .001$). Participants exposed to failed astroturfing reported a more negative attitude towards the brand ($M=2.54$ $SD=.97$) than those exposed to disclosure situations ($M=2.95$ $SD=1.08$). Also, there were significant differences between failed astroturfing and successful astroturfing ($p=.003$), with more negative attitude towards Coca Cola

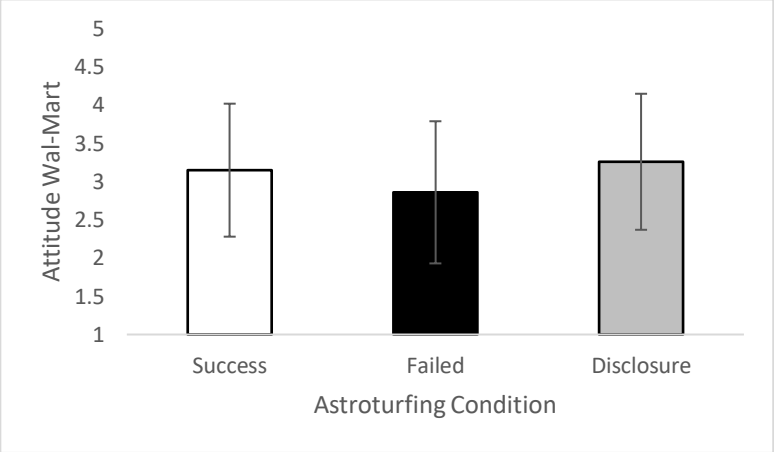
in the case of failed astroturfing (*M*=2.54 *SD*=.97) when compared to successful astroturfing (*M*=2.92 *SD*=1.05) (See fig. 5). Nevertheless, no significant difference was found when comparing disclosure and astroturfing situations (p=.95).

Figure 5
Mean differences and standard deviations: Coca Cola attitude towards the brand



For Walmart, failed astroturfing showed a difference when compared to disclosure (*p*=.002). Participants' attitude towards Walmart was more negative when astroturfing failed (*M*=2.76 *SD*=.96) in comparison with instances in which the organization disclosed the source (*M*=3.12 *SD*=.92). Failed astroturfing result was different when compared to successful astroturfing in terms of attitude towards the brand (*p*<.001), publics being more negative when they learn about the hoax (*M*=2.76 *SD*=.96) in comparison with instances where astroturfing was successful (*M*=3.17 *SD*=.96). Disclosure and successful astroturfing did not show significant differences (*p*=.86).

Figure 6
Mean differences and standard deviations: Walmart attitude towards the brand



H3 was partially supported. In both organizational cases, failed astroturfing produced more negative attitudes towards the brands than in cases of disclosure or successful astroturfing. However, disclosure and successful astroturfing were not different in terms of attitude towards the brand effects.

Main effects of conditions on positive megaphoning for Coca Cola were marginal ($F(2,508)=2.80$, $p=.06$, $\eta^2=.11$). Only failed astroturfing reported significant differences when compared with disclosure ($p=.05$). People are less likely to talk and spread positive information about the organization when astroturfing fails ($M=2.10$ $SD=.08$) in comparison to instances in which the organization discloses the source of the information ($M=2.38$ $SD=.08$).

In the case of Walmart, the same result was found. Main effects of conditions on positive megaphoning were marginal ($F(2,508)=2.88$, $p=.057$, $\eta^2=.11$). The difference between failed astroturfing and disclosure was significant ($p=.05$), with people less likely to participate in positive megaphoning in instances of failed astroturfing ($M=2.19$ $SD=1.09$) in comparison to instances when the organization discloses the source ($M=2.48$ $SD=1.12$).

Figure 7
Mean differences and standard deviations: Coca Cola positive megaphoning

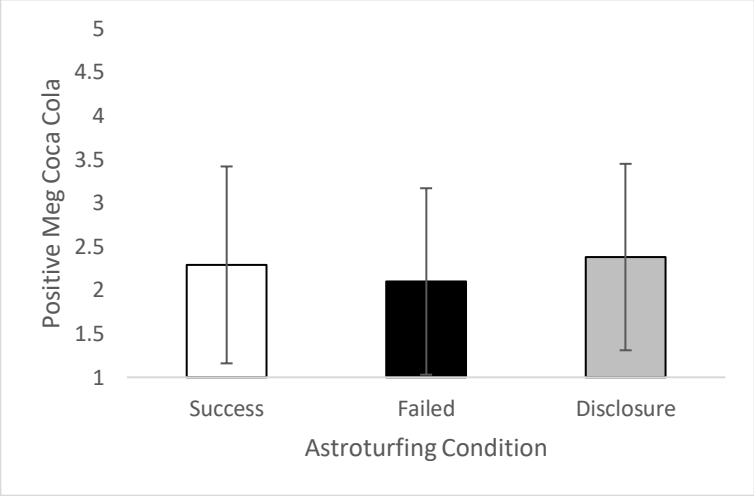
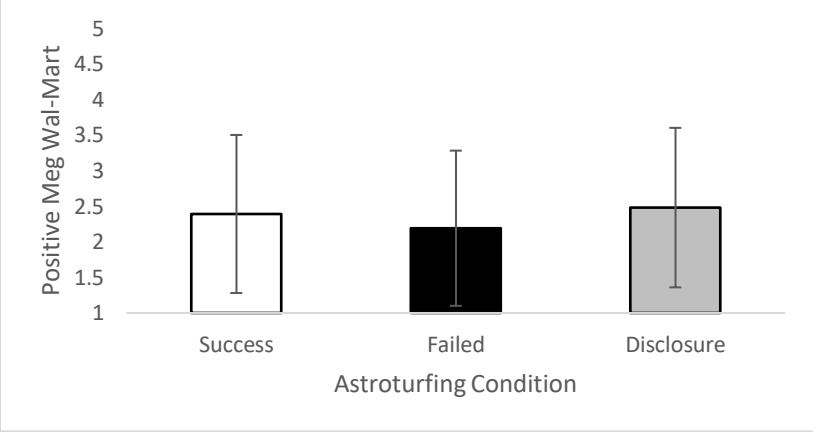


Figure 8
Mean differences and standard deviations: Walmart positive megaphoning

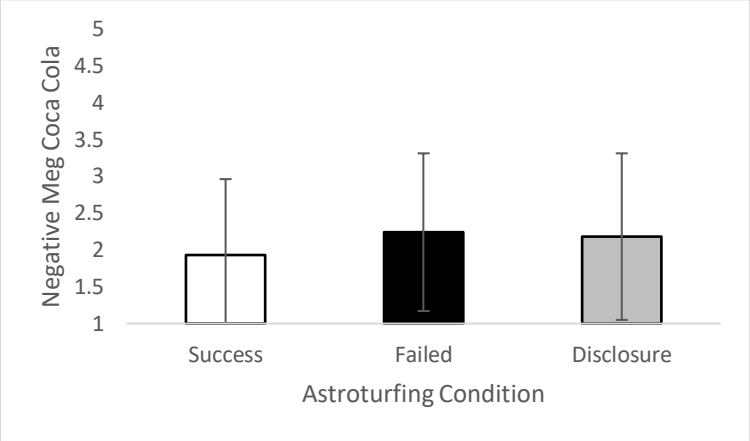


(Fig.8)

Hence, H4 was partially supported in the extent to which failed astroturfing reports more negative effects for positive megaphoning than disclosure, however there were no differences between failed astroturfing and successful astroturfing, neither there were between disclosure and successful astroturfing.

In order to text H5, the last set of ANOVA tests were conducted. As a result, there were differences found among the conditions when measuring negative megaphoning both for Coca Cola $F(2,508)=4.14$, $p=.01$, $\eta^2=.01$) and Walmart $F(2,508)=4.29$, $p=.014$, $\eta^2=.017$).

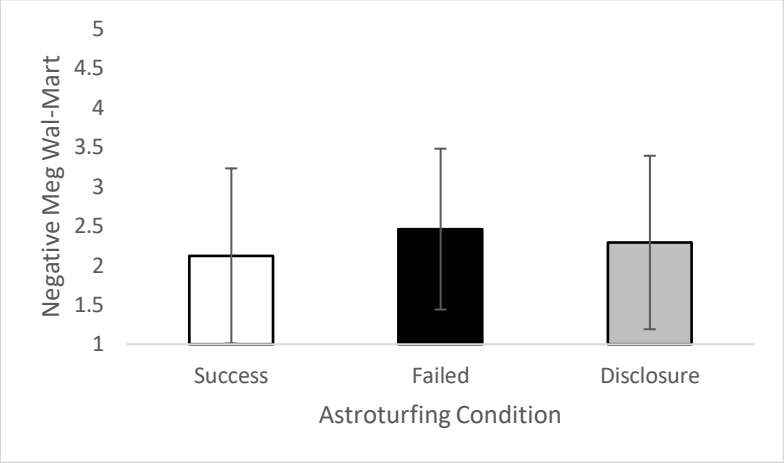
Figure 9
Mean differences and standard deviations: Coca Cola negative megaphoning



For Coca Cola, no significant difference was found when comparing failed astroturfing and disclosure (p=.85). There were, however, differences between failed astroturfing and successful astroturfing (p=.02), with a higher chance of spreading bad information about the organization in instance of failed astroturfing (M=2.24 SD=.08) than in cases of successful astroturfing (M=1.93 SD=.08). Disclosure and successful astroturfing showed a marginal significant difference (p=.07), with publics more likely to intend negative megaphoning in cases of disclosure (M=2.18 SD=.08) than in cases of successful astroturfing (M=1.93 SD=.08).

In the case of Walmart, no significant difference was found when comparing failed astroturfing and disclosure (p=.33) in terms of negative megaphoning. Differences among failed astroturfing and successful astroturfing were found (p=.01). If a situation of failed astroturfing happens, the intent to spread negative information about the organization (M=2.46 SD=1.02) is higher than in situation of successful astroturfing (M=2.12 SD=1.11). No difference was found when comparing disclosure and failed astroturfing (p=.28).

Figure 10
Mean differences and standard deviations: Walmart negative megaphoning



H5 was partially supported. Even though failed astroturfing did not show a higher intention of negative megaphoning than disclosure, failed astroturfing intention of negative megaphoning was higher than successful astroturfing. Marginal differences were reported between disclosure and successful astroturfing only for Coca Cola – no difference was found in the case of Walmart regarding disclosure and successful astroturfing.

Table 1
Omnibus ANOVA test: conditions difference significance

Dependent variable	Significance	Eta Squared	Power
Credibility Coca Cola	<.001	.033	.969
Credibility Walmart	.004	.022	.861
Purchase Intention Coca Cola	.359	.004	.229
Purchase Intention Walmart	.377	.004	.220
Attitude towards the brand Coca Cola	<.001	.031	.954
Attitude towards the brand Walmart	<.001	.036	.977
Positive Megaphoning Coca Cola	.062	.011	.551
Positive Megaphoning Walmart	.057	.011	.564
Negative Megaphoning Coca Cola	.016	.016	.732
Negative Megaphoning Walmart	.014	.017	.747

Discussion

In this thesis project, I conducted an experiment to investigate the gap between the presumed and actual effects of astroturfing for organizations. In the rise of the Internet, the use of astroturfing strategy is more rampant than in the pre-Internet era. Organizations or communicators who adopt this deceptive strategy have an implicit expectation that astroturfing, unless it is failed, would deliver positive outcomes such as higher credibility, favorable attitude, purchase intention, and positive word-of-mouth (megaphoning). The experimental design and findings challenge, despite some mixed findings, the common expectation for communicators regarding astroturfing strategy and its presumed effects – they may not be worth the risk. I will highlight the key findings and its meanings and implications to those communicators and organizations that consider adopting astroturfing strategy.

The most important finding from the experiment is, despite the common belief of disclosure producing worse perceptional and intentional outcomes than successful astroturfing, the lack of differences between these two situations. In the experiment, there were significant differences reported for credibility, attitude towards the brand and positive megaphoning among both failed astroturfing and successful astroturfing, and failed astroturfing and disclosure; however, disclosure and successful astroturfing did not produce different outcomes.

This fact carries a strong practical implication: disclosure does not produce worse outcomes than successful astroturfing, but really makes a point if astroturfing fails. Organizations which decide to develop astroturfing strategies *risk too much to gain too little*. There was only one instance in which disclosure would generate worse effects than successful astroturfing, which was negative megaphoning, but in real life there is no control over the failure or success of astroturfing strategies.

If astroturfing is caught by publics, studies found there are significant penalties that harm the organization substantially. In the case of disclosure of communicative intent, by just letting publics know that the organization is the source of the information and the acknowledgment of the persuasive intent, these penalties and damaging effects could be easily avoided. Results were significantly different when disclosure and failed astroturfing were compared. Disclosing the source only requires the inclusion of a visible note that acknowledges the company provided the information. The inclusion of an initial truthful statement is enough to avoid the risks and obtain the same benefits as situations in which companies lie. In other words, while disclosure does not show better results than successful astroturfing, at least it does not impel worse outcomes for communicators.

Meanwhile, some results of the experiment – i.e., H2, H4—do not give the clear-cut findings. However, the present study is major part consistent with the expectations that successful astroturfing produces effects in terms of credibility, attitude towards the brand and positive megaphoning. But, when astroturfing is discovered or failed, credibility, attitude towards the brand and positive megaphoning all decrease or become more negative. It is notable, however, that there were no differences among situations in effects in purchase intention.

In the case of purchase intention, there are other factors that could influence this result. To start with, publics are not always rational and their personal experiences and brand and product attachment can interfere with their purchase intention (Zaichkowsky, 1985). This means that even if publics think certain organizations are not behaving well, if their previous experiences with the organization were positive, they may still consider purchasing the organization's products. Also, other factors such as price and quality of the product, or

familiarity with the product could interfere in publics purchase intention, despite failed astroturfing strategies.

Nevertheless, purchase intention could be also damaged because of the bad relationship management in a longer-term period (Demetrious, 2008). Volatile relationships together with the effects of astroturfing (low credibility and negative attitude towards the brand, as discussed earlier) could produce changes in purchase intention. It would be interesting to address the possible mediators and/or moderators that interact with or modify purchase intention in astroturfing situations in future studies, and find out what the relationship between effects of astroturfing could be.

Regarding megaphoning, there are no previous studies about astroturfing which included this type of communicative effect. In the present experiment, there was both a marginal significant difference regarding both positive megaphoning and negative megaphoning. When people know about the hoax, they are less likely to speak well of an organization either online or in person. As well, when publics learn about the hoax, they are more motivated to talk badly about the organization. Then, failed astroturfing would penalize by plateauing, not gaining additional recommendations or positive witnessing, and also it would generate bad information about the organization that would be spread by angry publics. Further research would also be necessary to better understand negative megaphoning and what factors affect the intention of spreading negative information about organizations, as well to understand the relationship between disclosure and successful astroturfing.

All the consequences and effects described are the reflection of public's perceptions once they have been deceived, but there are other effects that go beyond the organization. The discovery of astroturfing can carry consequences for both practitioners and the discipline of

public relations (Tsetsura & Kruckeberg, 2011). Therefore, developing astroturfing strategies has consequences not only harmful for the organization, but harmful to public relations as a field. It is worth mentioning that astroturfing especially affects public relations, more than other fields such as marketing, because of the extension of the application of astroturfing practices (Boulay, 2012).

While marketing or advertising are concerned for promotion for product selling for consumers and customers, public relations deal with management and governance issues and are responsible for decisions and policy that draw different stakeholders and strategic constituencies other than customers. Once astroturfing failed in public relations, constituencies and stakeholders are likely to rise as activists or active publics whose nature is sociopolitical and emotional. Public relations research has accumulated evidence indicating threats and costs of hostile active and activist publics to the organization render organizations less effective – the ineffective organizations tend to fail their missions and operations with poor relationships or public animosity and consequential lack of support from their strategic publics (Grunig, Grunig, & Dozier, 2002).

Overall, the outcomes of this study introduce significant implications for both practitioners and scholars. For practitioners, these findings can provide guidance since the study lets them know the possible effects of their communication strategy, which knowledge gives them the ability to decide what kind of strategy to perform according to the benefits and risks linked to their strategy choice. For scholars, the division of categories by type of situation shows significant differences in the effects, setting a framework to study astroturfing.

Limitations and Future Studies

It would be necessary to follow this line of research in order to rule out other possible moderators and explanations than interfere in the production of astroturfing effects. Also, it would be necessary to implement the three conditions in astroturfing research aside from blogs, including these situations/conditions in lobbying astroturfing research, among others. Other future study should proceed and produce astroturfing research in non-commercial fields, such as non-profits, politics and others. In addition, it would be interesting to include a new condition, a category called non astroturfing, to compare situations which are not deceptive with those considered deceptive.

Because of some participants' inability to distinguish among successful astroturfing and disclosure situations in experiment, publics' detection of astroturfing should also be included in future research. Although astroturfing detection has been studied from a mechanic/ computational perspective (Peng *et al.*, 2016b), more studies should be conducted to not only understand how publics detect astroturfing, but also how to teach them to identify such organizational unethical practices.

Furthermore, the study reported no significant differences when including the covariate ethnicity. However, the amount of people from different racial backgrounds was low in comparison to white people that completed the study. Possible future studies should focus on race, and include astroturfing situations which involve racial issues, such as the Starbucks incident in early 2018.

Conclusion

The present experimental study shows there are actual differences among astroturfing related situations. The first outcome of this study is the categorization of astroturfing – successful, failed, and disclosing strategy. Previous literature (Lock & Seele, 2017) did not

differentiate what would happen if astroturfing strategies are not going well. The present experimental study explicitly posits to what extent the success and failure differ in expected outcomes for communicators (e.g., credibility, favorable attitudes, megaphoning). Based on that assessment, researchers and practitioners in public relations and other applied communication such as advertising can take a stance if the risks or gains are worthwhile in choosing astroturfing strategies.

The experimental study also goes further to ask what alternative options (i.e., disclosure of intent) public relations and communicators might consider as ethical and still effective communication strategies, serving for the purpose of promotion or advocacy. There is little research, if any, in public relations that answers the practitioner's daily question whether their promotion and advocacy efforts with revealing the purpose or source of message could still be effective in bringing the expected outcomes (e.g., favorable attitudes and positive megaphoning).

Abstaining from deceptive astroturfing has fallen into an individuals' sense of morality in communication situations. However, if the alternative option – disclosure of communicative intent (Grunig & Grunig, 1996) – can deliver positive communicative outcomes similarly, it is possible to urge and groom communication practitioners for more ethical communication approaches in practice. In other words, the findings from this research provides evidence for incentivizing practitioners and organizations to communicate explicitly without fear of disclosing their self-interest. This research recommends to communicators that they can be the do-gooders without extra-costs or lowering their interest.

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APPENDIX I: Stimuli

Astroturfing Condition Coca Cola

Steve Blair, P.E.D., FACSM Professor in Dep. of Exercise Science Arnold School of Public Health, Univ. of South Carolina "Most of the focus in the popular media and the scientific press is about eating too much, blaming fast food and blaming sugary drinks… and so on, and there is really virtually no compelling evidence that that in fact is a cause. Those of us interested in science, public health, medicine, we have to learn how to get the right information there. It's very clear that around the world populations are getting fatter. The big problem is we don't really know the cause other than too many people are eating more calories than they burn on too many days. But maybe, the reason they are eating more than they need is because they are not burning them; so that we need to be in balance, we need to be in energy balance in a healthy level, which means to get a proper amount of physical activity. We want to educate the world better on energy balance so that people have a better understanding of what it takes to maintain a desirable weight, and that is why we are creating in early stages, we just got approved from the funding, to establish a Global Energy Balance Network. We need to discover what is really causing this epidemic and how do we change it. We want data. Actual data on energy balance, what happens over time and then we want to communicate what we find in those studies to the world, not just to few scientists who read scientific journals. To everybody. Teachers, university people, public health people, corporations, nonprofits… we want to reach everybody with this and help them understand energy balance. Healthy nutrition, healthy physical activity."

Failed Astroturfing Condition Coca Cola

Steve Blair, P.E.D., FACSMProfessor in Dep. of Exercise ScienceArnold School of Public Health, Univ. of South Carolina "Most of the focus in the popular media and the scientific press is about eating too much, blaming fast food and blaming sugary drinks… and so on, and there is really virtually no compelling evidence that that in fact is a cause. Those of us interested in science, public health, medicine, we have to learn how to get the right information there. It's very clear that around the world populations are getting fatter. The big problem is we don't really know the cause other than too many people are eating more calories than they burn on too many days. But maybe, the reason they are eating more than they need is because they are not burning them; so that we need to be in balance, we need to be in energy balance in a healthy level, which means to get a proper amount of physical activity. We want to educate the world better on energy balance so that people have a better understanding of what it takes to maintain a desirable weight, and that is why we are creating in early stages, we just got approved from the funding, to establish a Global Energy Balance Network. We need to discover what is really causing this epidemic and how do we change it. We want data. Actual data on energy balance, what happens over time and then we want to communicate what we find in those studies to the world, not just to few scientists who read scientific journals. To everybody. Teachers, university people, public health people, corporations, nonprofits… we want to reach everybody with this and help them understand energy balance. Healthy nutrition, healthy physical activity."

Now, read the transcription of the news piece in CBS This Morning Los Angeles:
TV anchor: Coca cola is under fire this morning in the battle over Americas obesity epidemic. We first told you about this story yesterday. Soda giant donated millions to spread the message that Americans pay too much attention in what they eat and drink instead of focusing on how much they exercise. Much of the money went to a nonprofit called the Global Energy Balance Network, that supports this argument. Our Doctor David Agus is in Los Angeles. David, Good morning.
Doctor David Agus: Good morning, Nora.
Anchor: You are outraged by this.
Doctor David Agus: Oh, is just astounding. With no transparency, these three university professors stated that is not what you it, is just how much you exercise that's responsible for obesity and for diabetes. They are founded by Coca Cola and it wasn't even stated on their website until last week that Coca Cola was behind all of this.
Anchor: In fact, Doctor, listen to one of the leading scientists of this nonprofit group in their announcement video.
(Video segment of Global Energy Balance Network, with professor Blair): Most of the focus in the popular media and the scientific press is about eating too much, blaming fast food and blaming sugary drinks… and so on, and there is really virtually no compelling evidence that that in fact is a cause.
Anchor: Is that true, that there is not compelling evidence that that is the cause?
Doctor David Agus: Oh c'mon The scientific world and the media world are against Coca Cola and there is a conspiracy to push down drinking coke in this country. What do you think? The data are actually the opposite. In order to lose weight, you have to do both exercise and reduce

the calories in. And that data is very clear. It is also very clear that drinking sugary sodas is responsible of death in the US, 25000 deaths a year related to the consumption of sugary drinks.

Disclosure Condition Coca Cola

Steve Blair, P.E.D., FACSMProfessor in Dep. of Exercise ScienceArnold School of Public Health, Univ. of South Carolina Video Sponsored by Coca Cola."Most of the focus in the popular media and the scientific press is about eating too much, blaming fast food and blaming sugary drinks… and so on, and there is really virtually no compelling evidence that that in fact is a cause. Those of us interested in science, public health, medicine, we have to learn how to get the right information there. It's very clear that around the world populations are getting fatter. The big problem is we don't really know the cause other than too many people are eating more calories than they burn on too many days. But maybe, the reason they are eating more than they need is because they are not burning them; so that we need to be in balance, we need to be in energy balance in a healthy level, which means to get a proper amount of physical activity. We want to educate the world better on energy balance so that people have a better understanding of what it takes to maintain a desirable weight, and that is why we are creating in early stages, we just got approved from the funding, to establish a Global Energy Balance Network. We need to discover what is really causing this epidemic and how do we change it. We want data. Actual data on energy balance, what happens over time and then we want to communicate what we find in those studies to the world, not just to few scientists who read scientific journals. To everybody. Teachers, university people, public health people, corporations, nonprofits… we want to reach everybody with this and help them understand energy balance. Healthy nutrition, healthy physical activity."

Astroturfing Condition Walmart

Wal_marting Across America
The Final Word
Our blog was about the people we met and the stories they told. As a storyteller, I should have done a better job beginning at the beginning with our tale.
In April 2006, Jim and I hiked the Grand Canyon, Bryce and Slot Canyons in Escalante. During our trip we ended in Paige, Arizona. Not only we are risers, we are East Coasters, which meant 5 a.m. we were up and ready to go, although not much else is in Paige. Except, of course the Walmart Supercenter. We pulled into the parking lot amid at least a dozen RVs. Not sure what was up, we asked why? We learned Walmart allows RVs to stay in store parking lots over night. For free. As we hiked up Bright Angel Trail from Phantom Ranch in Grand Canyon a new adventure was born.
I started thinking about all other amazing things there are to see in this vast country of ours. And when I started thinking about how Walmart – one in every town, practically – lets you park overnight for free. The idea just sort of came together. We would take vacation from our full-time jobs and drive across the country in a rented RV, from city to city, spending the night in a different Walmart parking lot every night.

Failed Astroturfing Walmart

Walmarting Across America
The Final Word
Our blog was about the people we met and the stories they told. As a storyteller, I should have done a better job beginning at the beginning with our tale.
In April 2006, Jim and I hiked the Grand Canyon, Bryce and Slot Canyons in Escalante. During our trip we ended in Paige, Arizona. Not only we are risers, we are East Coasters, which meant 5 a.m. we were up and ready to go, although not much else is in Paige. Except, of course the Walmart Supercenter. We pulled into the parking lot amid at least a dozen RVs. Not sure what was up, we asked why? We learned Walmart allows RVs to stay in store parking lots over night. For free. As we hiked up Bright Angel Trail from Phantom Ranch in Grand Canyon a new adventure was born.
I started thinking about all other amazing things there are to see in this vast country of ours. And when I started thinking about how Walmart – one in every town, practically – lets you park overnight for free. The idea just sort of came together. We would take vacation from our full-time jobs and drive across the country in a rented RV, from city to city, spending the night in a different Walmart parking lot every night.

Now read the following news post:

Walmarting Across America (Sponsored by Walmart)

Walmarting Across America was the name of an already awful blog that had a few smiley travelers trekking across the country to see “other amazing things” the U.S. had to offer. To make theoir journey work, they’d park their vcar overnight in Walmart parking lots. American? You bet.

But the awfulness was exacerbated when readers discovered the blog was actually commissioned by Walmart themselves, courtesy of public relations agency Edelman. Turns out, the notorious agency hired a bunch of inauthentic PR bloggers to high-five each other in the name of Walmart’s awesomeness, causing notes to wrinkle across the country.

In the aftermath, we’re still not sure which was louder: the groaning or the outrage.

Disclosure Condition for Walmart

Walmarting Across America
The Final Word
Our blog was about the people we met and the stories they told. As a storyteller, I should have done a better job beginning at the beginning with our tale.
In April 2006, Jim and I hiked the Grand Canyon, Bryce and Slot Canyons in Escalante. During our trip we ended in Paige, Arizona. Not only we are risers, we are East Coasters, which meant 5 a.m. we were up and ready to go, although not much else is in Paige. Except, of course the Walmart Supercenter. We pulled into the parking lot amid at least a dozen RVs. Not sure what was up, we asked why? We learned Walmart allows RVs to stay in store parking lots over night. For free. As we hiked up Bright Angel Trail from Phantom Ranch in Grand Canyon a new adventure was born.
I started thinking about all other amazing things there are to see in this vast country of ours. And when I started thinking about how Walmart – one in every town, practically – lets you park overnight for free. The idea just sort of came together. We would take vacation from our full-time jobs and drive across the country in a rented RV, from city to city, spending the night in a different Walmart parking lot every night.
Sponsored by Walmart.

APPENDIX II: Survey Instrument

Q2 **Would you like to be involved in research at the University of Oklahoma?**

I am Loarre Andreu Perez from the Journalism and Mass Communication Department and I invite you to participate in my research project entitled Astroturfing and Its Gain and Loss: Three Experimental Studies on the Disclosure of Motives and Its Effect Boundaries for Ethical and Effective Communication (Part I). This research is being conducted through the use of Qualtrics. You must be at least 18 years of age to participate in this study.

Please read this document and contact me to ask any questions that you may have BEFORE agreeing to take part in my research.

What is the purpose of this research? The purpose of this research is to find out the repercussions of certain public relations strategies in publics' choices of purchase and attitudes towards the organization. **How many participants will be in this research?** About 200 people will take part in this research. Participants should be 18 years or older in order to take part of this experiment. **What will I be asked to do?** If you agree to be in this research, you will read a transcript of a video and a blog post, and then you will be asked to answer questions to rate the organizations described in those texts. **How long will this take?** Your participation will take 15 – 20 minutes, completed in just one visit. **What are the risks and/or benefits if I participate?** There are no risks and no benefits from being in this research. **Will I be compensated for participating?** You will not be reimbursed for your time and participation in this research. **Who will see my information?** In research reports, there will be no information that will make it possible to identify you Research records will be stored securely and only approved researchers and the OU Institutional Review Board will have access to the records. You have the right to access the research data that has been collected about you as a part of this research. However, you may not have access to this information until the entire research has completely finished and you consent to this temporary restriction. **Do I have to participate?** No. If you do not participate, you will not be penalized or lose benefits or services unrelated to the research. If you decide to participate, you don't have to answer any question and can stop participating at any time. **Will my identity be anonymous or confidential?** Your name will not be retained or linked with your responses. The data you provide will be retained in anonymous form. **Who do I contact with questions, concerns or complaints?** If you have questions, concerns or complaints about the research or have experienced a research-related injury, contact me at: Loarre Andreu Perez +1(405)- 694-3990 loarre.andreu.perez-1@ou.edu Advisor: Jeong- Nam Kim layinformatics@ou.edu You can also contact the University of Oklahoma – Norman Campus Institutional Review Board (OU-NC IRB) at 405-325-8110 or irb@ou.edu if you have questions about your rights as a research participant, concerns, or complaints about the research and wish to talk to someone other than the researcher(s) or if you cannot reach the researcher(s).

By checking the following box, I acknowledge that I have read this consent form and I want to participate in this study:

I want to participate in this study (1)

Q3 Do you consider you diet healthy?

Totally disagree (1)

Disagree (2)

Neither agree nor disagree (3)

Agree (4)

Totally agree (5)

Q4 Do you do any physical activity (other than walking)?

Very often (1)

Often (2)

Sometimes (3)

Occasionally (4)

Never (5)

Q5 How often do you drink soda/pops?

Very often (1)

Often (2)

Sometimes (3)

Occasionally (4)

Never (5)

Q6 Do you buy sugary drinks?

Very often (1)

Often (2)

Sometimes (3)

Occasionally (4)

Never (5)

Q7 Read the following statements and answer whether you agree or disagree with them:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat Agree (4)	Very much agree (5)
I like Coca Cola more than other soda brands (1)	○	○	○	○	○
I feel more attached to Coca Cola than other sugary brands (2)	○	○	○	○	○
I buy Coca Cola because I really like it (3)	○	○	○	○	○
I am pleased to buy Coca Cola instead of other soda brands (4)	○	○	○	○	○
I am more interested in Coca Cola than other brands (5)	○	○	○	○	○

Q8 Read the following statements and answer whether you agree or disagree with them:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
I recommend Coca Cola to those who ask my advice (1)	○	○	○	○	○
I say positive things about Coca Cola to other persons (2)	○	○	○	○	○
I consider Coca Cola my first choice when I want to buy sugary drinks (3)	○	○	○	○	○

Q9 How often you go to Walmart?

Very often (1)

Often (2)

Sometimes (3)

Rarely (4)

Never (5)

Q10 Read the following statements and answer whether you agree or disagree with them:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
I like Walmart more than other supermarkets (1)	○	○	○	○	○
I feel more attached to Walmart than other supermarkets (2)	○	○	○	○	○
I buy in Walmart because I really like their stores (3)	○	○	○	○	○
I am pleased to buy in Walmart rather than in other stores (4)	○	○	○	○	○
I am more interested in Walmart than other supermarket chains (5)	○	○	○	○	○

Q11 Read the following statements and answer whether you agree or disagree with them:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
I recommend Walmart to those who ask my advice (1)	○	○	○	○	○
I say positive things about Walmart to other persons (2)	○	○	○	○	○
I consider Walmart my first choice when I want to go grocery shopping (3)	○	○	○	○	○

Randomly assignment to one of the conditions (Q12, 13 or 14)

Q12 Read the following transcription of Global Energy Balance Network announcement video:

(Condition Astroturfing Text)

Q13 Please, read the following transcription of Global Energy Balance Network announcement video:

(Condition Failed Astroturfing Text)

Q14 Read the following transcription of Global Energy Balance Network announcement video:

(Condition Disclosure)

To be able to recall what condition each participant was assigned to, they had to click on proceed in the next question.

Q15 Please, click on proceed if you have read the transcription.

Proceed (1)

Q16 Please, click on proceed if you have read the transcriptions:

Proceed (1)

Q17 Please, click on proceed if you have read the transcriptions:

Proceed (1)

Q18 Read the following statements and answer whether you agree or disagree with them:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
Coca Cola is an appealing company (1)	○	○	○	○	○
Coca Cola's actions are done for good (2)	○	○	○	○	○
My opinion towards Coca Cola is favorable (3)	○	○	○	○	○
Overall, I like Coca Cola as a company (4)	○	○	○	○	○
I would evaluate Coca Cola's behavior as pleasant (5)	○	○	○	○	○

Q19 Please, read the following statements and answer whether you agree or disagree with them:

	Don’t agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
I may buy Coca Cola products (1)	○	○	○	○	○
I am uninterested in Coca Cola beverages (2)	○	○	○	○	○
There is a certain probability that I will consume Coca Cola drinks (3)	○	○	○	○	○
I will definitely buy Coca Cola products (4)	○	○	○	○	○

Q20 Please, read the following statements and answer whether you agree or disagree with them:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
I would post negative comments in the Internet (1)	○	○	○	○	○
I would criticize Coca Cola to friends and people I know (2)	○	○	○	○	○
I would talk to my friends about how Coca Cola does poorer than other companies (3)	○	○	○	○	○
I would second with negative comments about Coca Cola (4)	○	○	○	○	○
I would praise Coca Cola to people I meet (5)	○	○	○	○	○
I would make efforts to persuade angry publics in favor of Coca Cola (6)	○	○	○	○	○

I would write positive comments or posts about Coca Cola in the Internet (7)	○	○	○	○	○
I would argue against vicious rumors and prejudices about Coca Cola (8)	○	○	○	○	○

Q21 Please, read the following statements and answer whether you agree or disagree with them:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
Coca Cola treats people like me fairly and justly (1)	○	○	○	○	○
Whenever Coca Cola makes an important decision, they will be concerned about people like me (2)	○	○	○	○	○
Coca cola can be relied on to keep its promises (3)	○	○	○	○	○
I believe that this organization takes the opinions of people like me into account when making decisions (4)	○	○	○	○	○
I feel very confident about this organization's skills (5)	○	○	○	○	○
This organization has the ability to accomplish what it says it	○	○	○	○	○

will do (6)

Q22 Please, read the following blog post:

(Astroturfing condition, if Q12 was displayed)

Q23 Please, read the following blog post:

Now, read the following news post:

(Failed Astroturfing Condition, if Q13 was displayed)

Q24 Please, read the following blog post:

(Disclosure Condition if Q14 was displayed)

Q25 Read the following statements and rate your agreement or disagreement with them:

	Don’t agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
Walmart is an appealing company (1)	○	○	○	○	○
My opinion towards Walmart is unfavorable (2)	○	○	○	○	○
I would evaluate Walmart’s behavior as pleasant (3)	○	○	○	○	○
Walmart’s actions are done for good (4)	○	○	○	○	○
Overall, I like Walmart as a company (5)	○	○	○	○	○

Q26 After reading the post about Walmarting Across America, rate the probability of you carrying on the following actions:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
I would post negative comments in the Internet (1)	○	○	○	○	○
I would second with negative comments about Walmart (2)	○	○	○	○	○
I would criticize Walmart to friends and people I know (3)	○	○	○	○	○
I would talk to my friends about how Walmart does poorer than other companies (4)	○	○	○	○	○
I would write positive comments or posts about Walmart in the Internet (5)	○	○	○	○	○
I would argue against vicious rumors and	○	○	○	○	○

prejudices about Walmart (6)					
I would praise Walmart to people I meet (7)	○	○	○	○	○
I would make efforts to persuade angry publics in favor of Walmar (8)	○	○	○	○	○

Q27 Read the following statements and rate your agreement or disagreement with them:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
There is a certain probability that I will make a purchase in Walmart (1)	○	○	○	○	○
I will definitely never buy in Walmart (2)	○	○	○	○	○
I may go shopping to Walmart (3)	○	○	○	○	○
I am interested in Walmart products (4)	○	○	○	○	○

Q28 Read the following statements and rate your agreement or disagreement with them:

	Don't agree at all (1)	Somewhat disagree (2)	Neither agree nor disagree (3)	Somewhat agree (4)	Very much agree (5)
Walmart has the ability to accomplish what they say they will do (1)	○	○	○	○	○
I feel very confident about Walmart's skills (2)	○	○	○	○	○
I believe that Walmart takes the opinions of people like me into account when making decisions (3)	○	○	○	○	○
Walmart treats people like me fairly and justly (4)	○	○	○	○	○
Whenever Walmart makes an important decision, I know it will be concerned about people like me (5)	○	○	○	○	○
Walmart can be relied on to keep it promises (6)	○	○	○	○	○

If Disclosure Condition (Q14) was displayed:
Q29 Was the video of Energy Balance Network sponsored by a company?

- ○ Yes (1)
- ○ No (2)

If Disclosure Condition (Q14) was displayed:
Q30 Was the blog Walmarting Across America sponsored by a company?

- ○ Yes (1)
- ○ No (2)

Q31 What gender do you identify yourself with?

- ○ Male (1)
- ○ Female (2)
- ○ Other/ Prefer not to answer (3)

Q32 What is your ethnicity?

- ○ White (1)
- ○ Black or African American (2)
- ○ American Indian or Alaska Native (3)
- ○ Asian (4)
- ○ Native Hawa2an or Pacific Islander (5)
- ○ Latin American (6)
- ○ Other (7)

Q33 Which category best describes your household income?

- ○ Less than $10,000 (1)
- ○ $10,000 - $19,999 (2)
- ○ $20,000 - $29,999 (3)
- ○ $30,000 - $39,999 (4)
- ○ $40,000 - $49,999 (5)
- ○ $50,000 - $59,999 (6)
- ○ $60,000 - $69,999 (7)
- ○ $70,000 - $79,999 (8)
- ○ $80,000 - $89,999 (9)
- ○ $90,000 - $99,999 (10)
- ○ $100,000 - $149,999 (11)
- ○ More than $150,000 (12)

Q34 What is the highest level of education you have achieved?

- ○ Less than high school (1)
- ○ High school graduate (2)
- ○ Some college (3)
- ○ 2 year degree (4)
- ○ 4 year degree (5)
- ○ Professional degree (6)
- ○ Doctorate (7)

Q35 Thank you so much for your participation!

If you have questions regarding this research, please, feel free to reach me at loarre.andreu.perez-1@ou.edu

APPENDIX III

T-Test: Differences among groups by order

Variable	Coca Cola first		Walmart first		Significance
	Mean	*SD*	Mean	*SD*	
Gender	1.5	.5	1.41	.49	.063
Ethnicity	1.49	1.25	1.64	1.42	.214
Income	5.96	2.98	5.56	3.00	.134
Education	4.35	1.30	4.16	1.34	.108