The role of social marketing communications in influencing "Text and Driving" Behaviors: Theory and Evidence from an international sample

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Abstract— **Texting while driving is a dangerous practice becoming increasingly common, especially among young people.**

This paper aims to understand the role of social marketing communication in affecting people's driving behaviors. The presented research compares the effectiveness of different social communication styles (traditional or shock), formats (text images, images, community initiatives and videos) and media (TV, radio, leaflet, poster, web, social networks) in influencing the use of a smartphone while driving.

We found that shock advertising has a significant impact on drivers' intentions about whether or not to use portable communication devices (i.e. smartphones, tablets) while driving. We also found that this impact especially counts for women. Both risk self-assessment and risk propensity improve after exposure to social advertisement. The strongest impact on recipients is achieved through shock advertising when broadcasted through online videos. Video advertising campaigns are also more likely to be shared than others on social networks, especially in the shock style advertisement. Finally, advertising through television and social media appear to have the highest impact on drivers' behaviors.

This paper offers some insights on how to design effective social communication strategies in order to affect drivers' behaviors.

Keywords— Shock advertising, Driving Behaviors, Text and Drive, Social Advertising, Social Marketing

I. INTRODUCTION

A. Social Marketing

In recent years, marketing communication practices assumed a key role in addressing public social issues that derives from bad lifestyle choices [1]. The concept of social marketing develops upon eight fundamental criteria, respectively named: *customer orientation, behavior, theory, insight, exchange, competition, segmentation* and *methods mix* [2]. All these criteria suggest to understand the target audience in order to detect, starting from theoretical approaches, the most appropriate instruments to facilitate, on one hand, a behavioral change and, on the other, a positive dialogue between public organizations and individuals [1, 3].

Advertising plays an extremely important role in modern culture, and has been perceived as an integral component in marketing social issues. Supporters of advertising believe it as having economic and societal benefits through its information ability [4], whereas critics describe it as manipulative and misleading [5, 6]. Some authors [7] believe that attitudes formed through personal experiences are more likely to predict future behaviors, in comparison to attitudes formed through an indirect marketing communication. This notion gives support to earlier findings [8] which sustain that attitudes formed after a direct contact with an object (product trial) are more willing to predict future behaviors, if compared to attitudes based on indirect experience with the product. From the perspective of social advertisement in the specific topic of smocking attitude [9] it is also possible to state, as an example, that although young adults have an overall belief that smoking is dangerous to their health, the ones who held stronger attitudes regarding the health risk of smoking were more likely to believe the health risk information in advertisements.

Social marketing communication usually addresses two different groups: one that practices the "risky" behavior (e.g., smokes cigarettes) and one that does not. These two groups are supposed to have different perceptions of the issues and, as a result, of the advertisement itself. In a study about the development of an anti-smoking campaign targeted at children and young adults [10], the authors analyzed the beliefs and attitudes between smokers and non-smokers, finding the non-smokers as more likely to focus on the long term negative effect of smoking. Another social marketing study [11] found that frequent alcohol users usually trust alcohol warnings less than occasional drinkers or non-drinkers. In addition, the same study concludes that individuals who have more experience with the habit (e.g., alcohol consumption) are more likely to infer their attitudes from their behaviors, rather than from outside sources (e.g., warning information).

Despite many countries have recently invested millions of dollars in extensive television advertisements, in order to promote a change in population behaviors, there has been little research done to investigate the actual effect of these advertisements [12, 13]. Different studies suggest that the credibility of an advertisement is fundamental in order to obtain concrete effects [14] and it has been tested to cigarette advertising [9], alcohol warning labels [11, 15] and election

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campaign advertising [16]. Given the intangible nature of a social issue, it is relevant that the advertisement focuses in involving people with the positive behavior rather than with the negative one [17]. That means, for example, anti-smoking campaigns must put a greater focus on the negative consequences of the behaviors (as health problems related to smoking cigarettes) and should make the users involved by making them feel it as a personal issue [18].

B. Shock Advertising

Among different social marketing options, it is possible to identify shock advertising as an extreme communication style. Shock advertising refers to a "*genre of communication that aims to elicit attention for a brand name by jolting consumer. It attempts to expose social reality through shock and sensationalism*" [19]. It is possible to state also that "*shock advertising is an attempt to surprise an audience by deliberately violating norms for societal values and personal ideals...to capture the attention of a target audience*" [20]. Opinions on such style of advertisements are polarized, some argue that is a form of emotional manipulation and commercialization of social issues, others suggest that it is a positive way for highlighting serious social problems.

In an age where consumers are continuously exposed to advertisements, becoming more and more conscious, it is harder than ever to attract and maintain their attention [19, 21-23]. Indeed there is a growing public acknowledgement that shock tactics are a useful tool for allowing the audience to memorize the message [20, 24]. Shock advertisement practices are commonly used in order to enable large-scale changes in behavior and attitudes [25]. These instruments have been tested in different public health contexts such as seat belt safety, sexually transmitted infections, acquired immune deficiency syndrome (AIDS), smoking and drinking habits [26], showing that shock advertising is more likely to attract attention, to enhance message comprehension and retention and to modify specific behaviors [27]. Advertisers aspire to create ads that stand out, break through the clutter, and attract consumer attention [28]. One strategy for doing this is the use of cruel images [29] also as part of a humor appeal. The ability of violence to capture consumer attention in advertising can overshadow marketers' considerations of the effect of the use of violence. In fact, also when violent advertising campaigns provoked a strong negative consumers' reaction, marketers have perceived the campaign to be successful.

There may be circumstances where the use of such practices could be more appropriate than others, for instance when communicating about health or safety issues. In additions to that, literature suggests that this form of advertisement guarantees more immediate outcomes when applied to topics (e.g. drinking or sexual health), rather than long-term health risks (e.g. smoking) [30]. Culture, language, history and religion must be regarded as important factors that influence shock advertisement's responses too [31, 32].

C. Texting while Driving Dangers

Bad attitudes, such as high alcohol consumption, tobacco smoking, distracted driving, result in problems at a societal level and are frequently addressed as aberrant behavior in social marketing advertisements, mostly promoted by governments and non-profit organizations [18]. Many governments endorsed laws against texting or talking on cellphones while driving. However worldwide as many as 1,2 million deaths and 80 million injuries are caused by distracted driving (WHO), making driving distraction a significant source of injuries on the roadway [33].

With the recent development of new technologies, almost every driver owns a smartphone, a portable music player or a tablet. All these devices could be useful and fundamental in every day's life but, if used while driving, they become extremely dangerous [34].

Smartphone's users seem to prefer texting as a way of communication and sometimes they are so versed with this practice that they can send or text messages without looking at the phone keypad [35]. This familiarity leads people to believe that they will be able to continue texting also while driving. This bad attitude is of particular concern mainly because it deals with three kinds of distraction: cognitive, visual, and physical. Cognitive distraction is linked to the necessity to read the message and think about a possible answer, visual distraction relies on the need to look at the message and at the keypad when answering and physical distraction is related to handling the phone while reading and texting [36]. Some relevant effects of distraction: by using a mobile device reaction times are reduced by 50% and it makes the driver's attention even lower than the one of a driver with an alcoholic level of 0.8 g/l [37]. In addition to that, to send a text message we spend on average 10 seconds and, at a speed of 100 km/h, is like crossing 12 tennis yards blinded. Italian foundation for road safety's report, ANIA, shows that younger people, between 18 and 24 years old, are more likely to send text messages while driving, whereas people between 25 and 44 years old are more used to call or change radio stations while driving [38]. ISTAT demographic data confirm this situation showing that, during 2013, 54% of all road accidents deaths involved people aged 18-44 [39].

In a study investigating road safety advertising, the two best performing advertisements were highly dramatic showing graphic crash scenes, injuries and death [40], underlining the positive effect of shock advertisement in this field but there is no specific academic literature that confirms the effects of shock advertising against "text and driving" practices especially if compared to traditional styles.

II. METHOD

This research aims to investigate whether and how social marketing communication can affect drivers' future behaviors and consequently minimize their intentions of sending and reading messages while driving.

To achieve the scope a quantitative analysis was conducted by performing an experiment to a random sample of 222 people aged 18-40, all holders of driving licenses for cars. The experiment was structured in two stages, distant a month each, and performed on the same panel. Given the structure of the experiment, data were collected between May and June 2015. The experiment entailed questions that gathered respondents'

opinions (before and after advertising manipulation) with reference to five main "drivers' sentiments":

- Text and drive risk self-assessment (a): drivers' judgement of their current driving behaviors regarding how often they have read or written messages while driving and how often they expect to do it in the future;
- Social norms (b): drivers' consciousness of social pressures about dangerous driving habits such as "text and drive";
- Risk propensity (c): drivers' risk appraisal of using portable devices while driving and resulting likelihood of reading and texting messages while driving in the future;
- Driving self-esteem (d): drivers' perception of their driving ability with regards to their perceived self-control over whether they will read or write text messages while driving and their level of attention while driving;
- Fear (e): drivers' awareness of dangers, both having a crash or being fined by the police, arising from texting while driving;

During the first round of the experiment, we collected drivers' opinions about the above listed five main sentiments with no advertising manipulation.

Then, the same opinions were gathered after exposure to four communication formats (textual ads, image ads, video ads and community initiative/public event) with a traditional non-shock style.

Finally, in the last round we collected the same information after exposure to the four communication formats in a shock advertising style.

The samples of communication formats and styles adopted in the experiment are shown in figures 1-5.

Figure 1. Text image in the traditional (left) and shock (right) style

Figure 2. Image in the traditional (left) and shock (right) style

Figure 3. Community initiatives in the traditional (above) and shock (below) style

Figure 4. Video in the traditional communication style (https://www.youtube.com/watch?v=ypWEFUvvt6s)

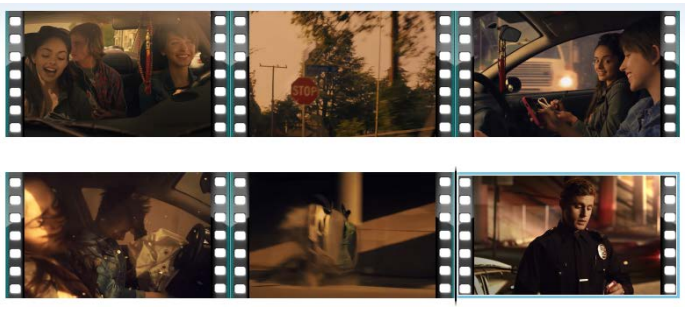

Figure 5. Video in the shock communication style (https://www.youtube.com/watch?v=S_-6EoNhitg)

The impact of the four different communication formats broadcasting two opposite communication styles was assessed in order to investigate the most affecting ones on drivers' feelings, behaviors and willingness to share the message.

Respondents were also asked to express their opinion on the effectiveness of six different media (TV, radio, leaflet, poster, web, social networks) on their driving behavior.

Responses were based on a Likert scale ranging from 1 to 7 (where the successive Likert item represents a "better" response than the preceding value), dichotomous and checklist items.

Statistical Package for the Social Sciences Program (SPSS) version 21 was used for the statistical analysis. An early investigation of the sample composition was made through descriptive statistics. The analysis of variance (ANOVA) was used to infer whether there are real differences between the means of independent groups in the sample data. Eta-squared values from ANOVA were reported as a measure of effect size for group mean differences [41].

The following research hypotheses were tested:

- H1: Communication style (traditional Vs. shock) affects in different ways the 5 drivers'sentiments;
- H2: Gender moderates the relationship between communication style and the 5 drivers' sentiments;
- H3: Driver profiles moderates the relationship between communication style and the 5 drivers' sentiments;
- H4 Different communication formats affect in different ways the 5 drivers' sentiments;
- H5: Different communication formats have different impacts on the intention to share the advertisement;
- H6: Different communication media have different impacts on drivers' future behaviors.

III. RESULTS AND DISCUSSION

A. Sample description

The average age of the sample is 23 years (youngest respondent 18 y.o and oldest 44 y.o). Females represent 65% of the sample. The 63% of respondents declared to be Italian citizens (Table 1). Other nationalities included in the sample are: Albanian, American, Australian, Japanese, Ethiopian, Indian, Peruvian, Mexican, Belgian, British, Canadian, Chinese, Dutch, German, Hungarian, French, Portuguese, Spanish and Turkish.

TABLE I. PRINCIPAL RESPONDENTS' DEMOGRAPHIC CHARACTERISTICS

Variable	*Freq. (f)*	*Percentage*	*Variable*	*Freq. (f)*	*Percentage*
Gender			***Age (years)***		
Female	144	64.9	18-24	166	74,8
Male	78	35.1	25-30	48	21,6
Nationality			More than 30	***8***	***3,6***
Italian	140	63			
Foreign	82	37			

The 5 drivers' sentiments collected before drivers' exposure to social advertising allowed to identify in the sample three driver profiles: (1) responsible drivers, (2) medium-risk drivers and (3) risk-taker drivers.

Responsible drivers (1) are the 55% of the sample, female represent 75% of the cluster. They stated to usually avoid texting and reading messages while driving.

Medium-risk drivers (2) are the 11% of respondents, female represent 68% of the cluster. Those drivers affirmed that on occasion it is rather likely they use their mobile phones while driving.

Finally, 34% of drivers reported themselves as often distracted when driving because of texting and reading messages. This last group represents the risk-taker cluster (3), female represent 52% of the cluster.

B. Shock Vs. Traditional Advertising: effects on changing drivers' sentiments (H1)

We gathered the above-mentioned five drivers' sentiments before and after respondents' exposure to "traditional" and "shock" communication messages. Respondents expressed their opinions about the use of portable devices while driving and described their behaviors with reference to the issue.

There was a slight change of opinions and intentions after watching both styles of advertising. Respondents assume greater awareness of the risks associated with use of mobile phones when exposed to shock advertising (Table 2). Thus, H1 is confirmed.

TABLE II. SHOCK VS. TRADITIONAL ADVERTISING EFFECTS ON MAIN SENTIMENTS

(1 low - 7 high)	Agreement before Advertising*	Agreement after Traditional Advertising*	Agreement after Shock Advertising*
Text and drive risk self-assessment	3,27	2,97	2,80
Social norms consciousness	5,42	5,21	5,14
Risk prospensity	2,42	2,30	2,16
Driving self-esteem	4,03	3,81	3,63
Fear	4,27	4,26	4,33

C. *Shock Vs. Traditional Advertising Impact: Differences in Sample Subsets (H2, H3)*

Some differences exist in advertising effectiveness considering demographics. The one-way ANOVA returned interesting results. Gender differentiates the degree of risk perceived and the driving habits self-assessment between males and females, regardless of advertising exposition. Women are proved to adopt less risky driving behaviors and to be more aware of the dangers arising from texting and reading messages while driving. Eta-squared values are greater than 0.50, indicating a strong association between variables and results, statistically significant at p-value equal to 0.05. If considering both genders, the exposition to advertising caused a change in opinions related to the intention of using portable devices while driving. We found shock advertising to be the most effective social communication style in preventing dangerous driving behaviors. We also found that this impact especially counts for women, which registered the greatest variation in the future willingness to text and read messages while driving. Both groups reassessed their current driving behaviors more positively after the shock advertising exposition by affirming to be mainly responsible and cautious when they drive. Figure 6 shows that both risk self-assessment and risk propensity decreases after being exposed to advertising, with a stronger impact if considering shock communication style and with differences between male and female segments. Thus, H2 is confirmed.

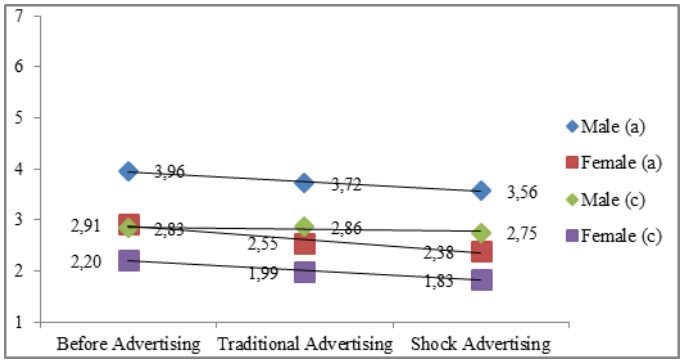

Figure 6. Text and drive risk self-assessment (a) and Risk propensity (c) variations before and after exposure to ads messages in both styles (mean values, 1= disagreement, 7= strong agreement)

We found that the advertising effect on recipients' opinions differs also by drivers' profiles (Figures 7 and 8). Respondent's driving behavioral characteristics discriminate the advertising effectiveness on recipients' feelings and opinions Shock advertising proved to have the greatest impact on all recipients' opinions.

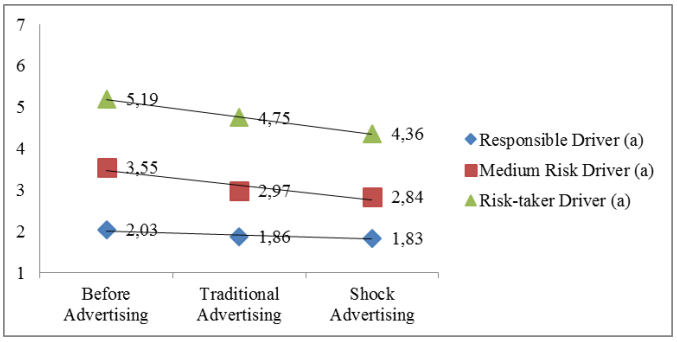

Figure 7. Text and drive risk behavior self-assessment (a), variations among the 3 drivers types before and after exposure to ads messages in both styles (mean values, 1= disagreement, 7= strong agreement)

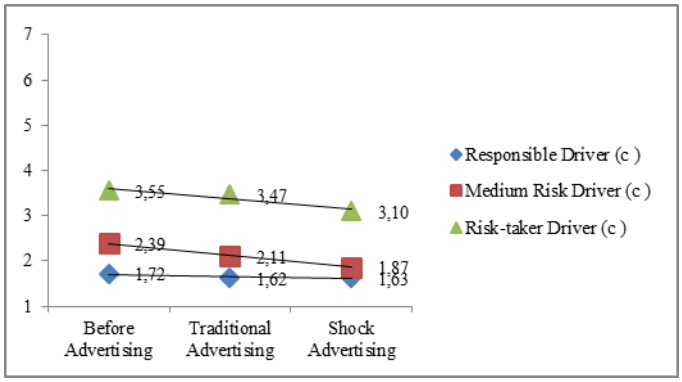

Figure 8. Risk propensity (c) variations among the 3 drivers types before and after exposure to ads messages in both styles (mean values, 1= disagreement, 7= strong agreement)

Figure 7 and 8 show that both risk self-assessment and risk propensity improve for the three considered clusters after exposure to both styles. As expected, the trend is less relevant for responsible drivers. In particular, shock style proves to be more effective for risk-taker drivers. Thus, H3 is confirmed.

D. *Communication Format and Style Impact Comparison (H4, H5)*

Furthermore, respondents were asked to express (a) which kind of format they believe has the strongest impact on their feelings when watching a social (both traditional and shock) advertising campaign, (b) which kind of advertisement is the most effective in making them write and read less messages while driving and (c) which advertisement was most likely to be shared on social communication channels.

The strongest impact on recipients is achieved through shock advertising when broadcasted through online videos. Video advertising campaigns are also more likely to be shared than others on social networks, especially in the shock style advertisement.

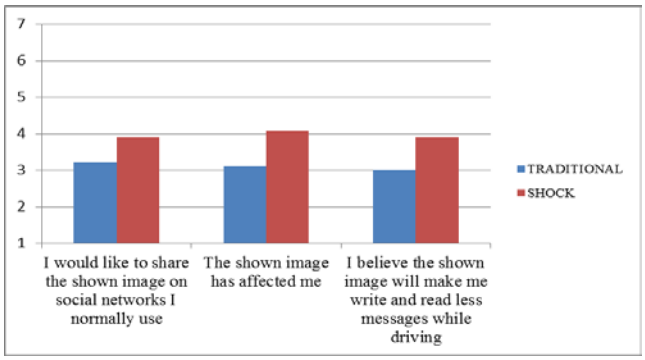

Figure 9. Text image impact on recipients (mean values, 1= lowest impact, 7= strongest impact)

Figure 9 shows how the shocking text image has a stronger impact on recipients if compared to the traditional one, also considering the willingness to share the advertisement or the willingness to change behaviors.

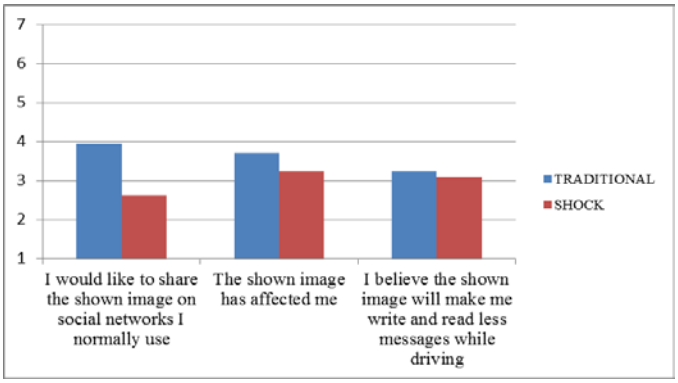

Figure 10. Image impact on recipients (mean values, 1= lowest impact, 7= strongest impact)

As shown in figure 10, it is interesting to note that image advertisement based on traditional style of communication is more effective than shocking one.

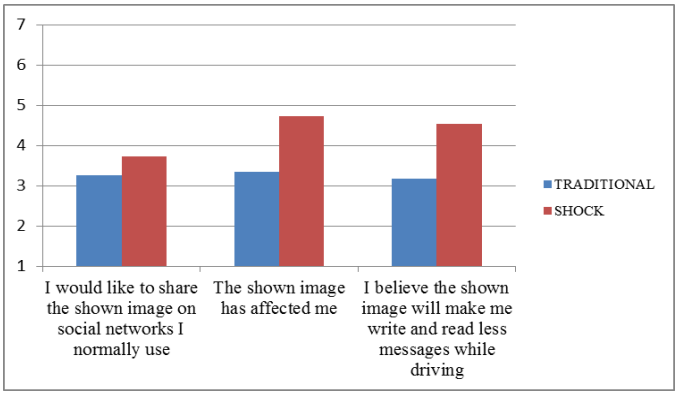

Figure 11. Community initiative impact on recipients (mean values, 1= lowest impact, 7= strongest impact)

Figure 11 analyzes the impact of community initiatives. It is possible to state that for this specific format the differences between shocking and traditional scores are greater than for all the other formats.

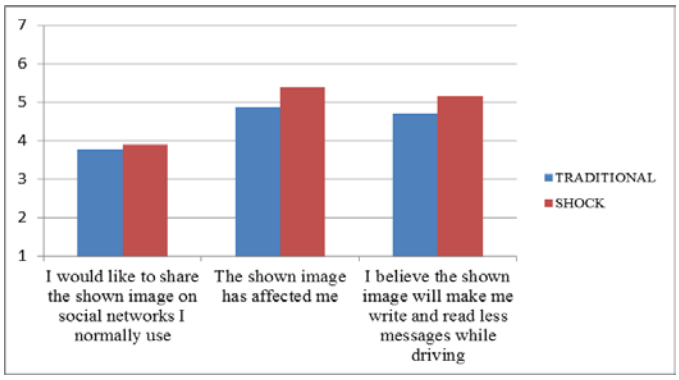

Figure 12. Video impact on recipients (mean values, 1= lowest impact, 7= strongest impact)

Figure 12 shows how the impact of shocking video is stronger than traditional one. Furthermore, video is the media that obtains the highest score for what concerns the willingness to share the content on social media.

Thus H4, H5 are confirmed.

E. Communications media impact on recipients' behaviors from recipients' perspective (H6)

We finally asked our respondent to express their opinions about which communications media has the strongest impact on affecting the recipients of a social communication campaign. Advertising through television and social media appear to have the highest impact on drivers' behaviors (Figure 13). Thus, H6 is confirmed.

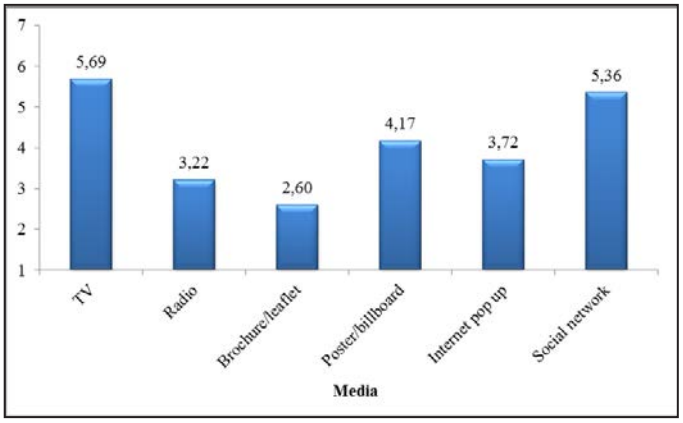

Figure 13. Communication media impact on recipients (mean values, 1= lowest impact, 7= strongest impact)

DISCUSSION AND CONCLUSIONS

This research tested the effectiveness of a shock advertising campaign against other traditional communication styles in encouraging citizens to engage in message-relevant behaviors: "stop texting while driving". Shock advertising resulted to be the most effective communication style.

It was also possible to state that shock advertising has a stronger impact on the risky drivers compared to the responsible ones (figure 14). Thus, it is once again confirmed the positive effect of this strong style of communication that is

now widely used by different public and private institutions with regard to different social topics.

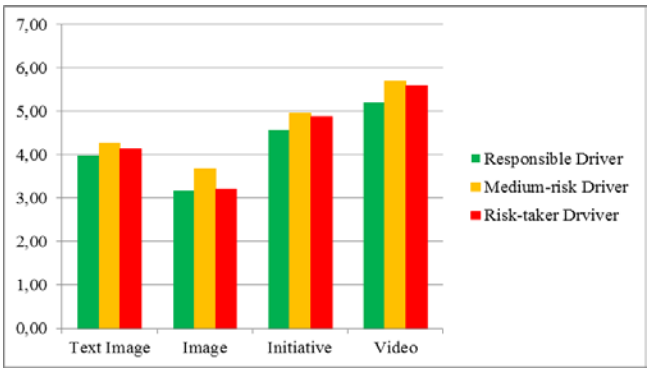

Figure 14. Shocking communication media impact on recipients' clusters (mean values, 1= lowest impact, 7= strongest impact)

Figure 15 shows an overview of the results regarding the impacts of different formats in the two considered styles upon the three drivers' clusters. As far as the image format is considered, results highlight how onlyin this case shocking style has a negative impact in influencing drivers' behaviors (especially the risk-taker drivers). It is possible to explain this phenomenon as a consequence of the selective retention perceptual system of human mind, meaning that people are naturally used to ignore shocking visual stimulus if they are not playing an active role in the communication. In fact, if the image contains text, forcing recipients to reflect on it, or in case of videos or community initiatives, shock style produces positive effects.

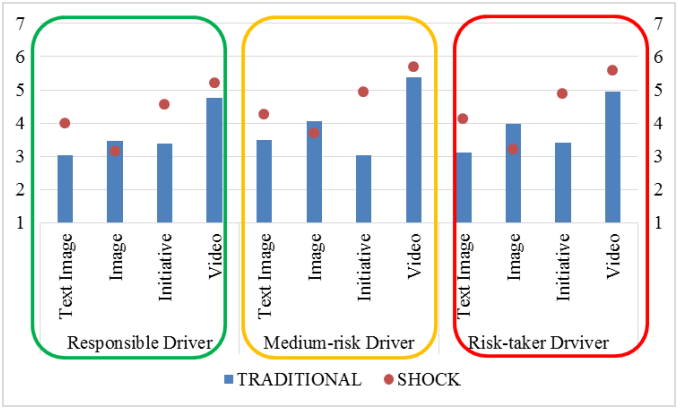

Figure 15. Communication media impact on recipients' clusters (mean values, 1= lowest impact, 7= strongest impact)

Deepening the analysis, we also show that more interactive formats, such as video and community initiatives, are usually more likely to be shared in social media, maximizing their social effect through virality.

Our results should be regarded as future guidelines in order to elaborate more useful marketing campaigns that would be able to effectively reach the target audience. Drastic content communications are effective in influencing attitudes and persuading audiences. This study shows that shock advertising, if properly adopted and targeted, is certainly effective at attracting attention and at persuading recipients.

Future Developments

In future developments of the study, we would like to analyze how the presence of a specific brand in these social marketing campaigns could play a significant role in influencing the acceptance/refusal of a shock advertisement. In order to do so, we have already structured an experiment, which involves some manipulation as to depict the exact effect of the brand in the recipients' perception of the ad. Results could lead to interesting considerations regarding weather a firm should invest money in this kind of advertisement or if this type of communication should be conducted only by institutional organizations.

References

[1] Sue Peattie and Ken Peattie, Social marketing: a pathway to consumption reduction? Journal of Business Research, 2009. 62(2): p. 260-268.

[2] Luis Gracia-Marco, et al., Contribution of social marketing strategies to community-based obesity prevention programmes in children. International Journal of Obesity, 2011. 35(4): p. 472-479.

[3] Emma Louise Giles and Mary Brennan, Changing the lifestyles of young adults. Journal of Social Marketing, 2015. 5(3): p. 206 - 225.

[4] Richard W. Pollay and Banwari Mittal, Here's the Beef: Factors, Determinants, and Segments in Consumer Criticism of Advertising. Journal of Marketing, 1993. 57: p. 99-114.

[5] Debbie Treise, et al., Ethics in advertising: Ideological Correlates of Consumer Perceptions. Journal of Advertising, 1994. 23(3): p. 59-69.

[6] Banwari Mittal, Public Assessment of TV Advertising: Faint Praise and Harsh Criticism. Journal of Advertising Research, 1994. 34(1): p. 35-53.

[7] Russell H Fazio, Martha C. Powell, and Carol J. Williams, The Role of Attitude Accessibility in the Attitude-to-Behaviour Process. Journal of Consumer Research, 1989. 16: p. 280-288.

[8] Robert E. Smith and William R. Swinyard, Attitude-Behaviour Consistency: The Impact of Product Trial versus Advertising. Journal of Marketing Research, 1983. 20: p. 257-267.

[9] Richard F. Beltramini, Perceived Believability of Warning Label Information Presented in Cigarette Advertising. Journal of Advertising, 1988. 17(1): p. 26 - 32.

[10] Laura A. Peracchio and David Luna, The Development of an Advertising Campaign to Discourage Smoking Initiation Among Children and Youth. Journal of Advertising, 1998. 27(3): p. 49-56.

[11] J. Craig Andrews, Richard G. Netemeyer, and Srinivas Durvasula, Effects of Consumption Frequency on Believability and Attitudes Towards Alcohol Warning Labels. Journal of Consumer Affairs, 1991. 25(2): p. 323 - 338.

[12] Tom Carroll, The Role of Social Marketing Campaigns Within Australia's National Drug Strategy. 1996, Commonwealth Department of Health and Family Services, Canberra.

[13] Lisa K. Goldman and Stanton A. Glantz, Evaluation of Antismoking Advertising Campaigns. The Journal of the American Medical Association, 1998. 279(10): p. 772 - 777.

[14] Richard F. Beltramini, Advertising Perceived Believability Scale. 1982, Southwestern Marketing Association, Wichita State University.

[15] J. Craig Andrews, Richard G. Netemeyer, and Srinivas Durvasula, Believability and Attitudes Toward Alcohol Warning Label Information: The Role of Persuasive Communications Theory. Journal of Public Policy and Marketing, 1990. 9: p. 1 - 15.

[16] Aron O'Cass, Political Advertising Believability and Information Source Value During Elections. Journal of Advertising, 2002. 31(1): p. 63 - 74.

[17] Aron O'Cass and Deborah Griffin, Antecedents and Consequences of Social Issue Advertising Believability. Journal of Nonprofit & Public Sector Marketing, 2006. 15.

[18] Deborah Griffin and Aron O'Cass, Social Marketing: Who Really Gets the Message? Journal of Nonprofit & Public Sector Marketing, 2004. 12(2).

[19] George E. Belch and Michael A. Belch, Advertising and promotion: an integrated marketing communications approach. 1998: McGraw-Hill.

[20] Darren W Dahl, Kristina D Frankenberger, and Rajesh V Manchanda, Does it pay to shock? reactions to shocking and nonshocking advertising content among university students. Journal of Advertising Research, 2003: p. 268 - 280.

[21] Robert Goldman and Stephen Papson, Sign Wars. The Cluttered Landscape of Advertising. 1996: The Guildford Press.

[22] Bruce Grierson, Shock‟s next wave. 1998: Adbusters.

[23] Kalle Lasn, Culture jam: The ihicooling of America. 1999: Eagie Brook.

[24] Özlem Sandıkcı, Shock Tactics in Advertising and Implications for Citizen-Consumer. International Journal of Humanities and Social Science, 2011. 1(18).

[25] Stephen Sutton, Shock tactics and the myth of the inverted U. British Journal of Addiction, 1992: p. 517 - 519.

[26] Sara Parry, et al., 'Shockvertising': An exploratory investigation into attitudinal variations and emotional reactions to shock advertising. Journal of Consumer Behaviour, 2013. 12: p. 112–121.

[27] William J. McGuire, An Information Processing Model of Advertising Effectiveness, in Behavioral and Management Science in Marketing. 1978, Ronald Press.

[28] H. Rao Unnava and Deepak Sirdeshmukh, Reducing Competitive Advertising Interference. Journal of Marketing Research, 1994. 31: p. 403-411.

[29] Patrick De Pelsmacker and Joeri Van Den Bergh, The Communication Effects of Provocation in Print Advertising. International Journal of Advertising, 1996. 15(3): p. 203-222.

[30] Rene Richard, Nanne K. de Vries, and Joop van der Pligt, Anticipatory regret and precautionary sexual behaviour. Journal of Applied Social Psychology, 1998. 28: p. 1411–1428.

[31] David S. Waller, Kim-Shyan Fam, and B. Zafer Erdogan, Advertising of controversial products: a cross-cultural study. Journal of Consumer Marketing, 2005. 22(1): p. 6 - 13.

[32] I. Phau and G. Prendergast, Offensive advertising: a view from Singapore. Journal of Promotion Management, 2001. 7(1): p. 71–89.

[33] T. Ranney, et al., NHTSA Driver Distraction Research: Past, Present and Future. 2000.

[34] Joel Cooper, Christine Yager, and Susan T. Chrysler, An Investigation of the Effects of Reading and Writing Text-Based Messages While Driving. 2011, Texas Transportation Institute.

[35] Haneen Saqera, et al., Distractions N' Driving: video game simulation educates young drivers on the dangers of texting while driving. Work, 2012. 41: p. 5877-5879

[36] David L. Strayer, et al., Measuring Cognitive Distraction in the Automobile. 2013, AAA Foundation for Traffic Safety.

[37] Burns PC, et al., How dangerous is driving with a mobile phone? Benchmarking the impairment to alcohol, TRL, Editor. 2002: Wokingham.

[38] Guidoni Umberto, Distracted driving: insights from Italy, ANIA, Editor. 2014.

[39] ISTAT-ACI, Road Accidents in Italy. 2013.

[40] Richard J. Donovan, J. Jalleh, and N. C. Henley, Executing effective road safety advertising: Are big budgets necessary? Accident Analysis and Prevention, 1999. 31: p. 243-252.

[41] J. Cohen, Statistical power analysis for the behavioral sciences. 1988.

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