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Effectiveness of Benefit versus Fear appeals in Anti-smoking campaigns and the role of Message Framing

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Alla mia famiglia

CHAPTER 1: Introduction

In this first chapter, I will first briefly introduce the rise of Anti-tobacco movements and the history of anti-smoke legislation. This part will be supported by some data about current smoking stats in Italy. I will then explore the purpose of this study, explain its scientific and managerial relevance and present the research question and sub questions.

Background Information on Anti-Smoking Campaigns

Until 1970, when USA President Richard Nixon signed the Public Health Cigarette Smoking Act, Tobacco companies heavily advertised cigarettes on TV and Radio targeting young men, women and minors. Cigarettes advertising, also called nicotine marketing, has marked the 20th century by shaping purchase behaviors of a large portion of the population and adapting to social-cultural changes and regulation.

According to Proctor (1996), anti-tobacco campaigns were firstly widely publicized by Nazis in Hitler's Germany in the 1933-1945 period. Even if multiple studies about "lung cancer correlation with smoking" come out in the late 1950s, it's only in the '90s that the anti-tobacco war movements started to publicly discourage smoking and show smoke health consequences through advertising campaign. In 1965 warning messages in tobacco packages started to appear, due to the "Cigarette Labelling and Advertising Act", with the scope of enhancing the public's awareness about the dangerous effects of smoking. Recently, in 2012, Australia was the first country to introduce "Plain Tobacco Packaging" to standardize cigarettes packaging and dilute the brand effect on smokers. Finally, in 2014, the European Tobacco Products Directive introduced health warning pictures to cover 65% of the cigarettes packages, a strategy proven to be effective on influencing smokers purchase behaviors.

Nevertheless, there is still some misinformation about the dangerousness of this addictive behavior. According to the 2015 Global Adult Tobacco Survey in China, only 26% of adult

respondents believe smoking is the cause of health disease, such as cancer, stroke and heart related diseases.

Starting from the ’60 the war on tobacco began dropping smoking rates, thanks to the publication of *Smoking and Health, Report of the Advisory Committee to the Surgeon General of the Public Health Service,* a milestone in the health research field that raised awareness about the correlation of smoking and higher chances of developing lung cancer.

It is only in the 1998 that pro-tobacco advertising was highly restricted when the major players of the tobacco industry suffered a big blow due to the Master Settlement Agreement signed with 46 American states. Italy introduced the ban on tobacco advertising earlier, in 1972, and 3 years later, with the law n. 584, smoking was prohibited in some public spaces and public transportation. Warning labels started appearing in all Tobacco related products since 1991, reporting: “ Il fumo è nocivo” (“Smoking Kills”).

Smoking cessation campaign rolled out through books, ads, print media and group therapy; the industry of anti-smoking aid products was born, from nicotine gums to nasal sprays, everything that could help smokers to overcome the diminishing levels of nicotine and achieve cessation. Smoking switched from being socially acceptable to unwelcome in public and private spaces. California was the first American state to issue a smoking ban in 1995, followed by the rest of the States. In the ’80s, Italy assisted a clear reduction in smoking habits, due to the rapid increased of mortality caused by Tobacco products in the period between 1960-1980. But, it is only in 2005 with the Sirchia Law banning smoking in all public spaces, that smoking dramatically decreased among the Italian population and, according to stats of today, there are 1 million smokers less.

According to the World Health Organization, Tobacco kills 8 million people each year, 88% from direct use and the remaining percentage from second hand smoke. One out of two smokers dies by smoke-related diseases. A 2014 study by OSSFAD showed that 22% of the Italian population smokes regularly, corresponding to 6,2 millions of men and 5,1 millions of women. The same study reported that in 2017, the percentage of male smokers decreased to 6 millions while the

percentage of women smokers boosted to 5,7 millions, increasing the overall Italian smoking population by 3% (22,3%) (Indagine DOXA-ISS 2014; indagine DOXA-ISS 2017).

Even if smoking is socially less acceptable nowadays and despite the strict anti-smoking laws, still 22% Italian population, smokes , according to 2017 statistics. It is therefore evident that there is a need for more persuasive and novel anti-smoking campaigns.

Purpose of the study

This study will be focused on how to create more efficient anti-smoking advertising campaigns to reduce intention of smoking among smokers. In particular I will investigate the different ad appeals that could be employed by print media, starting from the "Fear appeal" focused on negative health consequences, which is currently the most utilized appeal, to other appeals such as benefit appeal with health and money gain.

Then, I will analyze the "Message Framing", to understand the different effectiveness that could be generated by presenting an anti-smoking ad in a way (positively framed) or in another (negatively framed).

I will also review shortly the previous literature about price and taxation influence on smoking habits to understand what role plays the financial cost of smoking through the pricing variable.

The purpose of this study is to understand which type of ad appeal has higher influence on smokers' intention to quit and perceived effectiveness of the message. In particular I will be comparing fear appeal versus benefit appeal. One shows the negative consequences of smoking, the other is based on the benefits of quitting i.e positive consequences of not smoking based on protection motivation theory. Then I will be comparing different type of Message framing, positively versus negatively formulated, with the claim that a message positively framed has higher effectiveness than a negatively framed one. I will then use the message framing as a moderator of the relationship between message appeal and intention to quit- perceived effectiveness of the message. Therefore, my research question will be:

Research Question: ***what kind of ad appeal has higher influence on smokers' intention to quit in antismoking campaigns?***

Sub-questions:

- ***What is the effect of advertising appeal (fear vs benefit) on intention to quit smoking?***
- ***What is the moderating role of message framing (positively vs negatively framed) on the effect of advertising appeal on intention to quit smoking?***

Scientific and Managerial Relevance

The literature gap that I'm addressing to is to study the combined effect of message positive framing with benefit appeal on smokers intention to quit and their perceived effectiveness of the message (see Table 1: Literature review and contribution summary in next chapter). Besides I will compare benefit appeal to fear appeal which is the most commonly used so far in anti-smoking campaigns.

Finally, I will investigate previous findings on an Italian sample of smokers, where there is a lack of studies about, in marketing literature.

In the next chapter I will review past literature about the topic, showing that:

-Previous research about ad appeal based on fear, report contrasting results, as well as studies about other appeals, such as disgust, shame or emotional (Akyuz 2017, Hastings and MacFadyen 2002, Laroche et al 2001).

-Message Framing has been analyzed showing, in some cases the higher effectiveness of gain messages over loss messages in influencing smokers habits**,** (Toll et al 2007, Gonzalez et al 2005). Based on this, I will investigate whether gain messages (benefit appeal) lead to high effectiveness compare to fear ones.

-There's no or little previous literature about enefit appeal and positively/negatively formulated messages.

Hence, this thesis will try to fill this gap, by addressing again the contrasting topic of fear appeal and comparing it with the benefit appeal, and by comparing positive message framing versus negative framing on a sample of Italian smokers.

Fear Appeal ineffectiveness (Hastings and MacFadyen, 2002**)** requires a change of direction by mass media, delivering campaigns. This kind of appeal, based on negative health consequences, is currently one of the most utilized over time on anti-smoking campaign and due to its repetitiveness over time, it may loose some of its persuasive power over the audience. (Hastings and MacFadyen, 2002). Moreover, as Akyuz (2017) states, smokers are "color-blind" to messages leveraging on negative health consequences.

These findings suggest that a new kind of approach should be adopted by campaign makers. Other appeals should be tested in Ad contrasting smoking habits and message framing should also be taken into consideration as, I will show in the next chapter, it has proven to influence the effectiveness of the Ad message.

Therefore, the findings of this study, could make a contribution to the "Anti-smoking ad appeal" topic, clarify some doubts about the performance of some ad appeals and suggest some interesting ideas to campaign makers in order to improve the quality of the message delivered and increase the effectiveness of the war on addictive behaviors.

The findings of this study will be also useful to other social marketing campaigns focus on addictive dangerous behavior such as drug use or alcohol abuse. Advertising agencies, marketing communication managers and public authorities might learn from this study and design more effective campaigns based on these findings.

I will now proceed to analyze, in the following chapter, the previous literature about Ad Appeals and message framing.

CHAPTER 2: Theoretical Framework

In this chapter I will start by shortly defining an advertising appeal, I will then proceed with the literature review about the "Fear Appeal" and other appeals mainly utilized by mass media to prevent addictive behaviors. I will also analyze "Message Framing" past literature and the influence of Price and taxation on smoking behavior.

Finally I will discuss the "Protection Motivation Theory" before introducing my conceptual model and hypothesis argumentation.

Anti-Smoking Advertising Campaigns

An advertising appeal, according to the Oxford Dictionary of Media and Communication, is a rhetorical mode of persuasion implicit in the advertising's psychology. Generally, ad appeals are divided into rational or emotional, positive or negative or based on hierarchical systems. As Dix & Marchegiani (2013) suggest, an appeal is " *the sticky glue that hooks the reader or viewer to the advertising message"* originating the creative context of the message and giving consistency to the campaign.

The main appeal analyzed in this thesis related to anti-smoking campaigns is fear appeal, the most commonly used in addictive behavior prevention campaigns. Other types of commonly utilized appeals are disgust, humor or emotional.

The following table (Table 1) summarizes past research about different type of ad appeal employed on mass media campaigns of smoke cessation.

Table 1: Summary of appeals used in anti-smoking campaigns

FEAR APPEAL			
STUDY	***FINDINGS***	***METHOD***	***CONTRIBUTION***
Witte, Allen (2000)	Fear appeals produce high levels of perceived severity and susceptibility, motivate adaptive danger control actions such as message acceptance and maladaptive fear control actions such as defensive avoidance or reactance. Greatest behavioral change are obtained with strong fear appeals and high-efficacy messages, whereas strong fear appeals with low-efficacy messages produce the greatest levels of defensive responses.	meta-analytical techniques	Literature review about fear appeal effectiveness on Public Health campaign
Laroche et al (2001)	Fear appeals are effective for the Anglos sample but unpersuasive for the Chinese one, due to the social importance of the act of sharing a cigarette, regarded in Chinese's culture as a gift or as a symbol of friendship.	Experiment (Between-subject factorial design)	Investigating the moderating influence of culture on the persuasive power of fear.
Hastings, MacFadyen (2002)	Limits of fear appeal rely on: repetition of the message that could, overtime, loosen its effectiveness. Fear appeals do not take into consideration cultural and individual determination of smoking	Context analysis	Analyzing the fear appeal and understanding its limitations

Gallopel, Valette-Florence (2002)	High fear messages generate positive attitude, there's a negative relationship between fear and the number of rejections by smokers and a positive and direct influence of fear on behavioral intention when the high-affectively target of smokers is concerned. High self-efficacy is necessary to rise the intention to adopt a cessation program.	Experiment (Randomized controlled trial)	the use of scare tactics in French anti-tobacco prevention
Durkin, Brennan, Wakeield (2012)	Negative health effects messages most effective at generating increased knowledge, beliefs, positive perceived effectiveness ratings, or quitting behavior, while there was more mixed evidence for other message types.	Literature Review	A summary review of the impact of mass media campaign on smokers
Manyiwa, Brennan (2012)	Individual's perception of self-efficacy has direct and positive effect on the perceived ethicality of fear-based adverts. People who believe that they can quit smoking if they decide to (high self-efficacy) are more likely to perceive fear appeals in anti-smoking advertising as acceptable	Survey	To examine the relationship between self-efficacy, perceived ethicality, and the impact of advertising on behavioral intentions in a context where the aim is to discourage undesirable behavior such as smoking
Williams (2012)	Fear appeals effectiveness is given to the fact that, information based on threat motivates people on adopting safer behaviors.	Literature review	Review and analysis of fear appeal literature

Emery et al (2014)	Fear-based campaign displaying graphic imagery and strong content are better received and processed by the targeted audience than other different appeal.	Experiment	Analyzing the "Tips from former smokers" national campaign and the audience message acceptance. Emotional appeal
Amonini, Pettigrew and Clayforth (2015)	Ads based on shame appeal, may be more effective than guilt and health appeals in motivating smokers to quit in an environment where they are members of a small minority and supportive legislation exists to discourage smoking in public places.	Focus group and questionnaire	Analyzes the relative effectiveness of varying advertising appeals to promote smoking cessation.
Akyuz (2017)	Addiction makes cigarette users color-blind toward negative health consequences, smokers don't like to be reminded about them. Fear Appeal would be more motivating for quit behavior if it emphasizes deteriorations in attractiveness, particularly among females, rather than emphasizing negative health considerations. These type appeal work better for young potential smokers to create avoidance to start smoking.	Questionnaire	To evaluate the effectiveness of public service advertisements among young university students in Turkey.
Zhao et al (2019)	Fear is a stronger predictor of perceived ad effectiveness, smoking attitudes, and	Experiment (Randomized controlled trial)	Comparing fear and humor appeal for anti smoking ads

	risk perceptions than amusement for fear ads, whereas amusement is a stronger predictor of these outcomes than fear for humor ads. Utilizing the two different appeal in a combined way can increase the effectiveness of a campaign.		
OTHER APPEALS			
STUDY	***FINDINGS***	***METHOD***	***CONTRIBUTION***
Pechmann and Reibling (2009)	When targeting young smokers, campaigns need to present 4 characteristics in order to enhance their effectiveness, among all allowing youngsters identification with the message holder increase the power of the ad.	Experiment (Randomized controlled trial)	Identifying common anti smoking messages themes in adolescent campaigns.
Leas et al (2015)	Ad based on strong emotional appeal have higher chances of getting recalled	Secondary data	Assessing the recall rate of an antismoking ad based on emotional appeal
Halkjelsvik, , & Rise (2015)	There little or no benefits in utilizing the disgust appeal combined with treat-based messages	Experiment(Randomized controlled trial)	To understand if using disgust in anti smoking campaign increase or not persuasion to quit smoking.
Amonini, Pettigrew and Clayforth (2015)	When respondents have high level of perceived personal relevance, they are more attracted by shame-based ads.	Experiment	Analyzing different appeals on anti smoking messages
Van Den Heerik et al (2017)	Co-creation could be a new tool of persuasiveness in health campaigns, thanks to interpersonal	Corpus linguistic analysis	Considering co-creation as a new persuasive strategy

	communication of the audience.		
Chun-Yuan Yeh et al (2017)	10% cigarettes' price increase would reduce death and smoking rates with more enhanced effects in certain EU countries than others.	Secondary data	Investigating the effect of price hikes on cigarette consumption
Mi Ah Han (2019)	Price increases of tobacco may result in highest smoking reduction on heavy smokers. Almost 4% of respondents quitted smoking after the price increase.	Secondary data	Understanding effect of tobacco taxation on smoking habits in the Corean market
Jha et al (2019)	Price increase significatively reduced smoking in France and Canada.	Secondary data	Estimating the impact of tobacco taxation across five different income groups

Message Framing			
STUDY	***FINDINGS***	***METHOD***	***CONTRIBUTION***
Kasl and Cobb (1966)	There's a a significant correlation between hope and outcomes of good health	Questionnaire	
Kahneman and Tversky (1979)	When making decision under risk individuals are risk adverse for situations that involve a sure gain and risk seeking when there's a sure loss involved	Experiment	Proposing an alternative model to the Expected utility theory.
Wong and McMurray (2002)	Gain framed messages are better processed by smokers	Experiment (Randomized control trial)	How to effectively communicate smoking cessation messages to all smokers

Wicks, 2005	*Media and audiences play an important role in the process of social reality construction*	Literature review	Study on framing research and constructionism
Gonzalez et al (2005)	The cognitive effort taken while selecting a sure gain choice was significantly lower than the one required to choose a risky one.	fMRI	Explaining the framing effect through an explanatory theory based on the cost-benefit tradeoff
Toll et al (2007)	The effectiveness of smoking cessation campaigns can be improved by utilizing gains associated with quitting	Experiment (Clinical trial)	Test the hypothesis of higher effectiveness of gain framed messages
Goodall and Appiah (2008)	Loss-framing messages on cigarette warning label is more effective in influencing smokers attitudes and intention to quit.	Literature review	Analysis of message framing of cigarettes warning labels and their influence on adolescents.
Toll BA et al (2008)	Women are more sensible to gain framed anti smoking messages than men	Experiment (Clinical trial)	How gender variable influence perception of different antismoking ad messages
Fucito et al (2010)	Smokers with high levels of nicotine dependence are more influenced by gain framed messages.	Secondary data	Analyzing the moderating effect of nicotine between message framing and smoking outcomes.
Lipkus et al (2013)	Loss-framing strategy reveled to be more effective when it comes to targeting couple of smokers	Randomized control trial	Understanding the effectiveness of smoking cessation messages on couples
Toll et al (2014)	Gain framing anti smoking ad and tailoring it on specific smokers characteristics is more effective in influencing smoking cessation intentions	Literature review	Review of existing literature about framed messages.

Mays et al (2014)	Gain framed messages are more effective on smokers with low self efficacy	Experiment (Randomized controlled trial)	The impact of cigarettes warning labels messages on young smokers
Vlasceanu and Vasile (2015)	Women are more sensible to text messages than men independently than the way they're framed	Experiment (Randomized control trial)	Influence of nicotine dependence level of message framing
Mollen et al (2016)	Combining messages with short term consequences generates higher intention to quit if the message is gain framed	Experiment (Randomized control trial)	The effect of temporal framing on smokers responding to smoking cessation ads

The Fear Appeal

Past research about fear appeal on anti-smoking campaign has discordant opinions. Fear appeal is a threat-based appeal on an individual's well-being to motivate him toward an action (in this thesis, smoking cessation)**,** it has been the most widely utilized appeal in social marketing and has been previously analyzed showing contrasting results(Williams 2012).

Witte and Allen (2000) in their review about fear-appeal literature said that the greatest behavioral changes are generated by strong fear appeal together with high-efficacy messages, because in presence of low-efficacy messages accompanied by strong fear appeal, the ad will generate the highest levels of defensive response from the audience. Self-efficacy is, according to psychologist Albert Bandura , a personal judgment of "how well one can execute courses of action required to deal with prospective situations". Hence, fear appeal based messages work better if they're combined with high-efficacy, meaning messages that are able to persuade the target population that they are able to perform a certain task (quitting smoke) .

In a context of addictive behavior, Gallopel and Valette-Florence (2002) suggested using fear-appeal ad to increase the efficiency of the anti-smoking campaign**.**

Durkin et al (2012) has found that when comparing different ad message types, those based on negative health effects are the most effective at generating increased knowledge, beliefs, or quitting behavior in their study about mass media campaign promoting smoking cessation. According to Manyiwa and Brennan (2012) fear appeal effectiveness is enhanced by leveraging on an individual' self-efficacy. In order to discourage undesirable addictive behavior, such as smoking, Manyiwa and Brennan (2012) suggested to advertisers to consider the target' self-efficacy combined with fear appeal of the message. High self-efficacy is therefore necessary to rise intention of adopting a cessation programs.

Durkin, Brennan, Wakeield (2012) supported previous findings about fear-appeal effectiveness and asserted that while other appeal generate mixed evidence, there's no doubt about the effectiveness of showing negative health effect as fear-appeal into generating knowledge in the audience, positive effectiveness and higher quitting behavior.

In the same line, Emery et al (2014) has reported that fear-based media campaign with showing graphic imagery and strong content are better received/processed by the targeted audience of smokers than other type of appeals.

Supporting the fear appeal aimed at youngsters, Zhao et al (2019) work has compared fear vs humor appeals in the context of prevention campaign and discovered that campaign messages featuring serious and frightening threats are more likely to be recalled and perceived to be more effective than humorous appeals. Generating strong negative emotions has hence proven to be effective in anti-smoking prevention among young potential smokers. However, no significant difference, between fear and humor messages, was observed in the context of smoking-related risk perceptions and attitudes.

There are some published studies indicating fear appeals are not effective. Fear appeal ineffectiveness is supported by Hastings and MacFadyen (2002). They state that fear messages are

based on a rational model of decision making while the decision to smoke is not made rationally by smokers. Overtime, this kind of approaches become less effective; smokers are already conscious of negative consequences, they already want to quit and the repetition of the same message diminishes its power. Hence, anti-tobacco campaign should be part of a bigger communication plan that promotes a broader set of healthy behaviors.

It seems culture might also play a role in effectiveness of different ad appeals. In a cross-cultural study by Laroche et al (2001) was proven that fear appeals are effective for the Anglos sample but unpersuasive for the Chinese one, due to the social importance of the act of sharing a cigarette, regarded in Chinese's culture as a gift or as a symbol of friendship.

A study conducted in Australia by Amonini, Pettigrew, Clayforth (2015) found that, when smokers find themselves as a part of a small minority and it exists a supportive legislation to discourage smoking in public areas, the use of shame appeals could be effective in motivating them to quit. Indeed, after this shame appeal campaign, it is found that 78% smokers surveyed recalled the ad, 72% found it to be personally relevant and 53% reported that they had successfully quit, attempted to quit or cut down the number of cigarettes they smoked since the start of the campaign. (Amonini, Pettigrew, Clayforth 2015).

According to Akyuz (2017), smokers don't like to be reminded about health risks associated to cigarette usage, they can be color-blind to messages reminding of negative consequences, resulting hence in the ineffectiveness of fear appeal advertisement. This kind of appeal may be more effective for young potential smokers, in order to discourage them in engaging in such harmful behaviors. Anti-smoking campaigns target mainly smokers, so fear appeal might not be very effective toward heavy smokers. In this thesis, I will focus on smokers, not potential smokers. Akyuz (2017) added that ads that appeal to deteriorations in attractiveness as a fear appeal and a negative consequence can be considered more effective, especially among female consumers.

Overall, there are opposite findings for fear appeals and suggestions for alternative ad appeals such as shame or humor appeals in marketing literature. Therefore, I will investigate the fear-appeal effectiveness one more time on Italian people.

In marketing literature, there are also some relevant studies using message framing theories to test the effectiveness of anti-smoking campaigns. I will discuss some of those studies in next section.

Message Framing in Anti-Smoking Campaigns

According to Wicks (2005), a message framing is a range of meaning through which messages may be understood by the audience. The way the message is received and processed by the audience is strictly correlated to the framing of it. According to the framing effect, which is a cognitive bias observed when individual choices are influenced depending on the way the message is presented: in terms of loss or in terms of gains (Gonzalez et al 2005). In this study, loss messages will be presented as negatively framed messages while gain messages will be presented as positively framed messages. For example, Scenario 1 of the experiment, reported in Appendix chapter 3, says: loss message negatively framed " If you don't quit smoking you will increase your chances of dying at 52 years old", while gain message positively framed " if you quit smoking you will reduce your chances of dying at 52 years old".

Fear appeal-based messages are loss framed, meaning that they display the loss deriving from smoking, in terms of health, external beauty decadence or money.

When taking a decision under risky circumstances, (such as the decision of smoking) individuals behave, according to what is call the prospect theory (Kahneman and Tversky,1979). When the situation involves a sure gain, people are risk adverse, while they become risk seeking when there's a sure loss involved, hence resulting in a choice "biased" by the framing of the message.

Hence, smoking cessation is a preventive behavior, which is *"any activity undertaken by a person who believes himself to be healthy for the purpose of preventing disease… in an asymptomatic stage"* (Kasl and Cobb 1966), which has a certain outcome or sure gain (disease prevention) and according

to the aforementioned prospect theory, gain framing as an anti-smoking message should be more effective than loss framing it (disease catching).

Other variables should also be taken into consideration to understand the relationship between message framing and message effectiveness, such as nicotine dependence level (i.e. amount of smoking and years) or intention to quit (Vlasceanu and Vasile 2015).

Wong and McMurray (2002) discovered that smokers processed gain framed messages with more cognitive effort than loss framed i.e. negative messages, showing a higher interest due, maybe, to the fact that they are accustomed to loss-framed messages. Thus, novelty of antismoking campaign can be more effective. However, even if in the short term both message framings (negative and positive) were effective in increasing self-efficacy to quit smoking, in the long run, negative framed messages revealed to be more effective (Wong and McMurray 2002).

Gonzalez et al (2005) analyzes individuals taking decision under risk and discovered that the cognitive effort taken while selecting a sure gain choice was significantly lower than the one required to choose a risky one. As previously said, smoking cessation is a preventive behavior with a sure gain (disease prevention). Toll et al (2007) in a smoking cessation clinical trial, affirm that smoking cessation campaign are more effective if they display the gains associated with quitting instead of focusing on the losses deriving from continued smoking.

Mollen et al (2017) study about cigarettes warning labels shows higher efficacy of gain-framed messages, specially when combined with short term consequences (such as money-saving)**,** in influencing smokers intention to quit. Nonetheless, when targeting adolescent smokers, according to Goodall and Appiah (2008) study on cigarette warning label framing, loss-framed messages and pictures, generated more positive attitudes and lower intentions to smoke in the future than gain-framed ones.

Toll et al (2014) literature review about message framing for smoking cessation has proven that when working with adult smokers, gain-framing strategy is preferable and it would be even more

effective if the message is patient-tailored based on his specific smoking characteristics (favorite cigarette brand, number of cigarettes per day..) and demographics.

However, other variables may play an important role in determining the ad framing effectiveness such as self-efficacy, gender or nicotine dependence. In Mays et al (2014) respondents with higher self-efficacy reacted better to loss-framed messages while positive messages had greater effect on motivation to quit on respondents with low self-efficacy, hence suggesting a combination of the two appeals in designing cigarettes warning labels. Moreover, the interaction between the gender variable and the perceived risk of smoking, generates more sensibility to gain-framed messages in women than men smokers Toll et al (2008).

Fucito et al (2010) asserts that message framing effectiveness on intention to quit and smoking cessation attitudes could be moderated by the level of nicotine dependence. In fact, results showed that gain-framed messages generated higher levels of smoking abstinence on respondents with higher nicotine dependence, while there was no significative difference between gain and loss framing among respondents with low nicotine dependence levels.

Nevertheless, when it comes to targeting couples of smokers, with smoking cessation messages addressed to the couple rather than to the individual, findings reveal that loss-framing the content of the message may be more effective, since that the context involves a significant other (Lipkus et al 2013).

There is also some past research about other appeals different than the fear one. I will analyze it in the following paragraph.

Other Appeals for Anti-smoking Campaigns

Even if fear appeal has been the most largely utilized for anti-smoking campaign by mass media, other types of message appeal have been analyzed by past research, since they could reveal to be more effective than the most common approach.

In a study by Leas et al (2015), four different advertisements utilizing different approach were analyzed. Results showed that the ad based on a strong emotional appeal, portraying a woman giving an emotional speech about his experience with smoking, was recalled more by the audience, when compared to the recall rates of the three other ads. This finding suggests that exposing smokers to graphic or highly emotional anti-smoking messages may results in positive cessation outcomes.

Van Den Herrik et al (2017) analysis of the Dutch national antismoking campaign based on co-creation, reported that, by studying the target of respondents reactions and generated content, co-creation appears as a new and innovative tool of persuasiveness in health campaigns, and works its way through behavioral change thanks to interpersonal communication of the audience. Not all the time, however, strong content or graphic pictures may result in effective positive outcomes.

Halkjelsvik & Rise(2015) studied through an online experiment, the usage of disgust appeal combined with fear-based messages, discovering that, when presenting the sample different levels of disgust-based messages there were not important differences noticed, hence realizing that there are no or very little benefits in utilizing this kind of appeal.

In certain context, leveraging messages on shame may generate more efficient results among the audience. Amonini, Pettigrew and Clayforth(2015) study reported that ad messages based on shame are effective in attracting the respondents attention and generating behavioral changes in terms of smoking reduction of quitting attempts, when they're associated with high levels of perceived personal relevance. Anti-smoking campaign targeting youth require instead a different approach, as discovered by Pechmann and Reibling (2009) study of national campaign cost-effectiveness. Among all, campaigns that present the following four characteristics are deemed to be more effective in reaching and influencing youth smoking behaviors: using youngsters related content, with single concentrated messages, avoiding any kind of uncertainties and delivering the message through young individuals that allow youth to identify with.

Price and Anti-smoking Campaigns

Price paid to a package of cigarette can be used in advertising as a loss or a gain with different message framing. Some previous studies proved that increase in cigarette pricing can reduce demand for smoking and influence smokers' habits and cigarettes consumption. For instance, Chun-Yuan Yeh et al (2017) analyzed 28 EU countries and showed that a rise of 10% in cigarette price would significantly reduce cigarette consumption as well the total death toll caused by smoking. Price increase was the most effective in Bulgaria and Romania, followed by Latvia and Poland. In Thailand, between 1993 and 2012, the special consumption tax on cigarettes was increased, from 120% to 670% of the factory price (World Health Organization, 2018**)**. As a result of the price increase, the smoking prevalence decreased from 32% in 1991 to 19.9% in 2015, while tobacco tax revenue increased more than four times. According to a Malaysian Health Ministry's study on tobacco taxation, a 10% increase in the price of cigarettes would reduce tobacco consumption by 5,9% (Arumugam, 2018). According to a 2015 Health survey on the Korean market Mi Ah Han (2019) after a tobacco's price increase operated by the government, the results showed that: a total 36.1% of subjects reported that they were affected by the tobacco price increase, and 3.8% and 22.8% of subjects quit or reduced smoking, respectively.

In WBG Global Tobacco Control Program, (2019) it is shown that when taxes increase, consumption decrease and smoking rates decrease, but government revenue still rises due to higher margins. Jha et al. (2019) showed that higher cigarette prices substantially reduced smoking, (even if they generate illegal cigarette sales), in France and Canada.

So, relying on these statistics and previous studies, we can conclude that people are sensitive to cigarette pricing. I could expect that if anti-smoking campaigns can be framed as gain, such "saving: how much money you can save money by quitting smoking monthly", or loss "spending: how much money you pay for a package of cigarette monthly" , we can see higher effectiveness, especially on young smokers who are more economically bounded.

In the next section, I will discuss protection motivation theory which is the most commonly theory used in social marketing and relevant to anti-smoking campaigns.

Protection Motivation Theory and Antismoking Campaigns

The impact of anti-smoking messages and their effectiveness in influencing smoking behaviors can be explained by the "Protection Motivation Theory" (Rogers 1983). According to which, a person's motivation/ intention to protect himself/ herself from damage is increased by the perception of four elements: severity of the risk, vulnerability to the risk, self-efficacy in completing the harm-reducing behavior and efficacy of the response at the behavior.

Au contraire, the intention to protect ourselves is weakened by two factors: the perceived cost of the risk-reducing behavior and the perceived benefit of the risk-enhancing behavior. The severity, vulnerability and benefits constitute the threat appraisal while the remaining three, self-efficacy, response efficacy and costs constitute the coping appraisal.

In Pechmann et al (2003), the aforementioned theory is utilized to understand the impact of seven message themes commonly employed in anti-smoking campaigns. The findings suggest that the message themes that relied on the risk of social disapproval(Endangers Others, Refusal Skills Role Model, Smokers' Negative Life Circumstances) were more effective in influencing intentions not to smoke.

Conceptual model

According to what previously said and past research about the topic, the aim of this study will be to test again the fear appeal, due to the contrasting results reported by other researches, and comparing it against the appeal based on showing all the benefits of not smoking, called the benefit appeal. The two appeals will be tested in their capability of influencing the smokers intention to quit smoking and their perceived effectiveness of the message.

Some studies indicated that fear appeal is not effective (Akyuz 2017, Hastings and MacFadyen 2002, Laroche et al 2001) being it the mainstream appeal utilized over time in anti-smoking campaigns, as

Hastings and MacFadyen (2002) suggest it may have lost its effectiveness; when a message is repeated over and over, the persuasiveness diminishes as time passes by. Akyuz (2017) indicated that smokers prefer to disregard messages reminding of negative health consequences and therefore fear appeal messages is not effective. That's why introducing a different and new appeal, such as the Benefit one, may better capture the audience's attention and deliver more powerful results.

According to Ang et al (2014), the effectiveness of an ad relies not only on its creativity but also on its novelty, combined with meaningfulness and connected to the desired audience.

These 3 dimensions, combined, increase attitude toward the ad, positive feelings and enhance the recall of the ad.

Therefore, the first hypothesis will be:

H1: Benefit appeal has higher intention to quit smoking and higher perceived effectiveness of the message than fear appeal.

Second, the framing effect will be tested in accordance with the prospect theory, by studying the differential effect of gain vs loss framing the message. As the prospect theory suggests, people are risk adverse when making a decision that implies a sure gain. Smoking cessation is a preventive behavior that implies the sure gain of health prevention. In this case, gain framing the message has been reported to be more effective than loss framing it (Kahneman and Tversky,1979).

The hypothesis will then be that positively framing the message could generate better results, hence:

H2: Positively framed ad message will generate higher intention to quit smoking and higher perceived effectiveness of the message than negatively framed ad message.

Finally, the message framing will be tested as a moderator between the variables on the hypothesis that when the ad shows the benefits of not smoking it is more effective if the message is positively framed. Again, by delivering a message which is positively framed, hence a Gain which shows the benefits of engaging in a sure-gain behavior (smoking cessation) (Vlasceanu and Vasile, 2015),

according to the Prospect Theory and to what has been said so far, the overall intention to quit and perceived effectiveness of the message should be higher.

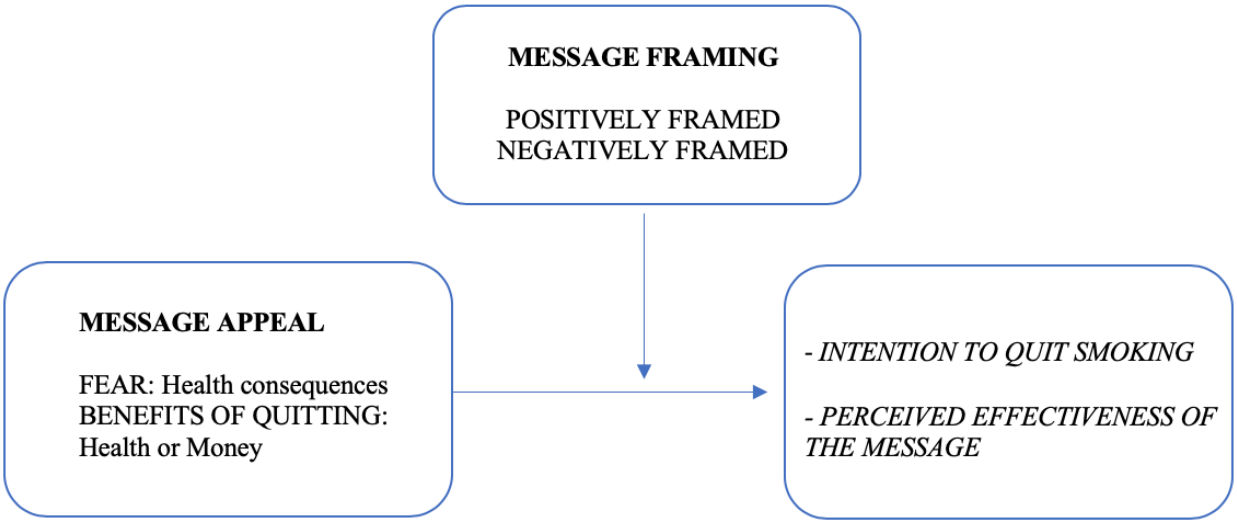
As Wong and McMurray (2002) discovered, customers processes with higher interest and attention gain framed messages, due to being accustomed to the usual negatively framed appeal type.

Toll et al (2007) study confirmed that showing quitting's benefits instead of smoking's losses will result in a more effective antismoking campaign.

Again, Toll et al (2014) literature review's findings suggest that a winning strategy is gain-framed and patient-tailored.

Thus, the third and last hypothesis will be:

H3: The effect of benefit appeal on intention to quit smoking and perceived effectiveness of the message is higher when the message is positively framed.



CHAPTER 3: Methodology

This thesis is a causal research which uses an online experiment to test cause-effect relationships. Primary data will be collected online because it's an easy and fast way to collect them. The sampling method that will be used is "non-probability sampling: convenience sampling" because it's a method that allows to select easily accessible elements of a certain population.

The target population is made of Italian smokers who are 18 years old and older. Initially I recruited respondents through my network, then, since data collection was not sufficient I decided to utilize Amazon MTurk software, which has been proven to allow a reliable data collection. According to Buhrmester et al (2011), data collected with MTurk are not significantly different from data collected with other means, since that respondents from the software answer in a reliable and consistent way.

Procedure

A sample of *at least* 180 (30 x 6 scenarios) Italian respondents (will be recruited through a web link delivered by instant messages platform. The sample was subjected to an online survey realized with Qualtrics software. The experiment presented a 3x2 between-subjects design and participants were randomly assigned to 3 different appeal conditions (2 different Benefit Appeals, 1 Fear Appeal) and 2 different message framing conditions (Positively vs negatively) by showing them 6 different scenarios based on print advertising for an antismoking campaign. Benefit appeal was displayed through 4 different ads: 2 based on "money saving" and 2 based on "health improvements". Fear appeal was displayed through 2 different ads. Each ad was presented with both message framings: negative and positive. The goal is to have at least 25-30 subjects per condition as suggested by the rule of thumb.

The format of the images, the model, the color and the character remained the same across all the different scenarios, except for the copy that changed based on the condition with the message and image manipulation of the same model. The ads reported a young surprised woman in a blue

background together with a copy that changed based on the condition. Fear condition displayed the same woman first with a protective mask showing blood strains and pills to give the idea of disease and sickness for the negatively framed message. The positively framed message showed the same woman with a sunny natural background and a cigarette butt (see Appendix 1. Scenarios). The fear message reported: the increased chances of dying at the age of 52 caused by smoking-related disease and at the bottom a message telling the average life expectancy in Italy, 84 years.

Benefit appeal condition, based on "money saving", reported the same woman with a copy that explained the amount of money spent on average by a smoker during a 30 years period (38.831,25€). In order to help smokers to contextualize the sum of money, two examples were presented at the bottom of the ad: with that amount of money, it is possible to buy 1 Mercedes Class A or 12 Caribbean cruises for two people. This strategy of money framing, as seen in the book The Last Mile by Dilip Soman (2015), help individuals understand the purchasing power of the aforementioned sum of money (38.831,25€) and what they are giving up to, if they keep spending money on cigarettes.

Positively framed messages was formulated positively and about gain and it was presented in the form: " *If you stop smoking… with the money saved you could buy..".* Negatively framed message was formulated negatively and about the loss and it said: " *If you don't stop smoking…. You are giving up to all these things…*".

Finally, last scenario, benefit appeal based on health improvements, was delivered through the same surprised woman and a copy explaining that, in the positively framed version, quit smoking can significatively improve physical performances with a message on the bottom reporting the damage caused to the respiratory system.

The survey was structured in 18 questions. The first three questions asked the number of cigarettes smoked per day, for how many years the respondent smoked and if he/she previously tried to quit. The aim here was to understand the level of nicotine dependence of the respondent as

Fucito et al (2010), asserts that message framing effectiveness on intention to quit and smoking cessation attitudes, could be moderated by the level of nicotine dependence.

Then, the survey introduced the scenario with a short message. After being exposed to the ad, the respondent was presented with two questions trying to assess the intention to quit and motivation to quit. The first one, measured with a 5 points Likert scale (1 indicating *very unlikely*, 5 indicating *very likely*) asked " Are you planning to quit within the next 6 months?" (Hummel et al, 2018) while the second one, a multi-item (agree-disagree) motivation to stop scale measured the sample motivation to quit (Hummel et al, 2018). Then, it was assessed the perceived persuasiveness of the message, with a multi-item scale presenting six different ad reactions measured with a 7 points Likert scale (agree, disagree)(Davis et al, 2017). Soon after, the attention check questioned the content of the ad asking, whether it displayed reasons why:

- Quitting is good
- Quitting is bad
- Not quitting is good
- Not quitting is bad

as seen in Wong, Carissa & McMurray, Nancy(2002).

Two manipulation checks subsequently inspected, respectively for benefit and fear, whether the ad presented benefit of quitting vs costs of not quitting (Lee, Liu, Cheng, 2018) , and the feelings raised by the fear-based ad with a multi-item scale (Arthur, Quester, 2004).

Then some control questions are asked which might influence the findings. I assessed the campaign attitude by measuring its likelihood, as seen is in Andrews et al (2004), whether it was perceived as realistic or not, different and the persuasiveness power.

The following two questions were taken from Pechmann et al (2003), and measured the perceived severity and vulnerability to the health risks of smoking, with a 7 items scale including: dying early, contracting diseases, addiction, breathing poisons, premature aging, passive smoking and harming babies.

Finally, the last three questions measured the social Influence, as seen in Andrews et al (2004), by asking whether the respondent had smoker siblings, an adult smoker in the family and a smoker within its four closest friends to get and insight about smoking behaviors. The survey concluded with demographics (age, sex, education).

The following table (Table 2) summarizes the constructs measured, the scales and their sources.

Table 2: constructs, scales and sources

MEASURE	*ITEM*	*REFERENCE*
Intention to quit smoking (metric)	*- Hai pianificato di smettere di fumare nei prossimi 6 mesi?*	Hummel et al (2018)
Motivation to quit smoking (metric)	*-Indica la tua motivazione a smettere di fumare:* • *Non voglio smettere di fumare* • *Penso che dovrei smettere ma non voglio* • *Voglio smettere di fumare ma non ho ancora pensato a quando farlo* • *Voglio davvero smettere di fumare ma non so quando lo farò* • *Voglio smettere di fumare e spero di farlo presto* • *Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi* • *Voglio davvero smettere di fumare e intendo farlo il prossimo mese*	Hummel et al (2018)
Persuasiveness of the message (metric)	*-In che misura reputi che la pubblicità sia:* • *vale la pena ricordarla* • *ha attirato la mia attenzione* • *è stata efficace* • *è stata informativa* • *è stata significativa* • *è stata convincente*	Davis et al (2017)
Attention check- Message framing Nonmetric(nominal)	*-La pubblicità che hai appena visto contiene principalmente:*	Wong, Carissa & McMurray, Nancy (2002)

	• *Ragioni per cui smettere di fumare sia un bene* • *Ragioni per cui smettere di fumare sia un male* • *Ragioni per cui NON smettere di fumare sia un bene* • *Ragioni per cui NON smettere di fumare sia un male*	
Manipulation check- Benefit appeal (metric)	*-La pubblicità che hai appena visto enfatizza:* • *I benefici dello smettere di fumare i..e. profitto* • *I costi del fumo i.e. danno*	Lee, Liu, Cheng (2018)
Manipulation check- Fear appeal (metric)	*-In che misura la pubblicità ti ha fatto sentire:* • *Spaventato* • *Nervoso* • *A disagio* • *Nauseato* • *Impaurito* • *Teso*	Arthur, Quester (2004).
Ad attitude (metric)	*-Pensi che la pubblicità sia:* • *Non reale-reale* • *Non diversa-diversa* • *Non persuasiva-persuasiva* • *Non mi è piaciuta per niente- mi è piaciuta tanto*	Andrews et al (2004)
Severity and Vulnerability to the Health risks (metric)	*-Quanto reputi gravi le seguenti conseguenze del fumo:* • *Morte prematura* • *Contrazione di malattie* • *Dipendenza da nicotina* • *Inalazione di veleni* • *Invecchiamento precoce* • *Fumo passivo Danno ai minori*	Pechmann et al (2003)

	-Quanto reputi probabile che le seguenti conseguenze occorrano a te: • *Morte prematura* • *Contrazione di malattie* • *Dipendenza da nicotina* • *Inalazione di veleni* • *Invecchiamento precoce* • *Fumo passivo Danno ai minori*	
Social influence Nonmetric (nominal)	*-Hai fratelli/sorelle fumatori/fumatrici?* *-C'è un fumatore adulto nel tuo nucleo familiare?* *-Tra i tuoi 4 amici più stretti, c'è un fumatore?*	Andrews et al (2004)

Testing Reliabilities and Validity of Multiitem scales

In order to test scales' validity I will perform a confirmatory factor analysis which, among the many purposes, it is used in marketing research to identify underlying dimensions, in data, that explain the correlation between a set of variables. These underlying constructs are called factors. Reducing the number of items by combining them, allows to obtain an error reduction.

Reliability of the scales allows us to determine the consistency of a measure, meaning that the obtained scores can be replicated in a consistent and accurate way over time. It will be measured through the Cronbach's alpha index.

Testing Manipulation Check

Before I test the hypotheses, I have to be sure that ad manipulations were successful. This means that fear perceptions of people exposed to fear condition, should be significantly higher than people who were exposed to benefit conditions. Besides, people exposed to benefit conditions should have significantly higher "benefit perceptions" than people exposed to fear conditions.

Additionally, message framing manipulation will be checked whether people think that message is perceived significantly about benefit of nonsmoking (positive) vs loss of smoking(negative).

In order to test manipulation check I will perform an Independent sample t-test which tests whether the means of two independent groups, those who received the benefit appeal and those who received the fear appeal, are equal.

Testing hypotheses

X1:Ad appeal (1:benefit 0: fear)

X1(alternative):Ad appeal (0:fear 1: benefit' money' 2: benefit 'health' …...)

X2 (moderator): Message framing (1: Positive 0: negative)

Y1: Motivation to quit

Y2: Perceived effectiveness

In order to test my hypothesis I will use a Two-way Anova, since that there are two factors that need to be analyzed: X1 Ad appeal and X2 (moderator) Message framing. Anova will allow me to test not only the significance of the overall effect but also the significance of the interaction effect (X1*X2).

Table 3: Anova

		FACTOR 1 MESSAGE APPEAL		
		BENEFIT 1: MONEY	BENEFIT 2: HEALTH	FEAR
FACTOR 2 MESSAGE FRAMING	POSITIVE	Group1	Group 3	Group 5
	NEGATIVE	Group2	Group 4	Group 6

The Two-way Anova allows to test the main effect of Message appeal on Motivation to quit and Perceived effectiveness and the main effect of Message framing on the same dependent variables. Then, through the test of the interaction effect between independent variables (X1*X2), I will test whether Message framing has a moderating effect between X1 Ad appeal and the dependents variables.

To understand the moderating effect and direction of effects in more detail, PROCESS MODEL 1 will also be run.

CHAPTER 4: Results

Introduction

Out of 180 responses, 175 were retained as 5 answers were incomplete (DV had missing values). Among these 175 respondents, 109 were male (62,3%), 66 were women (37,7%) with an average age of 30 years (*M= 30,314*, *SD= 10,04*). The majority of the sample (88 or 50,3%) has a low level of education (high school diploma) while just 2,3% reported the highest degree of education (PhD). *61* respondents were randomly selected for the "fear appeal" condition, of this 61, *30* assisted to the "negatively framed fear appeal" and *31* to the "positively framed appeal". The remaining *114* respondents were randomly selected for the "benefit appeal", divided in *61* for the "health benefit appeal" (*30* to *positive* health benefit appeal and *31* to *negative* health benefit appeal) and *53* to the "money benefit appeal" (*27* to *positive* money benefit appeal and 26 to *negative* money benefit appeal). To summarize:

Table 4

		Message Appeal		
Message framing	BENEFIT 1: *MONEY*	BENEFIT 2: *HEALTH*	FEAR	**Total**
POSITIVE	27	30	31	***88***
Mot2quit mean	4,02	4,05	3,74	
Perceived effect. mean	4,31	3,84	3,76	
NEGATIVE	26	31	30	***87***
Mot2quit mean	4,10	4,03	4,22	
Perceived effect. mean	4,35	3,62	4,20	
Total	***53***	***61***	***61***	***175***

The first three questions, aimed at measuring the level of nicotine dependence of the sample, reported:

- Numbers of cigarettes smoked daily: ***M= 9,2 SD= 7,24 with a Maximum of 40***
- Years being a smoker: ***M= 5,8 SD= 2,6 with a Maximum of 8***
- Previous attempts of quitting: ***116 or 66% Yes and 59 or 33,7% No***

The last three questions, aimed at measuring the social influence of significative others on smokers' habits, reported:

- Do you have brothers/ sisters smokers? ***52 or 29,7% YES and 123 or 70,3% NO***
- Is there an adult smoker in your family? ***103 or 58,9% YES and 72 or 41,1% NO***
- Is there a smoker among your closest 4 friends? ***158 or 90,3% YES and 17 or 9,7% NO***

It is interesting to observe that almost 60% or respondents reported having an adult smoker in their family and 90% reported having a close friend smoker. These findings could be further developed in future research to study a possible correlation between addictive behaviors and the influence of significant others, such as close friends or family member.

Regarding the two questions about perceived severity of health risk and perceived vulnerability to the health risk, the following results were obtained:

- On question 1, (*Quanto reputi gravi le seguenti conseguenze del fumo):* among the different health risks, "getting a disease" obtained the higher average score (5,70) followed by "nicotine dependence" (5,59) and "premature death" (5,52). We can observe hence that, when asked about the severity of smoking consequences on health, disease contraction, nicotine dependence and premature death are the most feared one by smokers.
- On question 2, (*Quanto reputi probabile che le seguenti conseguenze occorrano a te):* among the different health risks, "harming minors" obtained the higher average score (5,52) followed by "nicotine dependence" (5,15) and "breath poisoning" (4,78).

Here we can observe that, when asked about the vulnerability to the health risk (meaning the probability of getting one), harming minors, nicotine dependence and breath poisoning are the most feared and deemed as highly probable by smokers.

Moreover, it is interesting to observe that both constructs reported very high means values, given a 7 point Likert scale. We can deduct that, overall, people are well aware and scared about negative health consequences coming from smoking, but they still do it. Knowing the dangerousness of this addictive behavior does not stop them or persuade them to quit, apparently.

Testing Reliabilities

Reliability has been tested through the Cronbach's alpha index, showing good scores for the following scales:

SCALE	SCORE
Persuasiveness of the message	0.914
Ad attitude	0.719
Perceived vulnerability to the Health risk	0.859
Perceived severity of the Health risks	0.842

Regarding Motivation to quit scales, the first two items were reversed (*I don't want to stop smoking, I think I should stop smoking*) obtaining a Cronbach's Alpha of *0.706.* By checking Cr*onbach's Alpha if item deleted,* item 3 and 4 were deleted *(I want to stop smoking but haven't thought about when, I really want to stop smoking but I don't know when I will), because alpha increased from 0.749 to 0.778* which is acceptable.

All the items reported a score bigger than 0.7 meaning that their reliability is confirmed, therefore these scores can be replicated over time in a consistent and accurate way (see Appendix 1).

Testing Validities

Scale validity has been tested through a confirmatory factor analysis (see Appendix 2). A first factor analysis was launched with items of fear perception (for manipulation check), motivation to quit and perceived effectiveness, used as dependent variables in analysis. If the items of these three constructs are valid, items of each construct should load on same factor. I asked three factors in SPSS as a confirmatory factor analysis.

Bartlett's test of sphericity was significant ($\chi^2 = 2426.291$, $p < .001$) as well as Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) with a score of 0.855. So, the assumptions are validated.

4 factors reported an Eigenvalues above 1 and explained 73% of variance. However already three factors explain more than 60% variance (see Appendix 1.)

Items of Fear and Perceived effectiveness reported good communality values (above 0.5) and have sufficient loadings and load on relevant factor. Therefore scale means were created using all of their items (ManiFearMEAN with 6 items and PersuasivenessMEAN with 6 items).

Items 5-6-7 load on factor 3 and are about intention to quit , hence they were used to create the scale mean (Mot.ToQuitMEAN: *I want to stop smoking and hope to do it soon, I really want to stop smoking and intend to in the next 3 months, I really want to stop smoking and intend to in the next month*). Item 1 is a reverse item and have the lowest communality compared to others, plus it loads on factor 2. Since item 1-4 is not valid because of low communalities, motivations to quit will consists of only item 5, 6 and 7. Items 1-2-3-4 were not reliable in scale analyses.

A second factor analysis was then run on the remaining constructs and a fixed number of 3 factors was asked (Ad attitude, Severity and Vulnerability to the Health risks). Four factors reported an Eigenvalue above 1 and explained 73% of variance. Again, Bartlett's test of sphericity was significant ($\chi^2 = 1576,902$, $p < .001$) as well as Kaiser-Meyer-Olkin measure of sampling adequacy (KMO) with a score of 0.764:

The Ad attitude constructs (with three items) reported good communality values (above 0.5) and loaded in one factor, therefore all the three items were used to create the scale mean

(AdAttitudeMEAN). Regarding Vulnerability, items 6 (Vul6) and 7 (Vul7) loaded on wrong factor, therefore they were excluded from the scale mean (SeverityMEAN and VulnerabilityMEAN).

Testing Manipulation Check

To test whether ad manipulation were successful, and independent sample t-test was run. Results can be seen in Appendix 3: T-test.

First fear scale mean was computed using all the six items (ManiFearMEAN: *M= 2,5962 SD= 1,46755*). Then, independent t-test was run using ad appeal as a grouping variable and ManiFearMEAN as test variable. H0 of equal variances between groups is not rejected (F=0.015, p=0.901). Levene test indicates that we can assume equal variances. So, we will use the upper t-test value. The results were significative (t = -2.52, p<0.05) and reported higher scores for the fear appeal group (*M= 2.97*) compared to the benefit appeal group (*M= 2.39*) (see Appendix 3). Fear manipulation was successful.

Message framing manipulation has also been checked with an independent sample t-test using two variables (appendix 3): Benefits of quitting i..e. money saving, and the costs of smoking i.e. health damage. Levene's Test reported significance of results *p<0.05.* Thus, no equal variances between groups. So, we will use lower t-test values in independent t-test. The mean of the positive framing group (*M= 5.44*) was higher than the mean of the negative framing group (*M= 4.66*) for the first question about the benefits (t=-2.933, p < 0.05). Positively framed messages were indeed perceived as positive .

Regarding the second question about the costs or loss from smoking, the mean of the negative framing group (*M= 4.83*) was higher than the mean of the positive framing group (*M= 4.44)*; however difference was not significant (t=1.293, p=0.20). Thus, negatively framed messages were not perceived as negative "loss" as intended. So, this means that loss messages might not work in hypothesis testing because manipulation was not sufficiently good.

Testing hypotheses

Variables are coded like this:

X1:Ad appeal (1:benefit 0: fear)

X1(alternative):Ad appeal (0:fear 1: benefit 'money' 2: benefit 'health' …...)

X2 (moderator): Message framing (1: Positive 0: negative)

Y1: Motivation to quit

Y2: Perceived effectiveness

In order to test hypothesis, a Two-way Anova was run 4 times: the first two were launched to analyze the influence of IV Ad appeal on DVs Motivation to quit and Perceived effectiveness, while the second two were run to analyzed the influence of IV alternative Ad appeal 1 on DVs motivation to quit and perceived effectiveness and which benefit appeal is more effective, 'money' benefit or 'health' benefit. Results can be seen in Appendix 6.

When we run the model without any control variables, the model fit was not significant in all analyses (appendix 4). That is why, some explanatory variables were added as covariates, including: age, nicotine dependence level and perceived vulnerability (VulnerabilityMEAN). (Appendix 6)

The three questions aimed at testing nicotine dependence level were standardized and the average score was used (a new variable was computed with the average of the z scores of the three questions) to be included in the model (under the name NicDepend).

The first Anova measured the main effect of ad appeal on DV motivation to quit, and the interaction effect between ad appeal and message framing.

Constant variance assumptions was tested with Levene's test. The null hypothesis H0 means groups have the same variance. Hence if we reject H0, the variance assumption of ANOVA is violated. Levene's test was not significant in all four cases, reporting the following results (Appendix 6):

The effect of ad appeal and message framing on motivation to quit: (F= 1.39 , p= 0.25)

The effect of ad appeal and message framing on perceived effectiveness: (F= 0.80 , p=0.49)

The effect of ad appeal 1 and message framing on motivation to quit: (F= 1.42 , p= 0.22)

The effect of ad appeal 1 and message framing on perceived effectiveness. (F= 0.45 , p= 0.81)

Therefore, we cannot reject H0 of equal variance between groups and we can assume that they have same variance i.e. homoskedasticity.

I also checked the normality of dependent variables using Kolmogorov-Smirnov test (Appendix 5). In this test, H0 test that the variable is normally distributed. If we reject H0, it means the variable is not normally distributed and violates the assumption of ANOVA.

The results of DV motivation to quit, reported:

looking at descriptives, Skewness and Kurtosis values approximate to 0 (-0.099 and -0.810), while looking at the test of normality significance, we can observe a p-value< 0.05 (0.014), therefore we reject the null hypothesis of no difference between DV distribution and a normal distribution.

The results of DV perceived effectiveness, reported:

looking at descriptives, Skewness and Kurtosis values approximate to 0 (-0.13 and -0.91), while looking at the test of normality significance, we can observe a p-value< 0.05 (0.003), therefore we reject the null hypothesis of no difference between DV distribution and a normal distribution.

Results can be seen in Appendix 5. Thus, normality assumption was violated.

Model fit was significant in all four cases (appendix 6):

The effect of ad appeal and message framing on motivation to quit: (F= 7.197, p<0.05)

The effect of ad appeal and message framing on perceived effectiveness: (F= 5.49, p<0.05)

The effect of ad appeal 1 and message framing on motivation to quit: (F= 5.33 , p<0.05)

The effect of ad appeal 1 and message framing on perceived effectiveness. (F= 4.81 , p<0.05)

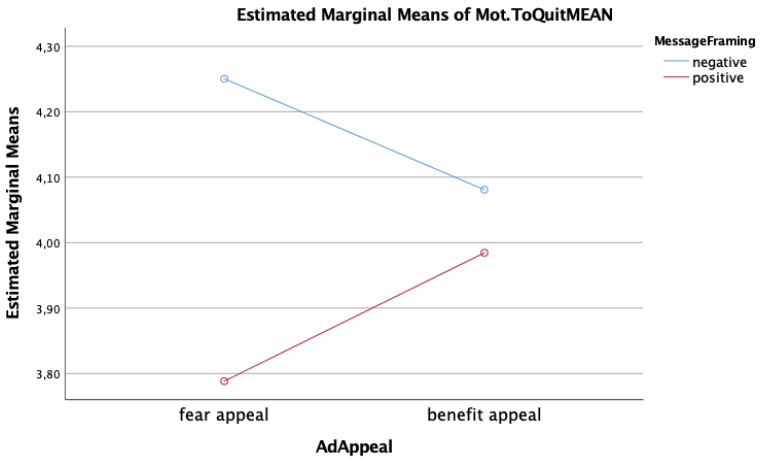
Test 1: the effect of ad appeal and message framing on motivation to quit. (Appendix 6)

The F test revealed an effect of independent variables on motivation to quit *(F=7.197, p< 0.05).* However, the main effect analysis showed that ad appeal effect was not significant *(F=0.009, p> 0.05)* as well as message framing *(F=1.34, p> 0.05).* There was no significant interaction between

the effect of ad appeal and message framing on motivation to quit *(F=0.639, p> 0.05).* Therefore, message framing is not a moderating effect between ad appeal and motivation to quit.

Age, nicotine dependence level and vulnerability all have a significant effect on motivation to quit, reporting the following score: age *(F=6.40, p< 0.05),* nicotine dependence level *(F=38.49, p< 0.05),* and vulnerability *(F=5.32, p< 0.05).*

While graphs indicate some possible effects in sample, the effects were found to be nonsignificant for population.



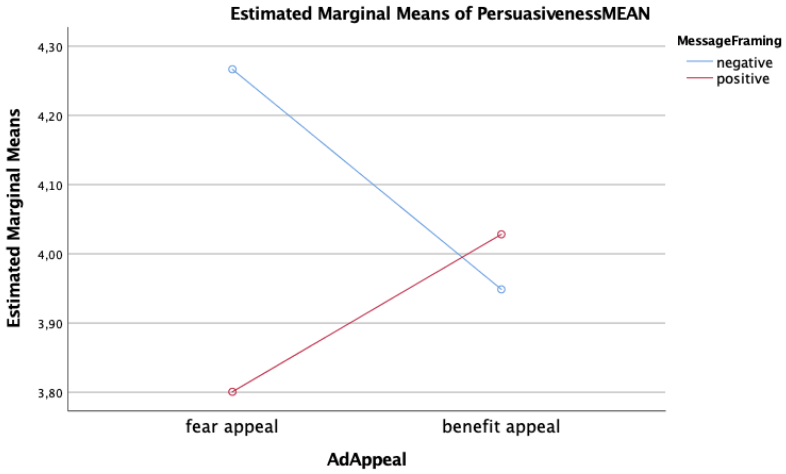
The plot is used to analyze the type of interaction effect. By observing it we can deduct that the difference in message framing (positive vs negative) changes with ad appeal and the highest difference is reported for the fear appeal.

Test 2: the effect of ad appeal and message framing on perceived effectiveness (Appendix 6).

The second Anova test measured the main effect of ad appeal on DV perceived effectiveness, and the interaction effect between ad appeal and message framing.

The F test revealed an effect of independent variables on perceived effectiveness *(F=***5.49***, p< 0.05).* However, the main effect analysis showed that ad appeal effect was not significant *(F=0.023, p> 0.05)* as well as message framing *(F=0.762, p> 0.05).* There was no significant interaction between the effect of ad appeal and message framing on perceived effectiveness *(F=1.60, p> 0.05).* Therefore, message framing is not a moderating effect between ad appeal and perceived effectiveness.

Age, nicotine dependence level and vulnerability all have a significant effect on motivation to quit, reporting the following score: age *(F=15.83, p< 0.05),* nicotine dependence level *(F=17.02, p< 0.05),* and vulnerability *(F=5.90, p< 0.05).*



The graph above showed the difference in message framing (positive vs negative) changes with ad appeal and the highest difference is reported for the fear appeal in the sample.

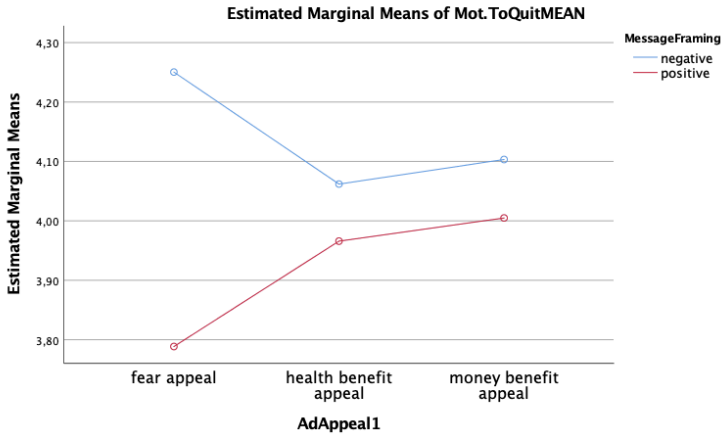
Test 3: the effect of ad appeal 1 and message framing on motivation to quit (Appendix 6).

The third Anova test measured the main effect of ad appeal 1 (IV alternative) on DV motivation to quit, and the interaction effect between ad appeal 1 and message framing.

The F test revealed an effect of independent variables on motivation to quit *(F=*5.33 *, p< 0.05).* However, the main effect analysis showed that ad appeal 1 effect was not significant *(F=0.011, p> 0.05)* as well as message framing *(F=0.863, p> 0.05).* There was no significant interaction between the effect of ad appeal 1 and message framing on motivation to quit *(F=0.317, p> 0.05).* Therefore, message framing is not a moderating effect between ad appeal and motivation to quit.

Within the benefit appeal, the money benefit appeal reported higher means *(M=4.06 SD=1.82)* compared to the health benefit appeal *(M=4.04 SD=1.70).*

Age, nicotine dependence level and vulnerability all have a significant effect on motivation to quit, reporting the following score: age *(F=6.30, p< 0.05),* nicotine dependence level *(F=38.01, p< 0.05),* and vulnerability *(F=5.18, p< 0.05).*



The graph above showed that the difference in message framing (positive vs negative) changes with ad appeal 1 and the highest difference is reported for the fear appeal.

Test 4: the effect of ad appeal 1 and message framing on perceived effectiveness (Appendix 6).

The fourth Anova test measured the main effect of ad appeal 1 on DV perceived effectiveness, and the interaction effect between ad appeal 1 and message framing.

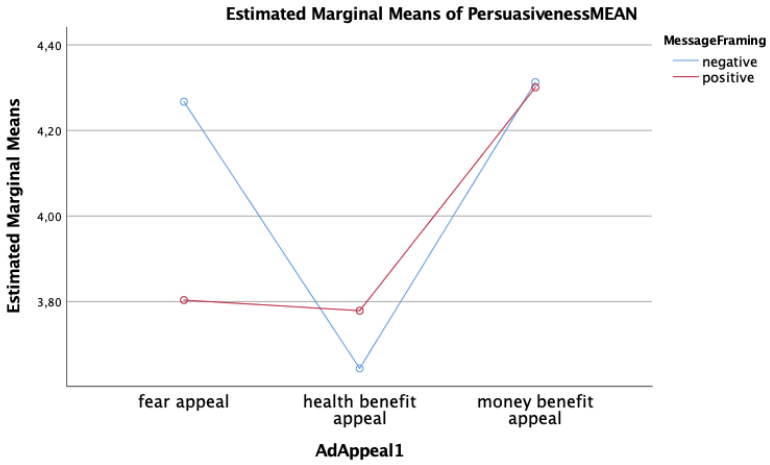
The F test revealed an effect of independent variables on perceived effectiveness *(F=***4.81***, p< 0.05).*

However, the main effect analysis showed that ad appeal effect 1 was not significant *(F=2.48, p> 0.05)* as well as message framing *(F=0.27, p> 0.05).* There was no significant interaction between the effect of ad appeal 1 and message framing on perceived effectiveness *(F=0.80, p> 0.05).*

Therefore, message framing is not a moderating effect between ad appeal 1 and perceived effectiveness.

Within the benefit appeal, the money benefit appeal reported higher means *(M=4.33 SD=1.67)* compared to the health benefit appeal *(M=3.73 SD=1.53).*

Age, nicotine dependence level and vulnerability all have a significant effect on motivation to quit, reporting the following score: age *(F=15.8, p< 0.05),* nicotine dependence level *(F=17.68, p< 0.05),* and vulnerability *(F=5.41, p< 0.05).*



The graph above showed that the difference in message framing (positive vs negative) changes with ad appeal and the highest difference is reported for the fear appeal while there is almost no difference between money benefit appeal.

To summarize what the Two-way Anova test reported and anticipate some of the conclusions of this study: the test reported an effect of IV on DV on all four cases. However, this effect can be traced to three variables: age, nicotine dependence level and perceived vulnerability.

Both ad appeal and ad appeals 1 showed no significant effect on motivation to quit and perceived effectiveness, as well as message framing, that it is not a moderating effect between IVs and DVs.

Observing the means of the group, within ad appeal, we noticed higher means for benefit appeal *(M=4.05 SD=1.75)* over fear appeal *(M=3.97 SD=1.56)* on motivation to quit. The same result was replicated on perceived effectiveness, where benefit appeal *(M=4.01 SD=1.62)* had higher means compared to fear appeal *(M=3.98 SD=1.33).*

Concerning the benefit appeal in ad appeal 1, the third and fourth Anova test reported higher means for the money benefit appeal compared to the health benefit appeal *(M=4.04 SD=1.70)* as stated above.

Summary of Findings: Table 5

Hypothesis	Results
H1: Benefit appeal has higher intention to quit smoking and higher perceived effectiveness of the message than fear appeal.	Not confirmed
H2: Positively framed ad message will generate higher intention to quit smoking and higher perceived effectiveness of the message than negatively framed ad message.	Not confirmed
H3: The effect of benefit framing on intention to quit smoking and perceived effectiveness of the message is higher when the message is positively framed.	Not confirmed

CHAPTER 5: General discussion

Summary of findings

The purpose of this thesis was to investigate the effectiveness of different ad appeals used in anti-smoking campaign and understand which one, among the one here compared (fear vs benefit) could lead to better results. Besides, whether this effect changes when positively vs framed messages is used.

The gap that was filled is: there's a lack of studies about benefit appeals, meaning appeals based on gains of quitting an addiction (money gains and health gains have been used in this research). There's also a lack of studies on Italian samples even if Italy, as a nation, has still high percentage of smokers.

Experimental design was conducted to answer the research questions. Fear and benefit appeals are manipulated with different ad examples where, through six scenarios, the copy of the ad changed based on the framing and appeal, presenting each time the same person in slightly different conditions to emphasize the appeal. Message type was manipulated with positively and negatively formulated sentences.

Reliabilities and validities of scale have been tested and confirmed through Cronbach's Alpha index and factor analysis, hence scale means have been created for the following variables:

Persuasiveness of the message, Ad attitude, Perceived vulnerability to the Health risk, Perceived severity of the Health risks, Motivation to quit, Fear appeal and Nicotine dependence level.

To test whether fear and message manipulation worked, independent t-test was run reporting successful results for fear manipulation while, regarding message framing, positively framed message where perceived as benefits but negatively framed messages were not perceived as losses, therefore message framing manipulation did not work properly and may have influenced the outcome of hypothesis testing. This result will be later analyzed in the limitations part of the study.

Finally, the data analysis part concluded with the Anova test of Hypothesis: it was run a first time obtaining a poor model fit (as reported in chapter 4 and in Appendix 4) and a second time there was good model fit after adding several explanatory variables (*age, nicotine dependence level and perceived vulnerability*).

Results reported an effect of IVs (ad appeal and message framing) on Dvs (perceived effectiveness of the message and motivation to quit smoking), however they were not significant hence not replicable on a population. Since there were no significant results, PROCESS Model 1 was not reported.

Both ad appeal (fear vs benefit) and ad appeals 1 (fear, health-benefit, money-benefit) showed no significant effect on motivation to quit and perceived effectiveness, as well as message framing, that it is not a moderating effect between IVs and DVs.

Instead, a significant effect on DVs was identified on the three explanatory variables (*age, nicotine dependence level and perceived vulnerability*).

All three hypothesis were not confirmed unfortunately, therefore we cannot conclude that ad appeals based on benefit are more effective in influencing motivation to quit and perceived effectiveness than other ad appeal, such the fear one. I cannot conclude that message framing is a moderating effect between ad appeal and intention to quit and perceived effectiveness.

Scientific and Managerial Implications

This research tried to address a literature gap: studying, on a sample of Italian respondents, the effect of different ad appeals (fear vs benefit) framed in different way (positively or negatively) on sample's motivation to quit (smoking) and perceived effectiveness (of the ad), contextualized in anti-smoking campaigns. The goal was to understand which appeal could have higher influence, hence more effectiveness in inducing smokers to quit and which message framing could be more suitable in order to make the message more persuasive and, again, effective.

Results showed that benefit appeal group reported higher means when compared to fear appeal group; within the benefit group, the money-based benefit appeal showed higher means on both Dvs

(motivation to quit and perceived effectiveness) when compare to the health-based benefit appeal. However, this results were not statistically significant hence they cannot be generalized to the population. Moreover, message framing did not appear as a moderator between ad appeal and DVs despite interaction plots indicating some possible interactions.

Therefore this study confirmed previous literature about the topic, making necessary to further analyze the question, to better understand which appeal and message framing are more effective.

From a managerial point view, this study does not confirm previous research about the preeminence of gain appeal vs loss appeal (Toll et al 2007, Gonzalez et al 2005). Research still has to investigate the topic in order to suggest better strategies to policy makers. At the current state of affairs, fear appeal remains the most used appeal in campaign to prevent addictive behaviors and literature has shown its effectiveness even if contrasting results have also been reported.

This study suggests that: by taking a glance at the four graphs reported in the chapter 4 last paragraph, we can notice how to use message framing in an efficient way.

Negatively framed messages based on fear appeal reported higher means (meaning higher motivation to quit) than positively framed one.

Negatively framed messages based on fear appeal reported higher means (meaning higher perceived effectiveness) than positively framed one.

This confirms past literature about the topic; as Witte and Allen (2000) said the greatest behavioral changes are generated by strong fear appeal together with high-efficacy messages.

Gallopel and Valette-Florence (2002) findings suggest using fear-appeal based ads to increase the efficiency of the anti-smoking campaign**.**

Durkin et al (2012) as well reported that when comparing different ad message types, those based on negative health effects are the most effective at generating increased knowledge, beliefs, or quitting behavior in their study about mass media campaign promoting smoking cessation. Durkin, Brennan, Wakeield (2012) too support the effectiveness of fear-appeal. Their study asserted that, while other appeals generate mixed evidence, there’s no doubt about the effectiveness of showing negative health

effect as fear-appeal into generating knowledge in the audience, positive effectiveness and higher quitting behavior.

Thus, when discussing which type of message framing should be employed in fear-based ads, findings of this study suggest that negative framing could have better results.

These suggestions could not be replicated , for example, within the benefit appeal where money-based benefit appeal and health-based benefit appeal presented almost no difference in message framing.

Regarding the hypothesis test: it emerged that three variables have an effect on motivation to quit and perceived effectiveness: the audience age, the nicotine dependence level (attested as number of cigarettes smoked daily, years smoking and previous attempts of quitting) and the vulnerability at the health risk. These findings suggest that, when designing an anti-smoking campaign, it is crucial to consider the audience age (young smokers, adults or heavy old smokers) their dependence level to nicotine (some people smoke are fine with just two cigarettes per day, some smoke 20 daily) and how they react and perceived the risks and negative health consequences deriving from smoke. Campaigns addressed to heavy smokers with low health risk vulnerability should be different than campaign targeting young smokers with low levels of nicotine dependence. Developing a specific strategy based on the target could increase the overall effectiveness of the campaign. Hence campaign diversification can increase the chances of reaching a wider target.

Limitations and suggestions for future research

As already stated before, message framing check reported that people did not perceived negative message as loss, suggesting that message manipulation did not work properly. This could have altered the outcome of the study, where people randomly selected for negatively framed message did not perceived them as losses. Further study could replicate this experiment by fine-tuning the message framing manipulation through a survey pre-test on a different sample. The assumption of normality for ANOVA was violated which might lead to possible insignificant effects.

Another interesting result observed here, it's the possible correlation between addictive behaviors such as smoking and significant others. When analyzing questions about nicotine dependence level it emerged an interesting correlation. To the question "Do you have brothers/ sisters smokers?", 70% of respondents said no and 30% said yes. Instead, the following questions reported interesting answers: when answering "Is there an adult smoker in your family?" almost 60% said yes and a surprising 90% responded yes to the question "Is there a smoker among your closest 4 friends?".
It is interesting to observe that almost 60% or respondents reported having an adult smoker in their family and 90% reported having a close friend smoker. These findings could be further analyzed by future research to understand what's kind of influence exists between engaging in addictive behaviors and having significant others, such as friend and family who adopt them.
A focus on this aspect could fine-tune the effectiveness of anti-smoking campaign by delivering tailored message strategies based on the audience to be reached.
A possible strategy deriving from these findings could be to target young potential smokers, son of smokers, in order to discourage them into start smoking and make some anti-smoking prevention.
Another one could be to tackle the significant others problem, by exploiting social shame and isolating addictive behaviors, (such as smoking at a young age) in order to persuade young potential smokers to not follow their friends and instead, help them to quit.
Future research could also test other alternatives of benefit appeal, different than the one employed in this study (health and money). The benefit could, for example, be based on esthetical gains deriving from not smoking or social shame (Amonini, Pettigrew, Clayforth 2015).
Moreover, ads used for the survey, could be developed with a more professional look to trick users into thinking it's a real anti-smoking campaign.

Conclusion

This study was born with a goal. Starting from the contrasting results, reported by past research, about the effectiveness of the current appeals utilized in anti-smoking campaigns,(Akyuz 2017, Hastings and MacFadyen 2002, Laroche et al 2001), moving to studies about the framing of the message contextualized in anti-smoking campaigns (Toll et al 2007, Gonzalez et al 2005) the aim was to clarify which appeal could lead to better results in terms of quitting behaviors.

Therefore, the fear appeal, commonly employed by policy makers in anti-smoking ads, have been compared to a new kind of appeal: the benefit one, based on health and money. The aim here was to address a literature gap, the lack of studies about an appeal based on benefits of quitting, like money saving or health improvements. Then, message framing was added to better study whether positively framed messages could enhance ad performances if compared to the mainstream negatively framed one.

The survey has been prepared focusing on the following constructs: *Persuasiveness of the message, Ad attitude, Perceived vulnerability to the Health risk, Perceived severity of the Health risks, Motivation to quit, Fear appeal and Nicotine dependence level.*

Then, 180 respondents have been randomly selected for 6 different scenarios (same ad with different copy) and data have been collected and then analyzed through SPSS. Another gap have been filled: testing ad appeal effectiveness on a sample of Italian respondents.

Fear manipulation was successful, as well as positively framed messages. Unfortunately negative message manipulation did not work properly, so study's results may have been altered. This may be caused, as Akyuz (2017) suggested, by the fact that smokers can be color-blind to messages reminding of negative consequences, resulting hence in the ineffectiveness of fear appeal messages. Showing them a negatively framed message does not necessarily mean that smokers perceive it as a loss. Another issue is that, as stated in literature earlier, smoking is not a rational human behavior(Hastings and MacFadyen 2002). So, this might cause insignificant results of my experiment. I expected that negatively framed messages will be perceived as loss and get more attention. However,

this was not the case for an addictive behavior of smoking. Moreover, as previously stated, according to the 2015 Global Adult Tobacco Survey in China, only 26% of adult respondents believe smoking is the cause of health disease, such as cancer, stroke and heart related diseases. This fact may have altered the perception of the survey scenario hence influencing results.

Anyway the three hypothesis were not confirmed, requiring a further analysis about the topic, about ad appeal and message framing. Researchers could pre-test message manipulation, utilize different kind of benefit appeal (beauty or social shame), develop a better visual ad for the survey and focus again on Italian respondents where there's still a lack of research but high number of smokers.

The higher purpose of this research is to contribute to a very crucial topic, which is first of all the war against tobacco and, second of all, taking part in the development of strategies to help individuals in reducing or abandoning an addictive and dangerous behavior, such as smoking or alcohol dependence.

I hope that this study has been helpful to researchers, colleagues, managers or whoever is simply looking for information about the topic.

At the moment I am writing this final chapter, smoke still kills 83.000 (eighty three thousand) people each year, only in Italy (Corriere della Sera) and it's the main cause of death. I firmly believe that further studies about anti-smoking ads will lead to better and innovative solutions, that will help policy makers into fighting smoke dependence and reduce these negative numbers.

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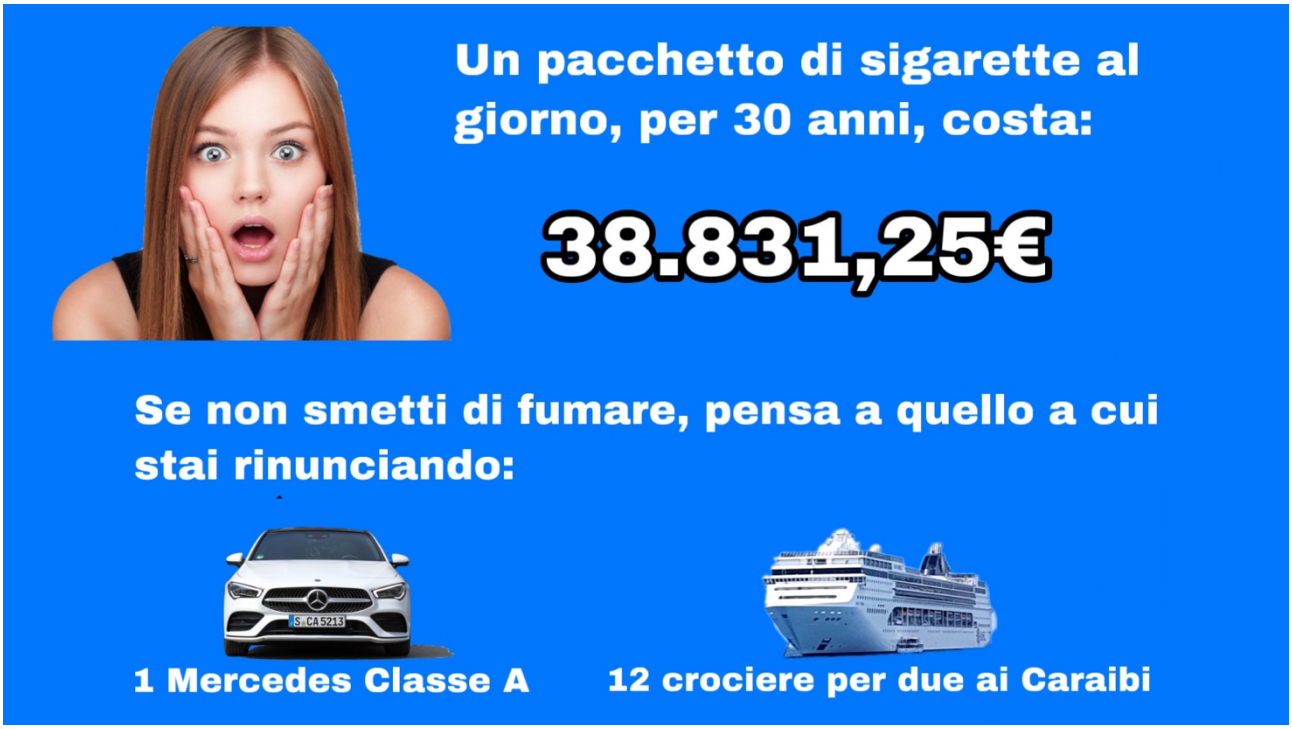
APPENDIX chapter 3

Print advertising scenarios

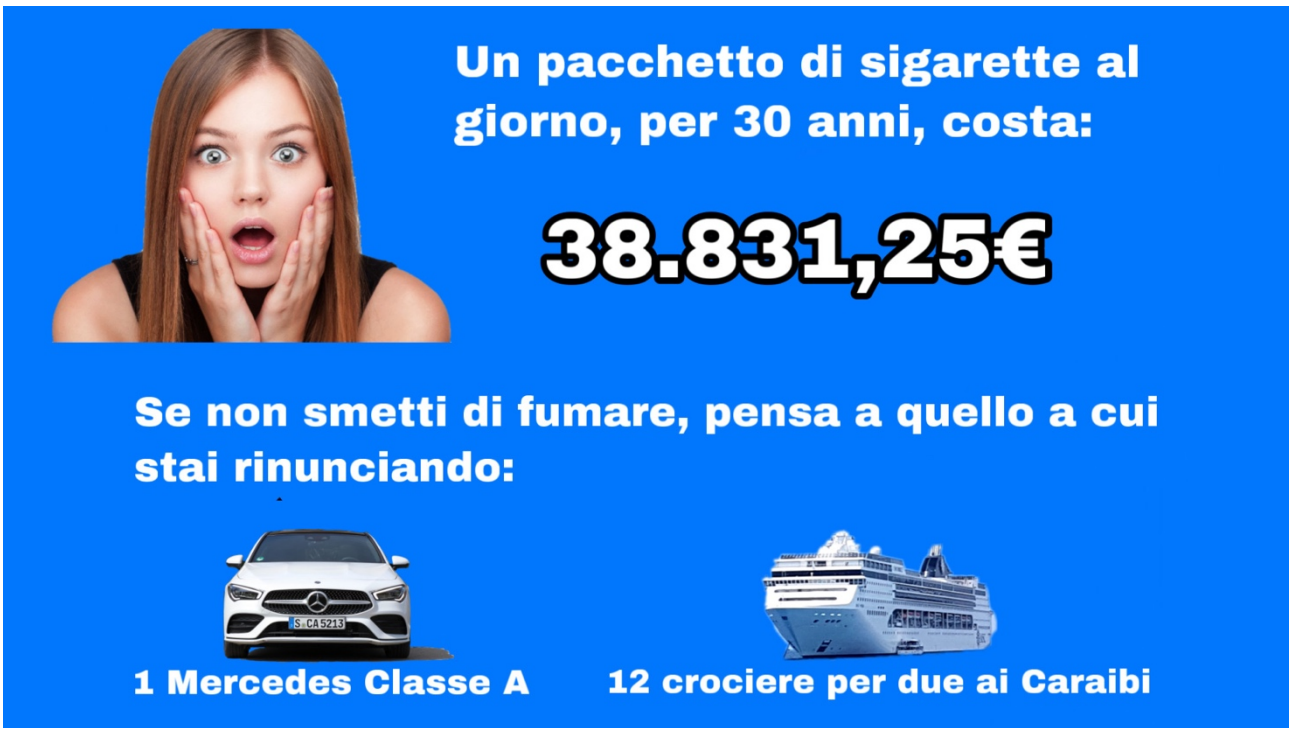
A1. Fear appeal with negative framing

A2. Fear appeal with positive framing

A3. Benefit appeal ‘money saving’ with negative framing



A4. Benefit appeal ‘money saving’ with positive framing



A5. Benefit appeal ‘health benefit’ with negative framing

A6. Benefit appeal ‘health benefit’ with positive framing

APPENDIX CHAPTER 4

INDEX

APPENDIX 1: Reliability analysis
Scale: Persuasiveness of the message

Case Processing Summary

		N	%
Cases	Valid	175	100,0
	Excluded[a]	0	,0
	Total	175	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,914	,913	6

Inter-Item Correlation Matrix

	In che misura reputi che la pubblicità sia:-vale la pena ricordarla	In che misura reputi che la pubblicità sia:-ha attirato la mia attenzione	In che misura reputi che la pubblicità sia:-è stata efficace	In che misura reputi che la pubblicità sia:-è stata informativa	In che misura reputi che la pubblicità sia:-è stata significativa	In che misura reputi che la pubblicità sia:-è stata convincente
In che misura reputi che la pubblicità sia:-vale la pena ricordarla	1,000	,603	,600	,524	,653	,626
In che misura reputi che la pubblicità sia:-ha attirato la mia attenzione	,603	1,000	,757	,456	,695	,691

In che misura reputi che la pubblicità sia:-è stata efficace	,600	,757	1,000	,499	,678	,766
In che misura reputi che la pubblicità sia:-è stata informativa	,524	,456	,499	1,000	,710	,533
In che misura reputi che la pubblicità sia:-è stata significativa	,653	,695	,678	,710	1,000	,770
In che misura reputi che la pubblicità sia:-è stata convincente	,626	,691	,766	,533	,770	1,000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
In che misura reputi che la pubblicità sia:-vale la pena ricordarla	19,60	60,402	,707	,501	,905
In che misura reputi che la pubblicità sia:-ha attirato la mia attenzione	19,95	58,446	,761	,649	,898
In che misura reputi che la pubblicità sia:-è stata efficace	20,51	58,585	,789	,692	,894
In che misura reputi che la pubblicità sia:-è stata informativa	19,42	62,819	,630	,521	,915
In che misura reputi che la pubblicità sia:-è stata significativa	20,02	56,270	,847	,756	,885
In che misura reputi che la pubblicità sia:-è stata convincente	20,59	57,485	,814	,711	,890

Scale: Ad Attitude

Case Processing Summary

		N	%
Cases	Valid	175	100,0
	Excluded[a]	0	,0
	Total	175	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,719	,730	4

Inter-Item Correlation Matrix

	Pensi che la pubblicità sia:-1\: non reale:7\: reale	Pensi che la pubblicità sia:-1\: non diversa:7\: diversa	Pensi che la pubblicità sia:-1\: non persuasiva:7\: persuasiva	Pensi che la pubblicità sia:-1\: Non mi è piaciuta per niente:7\: mi è piaciuta tanto
Pensi che la pubblicità sia:-1\: non reale:7\: reale	1,000	,155	,262	,350
Pensi che la pubblicità sia:-1\: non diversa:7\: diversa	,155	1,000	,464	,536
Pensi che la pubblicità sia:-1\: non persuasiva:7\: persuasiva	,262	,464	1,000	,652
Pensi che la pubblicità sia:-1\: Non mi è piaciuta per niente:7\: mi è piaciuta tanto	,350	,536	,652	1,000

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Pensi che la pubblicità sia:-1\: non reale:7\: reale	10,61	22,676	,304	,127	,785
Pensi che la pubblicità sia:-1\: non diversa:7\: diversa	11,48	21,297	,479	,311	,674
Pensi che la pubblicità sia:-1\: non persuasiva:7\: persuasiva	11,58	19,556	,600	,445	,601
Pensi che la pubblicità sia:-1\: Non mi è piaciuta per niente:7\: mi è piaciuta tanto	11,49	19,010	,699	,525	,546

Scale: Perceived severity of the Health risk

Case Processing Summary

		N	%
Cases	Valid	175	100,0
	Excluded[a]	0	,0
	Total	175	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,842	,844	7

Inter-Item Correlation Matrix

	Quanto reputi gravi le seguenti conseguenze del fumo:-Morte prematura	Quanto reputi gravi le seguenti conseguenze del fumo:-Contrazione di malattie	Quanto reputi gravi le seguenti conseguenze del fumo:-Dipendenza da nicotina	Quanto reputi gravi le seguenti conseguenze del fumo:-Inalazione di veleni	Quanto reputi gravi le seguenti conseguenze del fumo:-Fumo passivo	Quanto reputi gravi le seguenti conseguenze del fumo:-Invecchiamento precoce
Quanto reputi gravi le seguenti conseguenze del fumo:-Morte prematura	1,000	,689	,195	,505	,317	,345
Quanto reputi gravi le seguenti conseguenze del fumo:-Contrazione di malattie	,689	1,000	,277	,568	,306	,419
Quanto reputi gravi le seguenti conseguenze del fumo:-Dipendenza da nicotina	,195	,277	1,000	,466	,353	,448
Quanto reputi gravi le seguenti conseguenze del fumo:-Inalazione di veleni	,505	,568	,466	1,000	,497	,604
Quanto reputi gravi le seguenti conseguenze del fumo:-Fumo passivo	,317	,306	,353	,497	1,000	,614
Quanto reputi gravi le seguenti conseguenze del fumo:-Invecchiamento precoce	,345	,419	,448	,604	,614	1,000
Quanto reputi gravi le seguenti conseguenze del fumo:-Danno ai minori	,362	,311	,310	,423	,608	,527

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Quanto reputi gravi le seguenti conseguenze del fumo:-Morte prematura	32,56	43,397	,535	,515	,830
Quanto reputi gravi le seguenti conseguenze del fumo:-Contrazione di malattie	32,38	44,144	,582	,548	,824
Quanto reputi gravi le seguenti conseguenze del fumo:-Dipendenza da nicotina	32,49	44,217	,458	,270	,842
Quanto reputi gravi le seguenti conseguenze del fumo:-Inalazione di veleni	32,66	39,571	,713	,545	,802
Quanto reputi gravi le seguenti conseguenze del fumo:-Fumo passivo	33,12	40,451	,627	,503	,816
Quanto reputi gravi le seguenti conseguenze del fumo:-Invecchiamento precoce	32,71	41,125	,696	,536	,806
Quanto reputi gravi le seguenti conseguenze del fumo:-Danno ai minori	32,56	41,167	,586	,430	,823

Scale: Perceived vulnerability to the health risk

Case Processing Summary

		N	%
Cases	Valid	175	100,0
	Excluded[a]	0	,0
	Total	175	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,859	,865	7

Inter-Item Correlation Matrix

	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Morte prematura	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Contrazione di malattie	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Dipendenza da nicotina	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Inalazione di veleni	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Invecchiamento precoce	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Fumo passivo
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Morte prematura	1,000	,849	,565	,588	,696	,315
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Contrazione di malattie	,849	1,000	,584	,552	,610	,294
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Dipendenza da nicotina	,565	,584	1,000	,620	,644	,221
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Inalazione di veleni	,588	,552	,620	1,000	,622	,428
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Invecchiamento	,696	,610	,644	,622	1,000	,370

precoce						
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Fumo passivo	,315	,294	,221	,428	,370	1,000
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Danno ai minori	,358	,315	,278	,265	,356	,493

Inter-Item Correlation Matrix

	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Morte prematura	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Contrazione di malattie	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Dipendenza da nicotina	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Inalazione di veleni	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Invecchiamento precoce	Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Fumo passivo
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Morte prematura	1,000	,849	,565	,588	,696	,315
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Contrazione di malattie	,849	1,000	,584	,552	,610	,294
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Dipendenza da nicotina	,565	,584	1,000	,620	,644	,221
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Inalazione di veleni	,588	,552	,620	1,000	,622	,428
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Invecchiamento precoce	,696	,610	,644	,622	1,000	,370
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Fumo passivo	,315	,294	,221	,428	,370	1,000
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Danno ai minori	,358	,315	,278	,265	,356	,493

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Morte prematura	27,03	67,401	,757	,779	,821
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Contrazione di malattie	26,81	69,752	,717	,739	,828
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Dipendenza da nicotina	26,15	69,150	,639	,539	,838
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Inalazione di veleni	26,53	68,711	,684	,545	,831
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Invecchiamento precoce	26,60	69,506	,745	,612	,825
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Fumo passivo	26,94	74,875	,462	,362	,862
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Danno ai minori	27,76	72,977	,442	,307	,869

Scale: Motivation to quit

Case Processing Summary

		N	%
Cases	Valid	175	100,0
	Excluded[a]	0	,0
	Total	175	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,706	7

Item Statistics

	Mean	Std. Deviation	N
Indica la tua motivazione a smettere di fumare:-Non voglio smettere di fumare	4,31	2,042	175
Indica la tua motivazione a smettere di fumare:-Penso che dovrei smettere ma non voglio	3,65	1,929	175
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare ma non ho ancora pensato a quando farlo	3,82	1,930	175

Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare ma non so quando lo farò	3,56	1,967	175
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare e spero di farlo presto	4,84	1,831	175
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi	3,94	1,932	175
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo il prossimo mese	3,30	1,957	175

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Indica la tua motivazione a smettere di fumare:-Non voglio smettere di fumare	23,11	49,764	,450	,664
Indica la tua motivazione a smettere di fumare:-Penso che dovrei smettere ma non voglio	23,77	49,180	,517	,647
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare ma non ho ancora pensato a quando farlo	23,60	52,115	,397	,678
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare ma non so quando lo farò	23,86	59,985	,100	,749
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare e spero di farlo presto	22,58	56,016	,275	,706
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi	23,47	47,251	,599	,624
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo il prossimo mese	24,12	46,589	,617	,619

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
27,42	66,900	8,179	7

Scale: Motivation to quit 2

Case Processing Summary

		N	%
Cases	Valid	175	100,0
	Excluded[a]	0	,0
	Total	175	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,749	6

Item Statistics

	Mean	Std. Deviation	N
Indica la tua motivazione a smettere di fumare:-Non voglio smettere di fumare	4,31	2,042	175
Indica la tua motivazione a smettere di fumare:-Penso che dovrei smettere ma non voglio	3,65	1,929	175
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare ma non ho ancora pensato a quando farlo	3,82	1,930	175
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare e spero di farlo presto	4,84	1,831	175
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi	3,94	1,932	175

Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo il prossimo mese	3,30	1,957	175

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Indica la tua motivazione a smettere di fumare:-Non voglio smettere di fumare	19,55	43,031	,477	,717
Indica la tua motivazione a smettere di fumare:-Penso che dovrei smettere ma non voglio	20,21	44,532	,456	,722
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare ma non ho ancora pensato a quando farlo	20,04	49,855	,235	,778
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare e spero di farlo presto	19,02	46,017	,427	,729
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi	19,91	39,263	,702	,651
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo il prossimo mese	20,56	39,777	,663	,662

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
23,86	59,985	7,745	6

Scale: Motivation to quit 3

Case Processing Summary

		N	%
Cases	Valid	175	100,0
	Excluded[a]	0	,0
	Total	175	100,0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
,778	5

Item Statistics

	Mean	Std. Deviation	N
Indica la tua motivazione a smettere di fumare:-Non voglio smettere di fumare	4,31	2,042	175
Indica la tua motivazione a smettere di fumare:-Penso che dovrei smettere ma non voglio	3,65	1,929	175
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare e spero di farlo presto	4,84	1,831	175
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi	3,94	1,932	175
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo il prossimo mese	3,30	1,957	175

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Indica la tua motivazione a smettere di fumare:-Non voglio smettere di fumare	15,73	34,462	,468	,767
Indica la tua motivazione a smettere di fumare:-Penso che dovrei smettere ma non voglio	16,39	38,067	,339	,805
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare e spero di farlo presto	15,20	34,920	,535	,743
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi	16,10	29,801	,774	,659
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo il prossimo mese	16,74	31,123	,682	,692

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
20,04	49,855	7,061	5

APPENDIX 2 Validity analysis: factor analysis 1

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,855
Bartlett's Test of Sphericity	Approx. Chi-Square	2426,291
	df	171
	Sig.	,000

Communalities

	Initial	Extraction
In che misura la pubblicità ti ha fatto sentire: -Spaventato	1,000	,752
In che misura la pubblicità ti ha fatto sentire: -Nervoso	1,000	,780
In che misura la pubblicità ti ha fatto sentire: -A disagio	1,000	,837
In che misura la pubblicità ti ha fatto sentire: -Nauseato	1,000	,754
In che misura la pubblicità ti ha fatto sentire: -Impaurito	1,000	,821
In che misura la pubblicità ti ha fatto sentire: -Teso	1,000	,845
Indica la tua motivazione a smettere di fumare:-Non voglio smettere di fumare	1,000	,443
Indica la tua motivazione a smettere di fumare:-Penso che dovrei smettere ma non voglio	1,000	,611
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare ma non ho ancora pensato a quando farlo	1,000	,747
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare ma non so quando lo farò	1,000	,765

Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare e spero di farlo presto	1,000	,787
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi	1,000	,840
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo il prossimo mese	1,000	,730
In che misura reputi che la pubblicità sia:-vale la pena ricordarla	1,000	,659
In che misura reputi che la pubblicità sia:-ha attirato la mia attenzione	1,000	,720
In che misura reputi che la pubblicità sia:-è stata efficace	1,000	,756
In che misura reputi che la pubblicità sia:-è stata informativa	1,000	,564
In che misura reputi che la pubblicità sia:-è stata significativa	1,000	,809
In che misura reputi che la pubblicità sia:-è stata convincente	1,000	,787

Extraction Method: Principal Component Analysis.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
In che misura la pubblicità ti ha fatto sentire: -Teso	,890	,218		
In che misura la pubblicità ti ha fatto sentire: -A disagio	,874	,263		
In che misura la pubblicità ti ha fatto sentire: -Impaurito	,870	,232	,104	
In che misura la pubblicità ti ha fatto sentire: -Nervoso	,851	,231		
In che misura la pubblicità ti ha fatto sentire: -Nauseato	,847	,171		
In che misura la pubblicità ti ha fatto sentire: -Spaventato	,801	,272	,123	-,148
In che misura reputi che la pubblicità sia:-è stata significativa	,230	,867		
In che misura reputi che la pubblicità sia:-è stata convincente	,188	,864		
In che misura reputi che la pubblicità sia:-ha attirato la mia attenzione	,232	,807	,102	
In che misura reputi che la pubblicità sia:-è stata efficace	,326	,800		
In che misura reputi che la pubblicità sia:-vale la pena ricordarla	,112	,797		
In che misura reputi che la pubblicità sia:-è stata informativa	,317	,650		-,190

Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi	,201	,135	,884	
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare e spero di farlo presto			,799	-,372
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare e intendo farlo il prossimo mese	,228	,145	,799	,139
Indica la tua motivazione a smettere di fumare:-Non voglio smettere di fumare			-,623	-,229
Indica la tua motivazione a smettere di fumare:-Voglio smettere di fumare ma non ho ancora pensato a quando farlo			,134	,850
Indica la tua motivazione a smettere di fumare:-Voglio davvero smettere di fumare ma non so quando lo farò			-,220	,846
Indica la tua motivazione a smettere di fumare:-Penso che dovrei smettere ma non voglio			-,429	-,649

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	7,207	37,932	37,932	7,207	37,932	37,932	4,862
2	2,589	13,626	51,558	2,589	13,626	51,558	4,229
3	2,169	11,415	62,974	2,169	11,415	62,974	2,767
4	2,042	10,749	73,722	2,042	10,749	73,722	2,149
5	,730	3,843	77,565				
6	,624	3,285	80,850				

Factor Analysis 2

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,764
Bartlett's Test of Sphericity	Approx. Chi-Square	1576,902
	df	136
	Sig.	,000

Communalities

	Initial	Extraction
Quanto reputi gravi le seguenti conseguenze del fumo:-Morte prematura	1,000	,449
Quanto reputi gravi le seguenti conseguenze del fumo:-Contrazione di malattie	1,000	,465
Quanto reputi gravi le seguenti conseguenze del fumo:-Dipendenza da nicotina	1,000	,306
Quanto reputi gravi le seguenti conseguenze del fumo:-Inalazione di veleni	1,000	,643
Quanto reputi gravi le seguenti conseguenze del fumo:-Invecchiamento precoce	1,000	,634
Quanto reputi gravi le seguenti conseguenze del fumo:-Fumo passivo	1,000	,613
Quanto reputi gravi le seguenti conseguenze del fumo:-Danno ai minori	1,000	,532
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Morte prematura	1,000	,765
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Contrazione di malattie	1,000	,729
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Dipendenza da nicotina	1,000	,668

Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Inalazione di veleni	1,000	,645
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Invecchiamento precoce	1,000	,714
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Fumo passivo	1,000	,409
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Danno ai minori	1,000	,325
Pensi che la pubblicità sia:-1\: non diversa:7\: diversa	1,000	,568
Pensi che la pubblicità sia:-1\: non persuasiva:7\: persuasiva	1,000	,733
Pensi che la pubblicità sia:-1\: Non mi è piaciuta per niente:7\: mi è piaciuta tanto	1,000	,762

Extraction Method: Principal Component Analysis.

Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	5,301	31,181	31,181	5,301	31,181	31,181	3,919
2	2,650	15,588	46,769	2,650	15,588	46,769	3,845
3	2,009	11,819	58,588	2,009	11,819	58,588	2,197
4	1,440	8,469	67,058				
5	1,043	6,133	73,191				

Rotated Component Matrix[a]

	Component		
	1	2	3
Quanto reputi gravi le seguenti conseguenze del fumo:-Invecchiamento precoce	,788		
Quanto reputi gravi le seguenti conseguenze del fumo:-Inalazione di veleni	,781	,178	
Quanto reputi gravi le seguenti conseguenze del fumo:-Fumo passivo	,762		,178
Quanto reputi gravi le seguenti conseguenze del fumo:-Danno ai minori	,724		
Quanto reputi gravi le seguenti conseguenze del fumo:-Morte prematura	,667		
Quanto reputi gravi le seguenti conseguenze del fumo:-Contrazione di malattie	,661	,166	
Quanto reputi gravi le seguenti conseguenze del fumo:-Dipendenza da nicotina	,525	,132	,114
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Fumo passivo	,501	,394	
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Morte prematura	,146	,862	
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Contrazione di malattie		,847	
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Dipendenza da nicotina		,816	
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Invecchiamento precoce	,220	,814	

Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Inalazione di veleni	,176	,783	
Quanto reputi probabile che le seguenti conseguenze occorrano a te:-Danno ai minori	,218	,433	,299
Pensi che la pubblicità sia:-1\: Non mi è piaciuta per niente:7\: mi è piaciuta tanto			,866
Pensi che la pubblicità sia:-1\: non persuasiva:7\: persuasiva			,854
Pensi che la pubblicità sia:-1\: non diversa:7\: diversa			,748

APPENDIX 3:T-test for manipulation test.

Fear appeal and message framing

T-Test

Fear appeal

Group Statistics

	AdAppeal	N	Mean	Std. Deviation	Std. Error Mean
ManiFearMEAN	benefit appeal	114	2,3947	1,43033	,13396
	fear appeal	61	2,9727	1,47359	,18867

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	df	Sig. (2-tailed)
ManiFearMEAN	Equal variances assumed	,015	,901	-2,520	173	,013
	Equal variances not assumed			-2,498	119,605	,014

Independent Samples Test

		t-test for Equality of Means			
		Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
				Lower	Upper
ManiFearMEAN	Equal variances assumed	-,57794	,22931	-1,03054	-,12534
	Equal variances not assumed	-,57794	,23140	-1,03610	-,11978

T-test: message framing

	MessageFraming	N	Mean	Std. Deviation	Std. Error Mean
La pubblicità che hai appena visto enfatizza:-I benefici dello smettere di fumare i.e. profitto	negative	87	4,66	1,916	,205
	positive	88	5,44	1,625	,173
La pubblicità che hai appena visto enfatizza:-I costi del fumo i.e. danno	negative	87	4,83	1,799	,193
	positive	88	4,44	2,122	,226

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means	
		F	Sig.	t	df
La pubblicità che hai appena visto enfatizza:-I benefici dello smettere di fumare i.e. profitto	Equal variances assumed	7,007	,009	-2,936	173
	Equal variances not assumed			-2,933	167,885
La pubblicità che hai appena visto enfatizza:-I costi del fumo i.e. danno	Equal variances assumed	5,571	,019	1,292	173
	Equal variances not assumed			1,293	169,088

Independent Samples Test

		t-test for Equality of Means			
		Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference Lower
La pubblicità che hai appena visto enfatizza:-I benefici dello smettere di fumare i.e. profitto	Equal variances assumed	,004	-,788	,268	-1,318
	Equal variances not assumed	,004	-,788	,269	-1,318
La pubblicità che hai appena visto enfatizza:-I costi del fumo i.e. danno	Equal variances assumed	,198	,384	,298	-,203
	Equal variances not assumed	,198	,384	,297	-,202

APPENDIX 4: Hypothesis testing 1: Anova without covariates

Univariate Analysis of Variance 1

Between-Subjects Factors

		Value Label	N
AdAppeal	,00	fear appeal	61
	1,00	benefit appeal	114
MessageFraming	,00	negative	87
	1,00	positive	88

Descriptive Statistics

Dependent Variable: Mot.ToQuitMEAN

AdAppeal	MessageFraming	Mean	Std. Deviation	N
fear appeal	negative	4,2222	1,32565	30
	positive	3,7419	1,75902	31
	Total	3,9781	1,56687	61
benefit appeal	negative	4,0643	1,73484	57
	positive	4,0409	1,78738	57
	Total	4,0526	1,75353	114
Total	negative	4,1188	1,59940	87
	positive	3,9356	1,77312	88
	Total	4,0267	1,68664	175

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Mot.ToQuitMEAN	Based on Mean	1,784	3	171	,152
	Based on Median	1,733	3	171	,162
	Based on Median and with adjusted df	1,733	3	169,218	,162
	Based on trimmed mean	1,779	3	171	,153

Tests of Between-Subjects Effects

Dependent Variable: Mot.ToQuitMEAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3,753[a]	3	1,251	,435	,728	,008
Intercept	2564,845	1	2564,845	892,830	,000	,839
AdAppeal	,198	1	,198	,069	,793	,000
MessageFraming	2,520	1	2,520	,877	,350	,005
AdAppeal * MessageFraming	2,073	1	2,073	,722	,397	,004
Error	491,234	171	2,873			
Total	3332,444	175				
Corrected Total	494,987	174				

Tests of Between-Subjects Effects

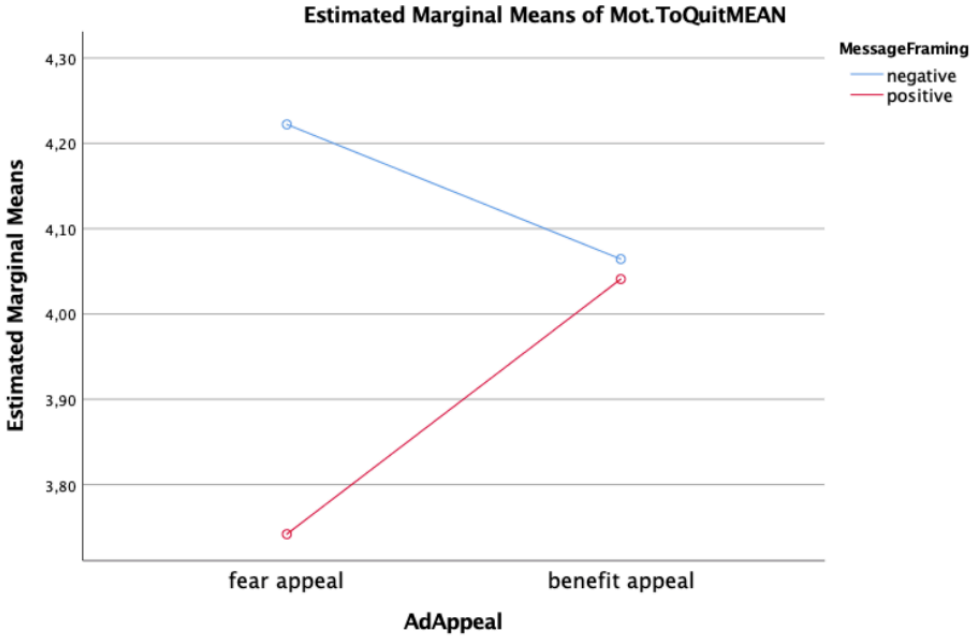
Dependent Variable: Mot.ToQuitMEAN

Source	Noncent. Parameter	Observed Power[b]
Corrected Model	1,306	,136
Intercept	892,830	1,000
AdAppeal	,069	,058
MessageFraming	,877	,154
AdAppeal * MessageFraming	,722	,135
Error		
Total		
Corrected Total		

a. R Squared = ,008 (Adjusted R Squared = -,010)

b. Computed using alpha =

Profile Plots



Univariate Analysis of Variance 2

Between-Subjects Factors

		Value Label	N
AdAppeal	,00	fear appeal	61
	1,00	benefit appeal	114
MessageFraming	,00	negative	87
	1,00	positive	88

Descriptive Statistics

Dependent Variable: PersuasivenessMEAN

AdAppeal	MessageFraming	Mean	Std. Deviation	N
fear appeal	negative	4,2056	1,27358	30
	positive	3,7688	1,37415	31
	Total	3,9836	1,33288	61
benefit appeal	negative	3,9591	1,59497	57
	positive	4,0673	1,65977	57
	Total	4,0132	1,62138	114
Total	negative	4,0441	1,48908	87
	positive	3,9621	1,56362	88
	Total	4,0029	1,52318	175

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
PersuasivenessMEAN	Based on Mean	1,469	3	171	,225
	Based on Median	1,326	3	171	,268
	Based on Median and with adjusted df	1,326	3	164,062	,268
	Based on trimmed mean	1,471	3	171	,224

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.[a,b]

a. Dependent variable: PersuasivenessMEAN

b. Design: Intercept + AdAppeal + MessageFraming + AdAppeal * MessageFraming

Tests of Between-Subjects Effects

Dependent Variable: PersuasivenessMEAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3,276[a]	3	1,092	,466	,706	,008
Intercept	2542,951	1	2542,951	1085,980	,000	,864
AdAppeal	,027	1	,027	,011	,915	,000
MessageFraming	1,072	1	1,072	,458	,500	,003
AdAppeal * MessageFraming	2,949	1	2,949	1,260	,263	,007
Error	400,417	171	2,342			
Total	3207,694	175				
Corrected Total	403,693	174				

Tests of Between-Subjects Effects

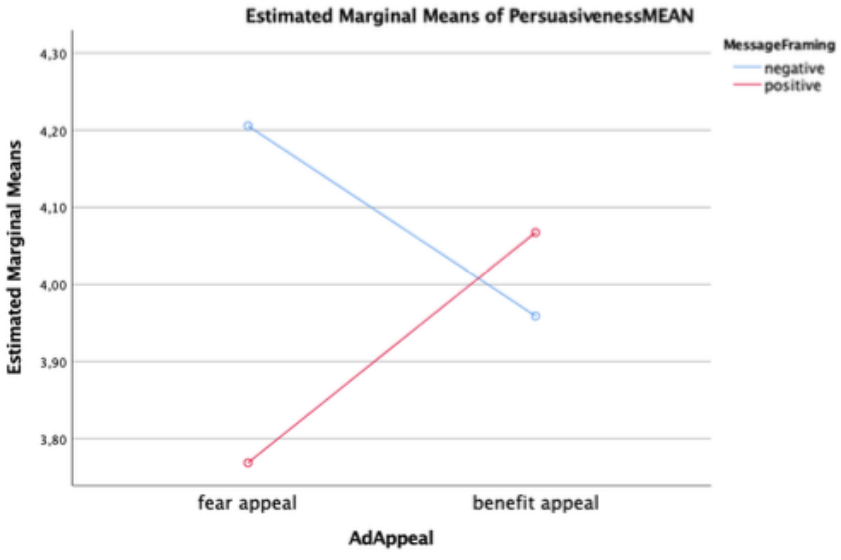
Dependent Variable: PersuasivenessMEAN

Source	Noncent. Parameter	Observed Power[b]
Corrected Model	1,399	,143
Intercept	1085,980	1,000
AdAppeal	,011	,051
MessageFraming	,458	,103
AdAppeal * MessageFraming	1,260	,200
Error		
Total		
Corrected Total		

a. R Squared = ,008 (Adjusted R Squared = -,009)

b. Computed using alpha =

Profile Plots



Univariate Analysis of Variance 3

Between-Subjects Factors

		Value Label	N
AdAppeal1	,00	fear appeal	61
	1,00	health benefit appeal	61
	2,00	money benefit appeal	53
MessageFraming	,00	negative	87
	1,00	positive	88

Descriptive Statistics

Dependent Variable: Mot.ToQuitMEAN

AdAppeal1	MessageFraming	Mean	Std. Deviation	N
fear appeal	negative	4,2222	1,32565	30
	positive	3,7419	1,75902	31
	Total	3,9781	1,56687	61
health benefit appeal	negative	4,0323	1,72853	31
	positive	4,0556	1,70211	30
	Total	4,0437	1,70128	61
money benefit appeal	negative	4,1026	1,77581	26
	positive	4,0247	1,91022	27
	Total	4,0629	1,82815	53
Total	negative	4,1188	1,59940	87
	positive	3,9356	1,77312	88
	Total	4,0267	1,68664	175

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
Mot.ToQuitMEAN	Based on Mean	1,428	5	169	,216
	Based on Median	1,255	5	169	,286
	Based on Median and with adjusted df	1,255	5	165,588	,286
	Based on trimmed mean	1,427	5	169	,217

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.[a,b]

a. Dependent variable: Mot.ToQuitMEAN

b. Design: Intercept + AdAppeal1 + MessageFraming + AdAppeal1 * MessageFraming

Tests of Between-Subjects Effects

Dependent Variable: Mot.ToQuitMEAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3,836[a]	5	,767	,264	,932	,008
Intercept	2828,678	1	2828,678	973,320	,000	,852
AdAppeal1	,211	2	,106	,036	,964	,000
MessageFraming	1,384	1	1,384	,476	,491	,003
AdAppeal1 * MessageFraming	2,143	2	1,071	,369	,692	,004
Error	491,150	169	2,906			
Total	3332,444	175				
Corrected Total	494,987	174				

Tests of Between-Subjects Effects

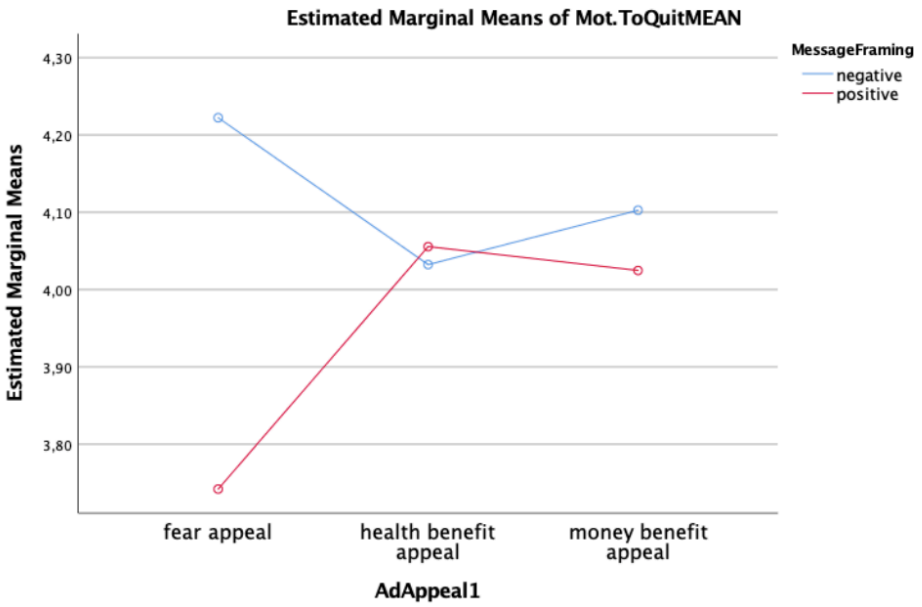
Dependent Variable: Mot.ToQuitMEAN

Source	Noncent. Parameter	Observed Power[b]
Corrected Model	1,320	,114
Intercept	973,320	1,000
AdAppeal1	,073	,055
MessageFraming	,476	,105
AdAppeal1 * MessageFraming	,737	,109
Error		
Total		
Corrected Total		

a. R Squared = ,008 (Adjusted R Squared = -,022)

b. Computed using alpha =

Profile Plots



Univariate Analysis of Variance 4

Between-Subjects Factors

		Value Label	N
AdAppeal1	,00	fear appeal	61
	1,00	health benefit appeal	61
	2,00	money benefit appeal	53
MessageFraming	,00	negative	87
	1,00	positive	88

Descriptive Statistics

Dependent Variable: PersuasivenessMEAN

AdAppeal1	MessageFraming	Mean	Std. Deviation	N
fear appeal	negative	4,2056	1,27358	30
	positive	3,7688	1,37415	31
	Total	3,9836	1,33288	61
health benefit appeal	negative	3,6237	1,52508	31
	positive	3,8444	1,56343	30
	Total	3,7322	1,53517	61
money benefit appeal	negative	4,3590	1,61293	26
	positive	4,3148	1,75675	27
	Total	4,3365	1,67162	53
Total	negative	4,0441	1,48908	87
	positive	3,9621	1,56362	88
	Total	4,0029	1,52318	175

Levene's Test of Equality of Error Variances[a,b]

		Levene Statistic	df1	df2	Sig.
PersuasivenessMEAN	Based on Mean	1,260	5	169	,284
	Based on Median	,756	5	169	,583
	Based on Median and with adjusted df	,756	5	157,603	,583
	Based on trimmed mean	1,211	5	169	,306

Tests of Between-Subjects Effects

Dependent Variable: PersuasivenessMEAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	14,066[a]	5	2,813	1,220	,302	,035
Intercept	2813,965	1	2813,965	1220,552	,000	,878
AdAppeal1	10,332	2	5,166	2,241	,110	,026
MessageFraming	,327	1	,327	,142	,707	,001
AdAppeal1 * MessageFraming	3,333	2	1,667	,723	,487	,008
Error	389,627	169	2,305			
Total	3207,694	175				
Corrected Total	403,693	174				

Tests of Between-Subjects Effects

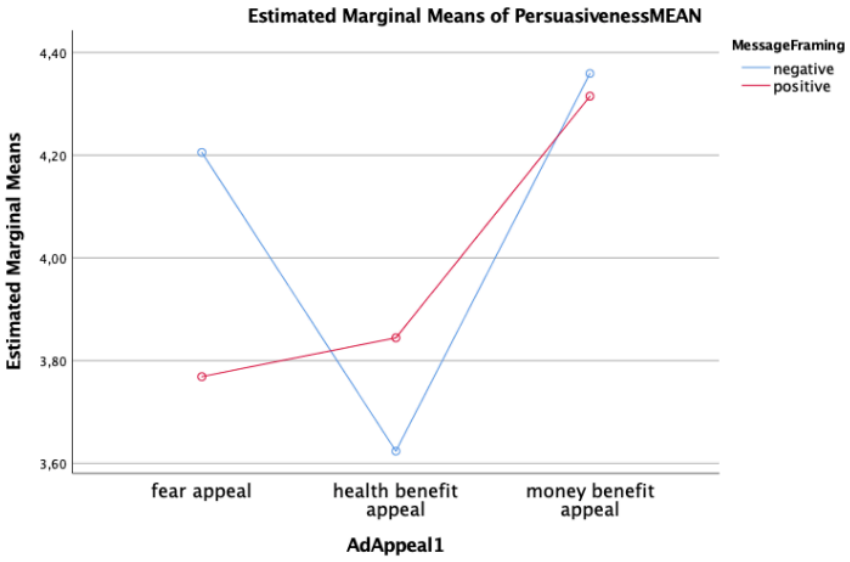
Dependent Variable: PersuasivenessMEAN

Source	Noncent. Parameter	Observed Power[b]
Corrected Model	6,101	,426
Intercept	1220,552	1,000
AdAppeal1	4,482	,452
MessageFraming	,142	,066
AdAppeal1 * MessageFraming	1,446	,171
Error		
Total		
Corrected Total		

a. R Squared = ,035 (Adjusted R Squared = ,006)

b. Computed using alpha =

Profile Plots



APPENDIX 5: Test of normality for DV

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Mot.ToQuitMEAN	175	100,0%	0	0,0%	175	100,0%

Descriptives

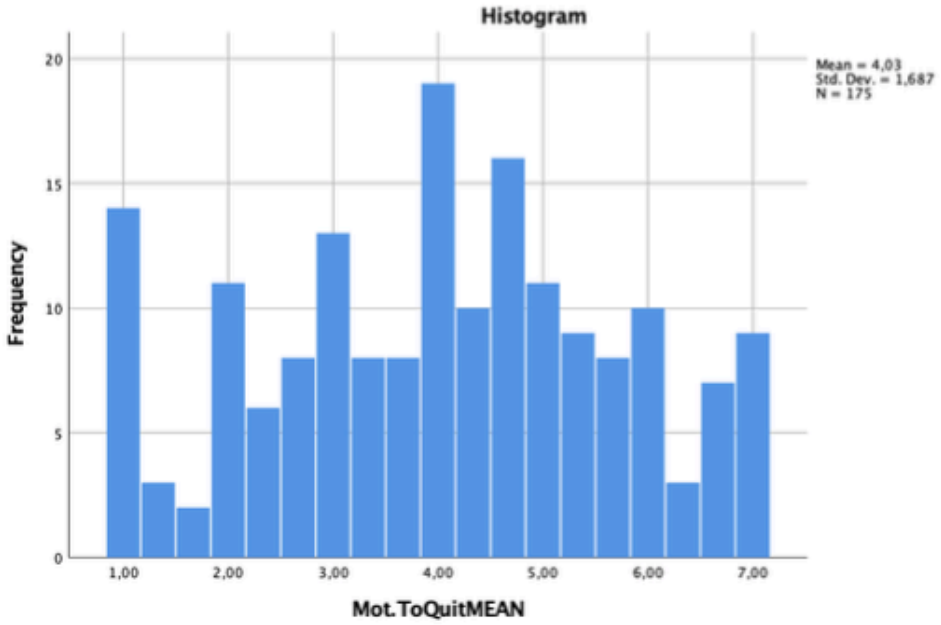
			Statistic	Std. Error
Mot.ToQuitMEAN	Mean		4,0267	,12750
	95% Confidence Interval for Mean	Lower Bound	3,7750	
		Upper Bound	4,2783	
	5% Trimmed Mean		4,0296	
	Median		4,0000	
	Variance		2,845	
	Std. Deviation		1,68664	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		2,67	
	Skewness		-,099	,184
	Kurtosis		-,810	,365

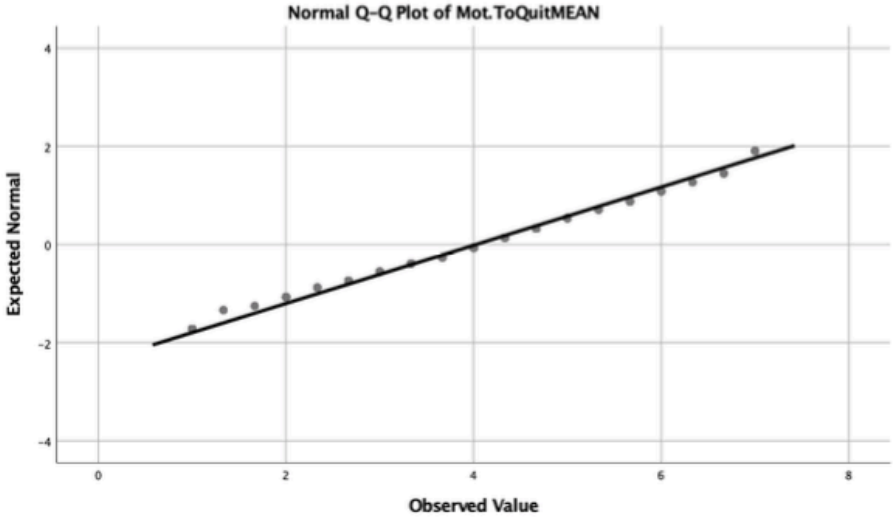
Tests of Normality

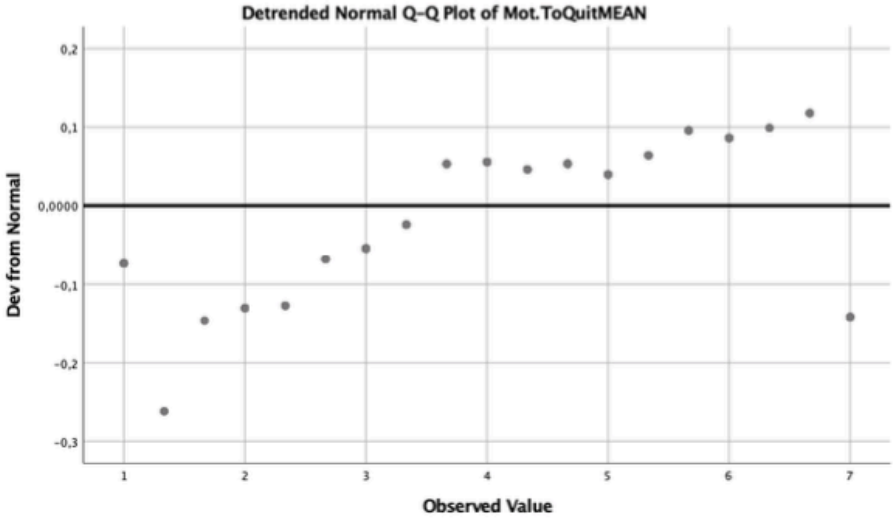
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Mot.ToQuitMEAN	,077	175	,014	,967	175	,000

a. Lilliefors Significance Correction

Mot.ToQuitMEAN




Normal Q-Q Plot of Mot.ToQuitMEAN
Expected Normal
4
2
0
-2
-4
0
2
4
6
8
Observed Value


Detrended Normal Q-Q Plot of Mot.ToQuitMEAN
Dev from Normal
0,2
0,1
0,0000
-0,1
-0,2
-0,3
1
2
3
4
5
6
7
Observed Value

Explore

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
PersuasivenessMEAN	175	100,0%	0	0,0%	175	100,0%

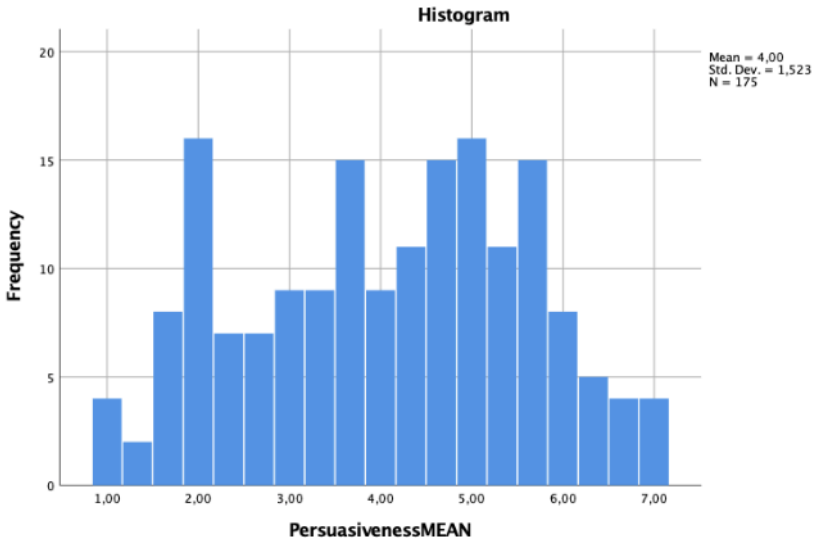
Descriptives

			Statistic	Std. Error
PersuasivenessMEAN	Mean		4,0029	,11514
	95% Confidence Interval for Mean	Lower Bound	3,7756	
		Upper Bound	4,2301	
	5% Trimmed Mean		4,0071	
	Median		4,1667	
	Variance		2,320	
	Std. Deviation		1,52318	
	Minimum		1,00	
	Maximum		7,00	
	Range		6,00	
	Interquartile Range		2,50	
	Skewness		-,125	,184
	Kurtosis		-,911	,365

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
PersuasivenessMEAN	,086	175	,003	,973	175	,002

PersuasivenessMEAN



APPENDIX 6: Anova with covariates

Between-Subjects Factors

		Value Label	N
AdAppeal	,00	fear appeal	61
	1,00	benefit appeal	114
MessageFraming	,00	negative	87
	1,00	positive	88

Descriptive Statistics

Dependent Variable: Mot.ToQuitMEAN

AdAppeal	MessageFraming	Mean	Std. Deviation	N
fear appeal	negative	4,2222	1,32565	30
	positive	3,7419	1,75902	31
	Total	3,9781	1,56687	61
benefit appeal	negative	4,0643	1,73484	57
	positive	4,0409	1,78738	57
	Total	4,0526	1,75353	114
Total	negative	4,1188	1,59940	87
	positive	3,9356	1,77312	88
	Total	4,0267	1,68664	175

Levene's Test of Equality of Error Variances[a]

Dependent Variable: Mot.ToQuitMEAN

F	df1	df2	Sig.
1,393	3	171	,247

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.[a]

a. Design: Intercept + AdAppeal + MessageFraming + NicDepend + VulnerabilityMEAN + eta + AdAppeal * MessageFraming

Tests of Between-Subjects Effects

Dependent Variable: Mot.ToQuitMEAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	101,212[a]	6	16,869	7,197	,000	,204
Intercept	46,089	1	46,089	19,663	,000	,105
AdAppeal	,021	1	,021	,009	,924	,000
MessageFraming	3,157	1	3,157	1,347	,247	,008
NicDepend	90,221	1	90,221	38,492	,000	,186
VulnerabilityMEAN	12,486	1	12,486	5,327	,022	,031
eta	15,023	1	15,023	6,409	,012	,037
AdAppeal * MessageFraming	1,498	1	1,498	,639	,425	,004
Error	393,774	168	2,344			
Total	3332,444	175				
Corrected Total	494,987	174				

Tests of Between-Subjects Effects

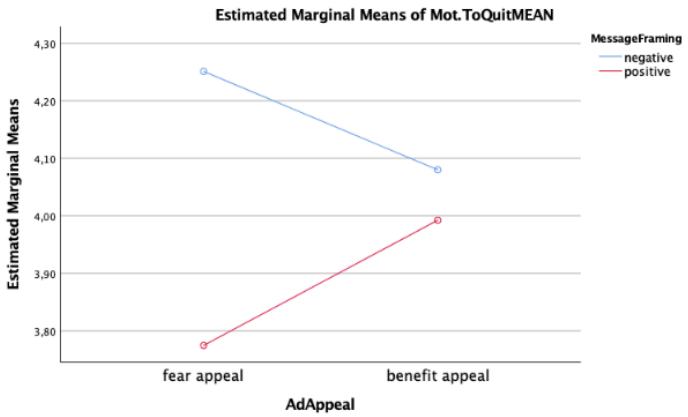
Dependent Variable: Mot.ToQuitMEAN

Source	Noncent. Parameter	Observed Power[b]
Corrected Model	43,181	1,000
Intercept	19,663	,993
AdAppeal	,009	,051
MessageFraming	1,347	,211
NicDepend	38,492	1,000
VulnerabilityMEAN	5,327	,631
eta	6,409	,711
AdAppeal * MessageFraming	,639	,125
Error		
Total		
Corrected Total		

a. R Squared = ,204 (Adjusted R Squared = ,176)

b. Computed using alpha =

Profile Plots



Covariates appearing in the model are evaluated at the following values: NicDepend = ,0000, VulnerabilityMEAN = 4,6789, Per favore, indica la tua età: = 30,3143

Univariate Analysis of Variance 2

Between-Subjects Factors

		Value Label	N
AdAppeal	,00	fear appeal	61
	1,00	benefit appeal	114
MessageFraming	,00	negative	87
	1,00	positive	88

Descriptive Statistics

Dependent Variable: PersuasivenessMEAN

AdAppeal	MessageFraming	Mean	Std. Deviation	N
fear appeal	negative	4,2056	1,27358	30
	positive	3,7688	1,37415	31
	Total	3,9836	1,33288	61
benefit appeal	negative	3,9591	1,59497	57
	positive	4,0673	1,65977	57
	Total	4,0132	1,62138	114
Total	negative	4,0441	1,48908	87
	positive	3,9621	1,56362	88
	Total	4,0029	1,52318	175

Levene's Test of Equality of Error Variances[a]

Dependent Variable: PersuasivenessMEAN

F	df1	df2	Sig.
,809	3	171	,491

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.[a]

a. Design: Intercept + AdAppeal + MessageFraming + NicDepend + VulnerabilityMEAN + eta + AdAppeal *

Tests of Between-Subjects Effects

Dependent Variable: PersuasivenessMEAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	66,179[a]	6	11,030	5,490	,000	,164
Intercept	30,166	1	30,166	15,015	,000	,082
AdAppeal	,046	1	,046	,023	,880	,000
MessageFraming	1,532	1	1,532	,762	,384	,005
NicDepend	34,196	1	34,196	17,021	,000	,092
VulnerabilityMEAN	11,856	1	11,856	5,901	,016	,034
eta	31,813	1	31,813	15,835	,000	,086
AdAppeal * MessageFraming	3,228	1	3,228	1,607	,207	,009
Error	337,514	168	2,009			
Total	3207,694	175				
Corrected Total	403,693	174				

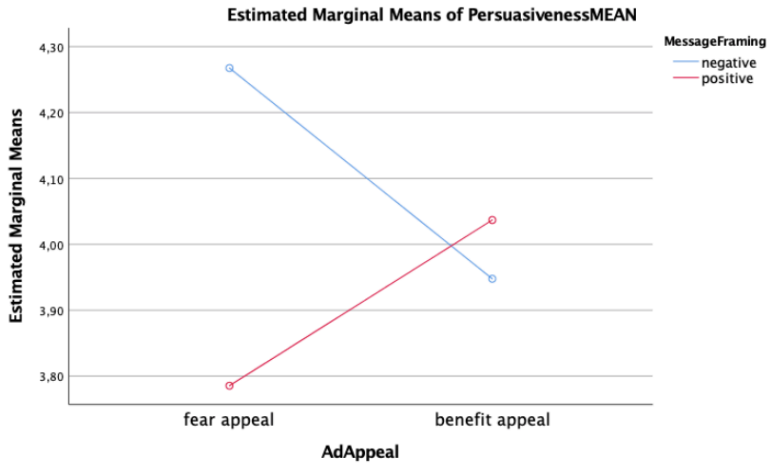
Tests of Between-Subjects Effects

Dependent Variable: PersuasivenessMEAN

Source	Noncent. Parameter	Observed Power[b]
Corrected Model	32,941	,996
Intercept	15,015	,971
AdAppeal	,023	,053
MessageFraming	,762	,140
NicDepend	17,021	,984
VulnerabilityMEAN	5,901	,676
eta	15,835	,977
AdAppeal * MessageFraming	1,607	,243
Error		
Total		
Corrected Total		

a. R Squared = ,164 (Adjusted R Squared = ,134)

Profile Plots



Covariates appearing in the model are evaluated at the following values: NicDepend = ,0000, VulnerabilityMEAN = 4,6789, Per favore, indica la tua età: = 30,3143

Univariate Analysis of Variance 3

Between-Subjects Factors

		Value Label	N
AdAppeal1	,00	fear appeal	61
	1,00	health benefit appeal	61
	2,00	money benefit appeal	53
MessageFraming	,00	negative	87
	1,00	positive	88

Descriptive Statistics

Dependent Variable: Mot.ToQuitMEAN

AdAppeal1	MessageFraming	Mean	Std. Deviation	N
fear appeal	negative	4,2222	1,32565	30
	positive	3,7419	1,75902	31
	Total	3,9781	1,56687	61
health benefit appeal	negative	4,0323	1,72853	31
	positive	4,0556	1,70211	30
	Total	4,0437	1,70128	61
money benefit appeal	negative	4,1026	1,77581	26
	positive	4,0247	1,91022	27
	Total	4,0629	1,82815	53
Total	negative	4,1188	1,59940	87
	positive	3,9356	1,77312	88
	Total	4,0267	1,68664	175

Levene's Test of Equality of Error Variances[a]

Dependent Variable: Mot.ToQuitMEAN

F	df1	df2	Sig.
1,424	5	169	,218

Tests of Between-Subjects Effects

Dependent Variable: Mot.ToQuitMEAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	101,255[a]	8	12,657	5,336	,000	,205
Intercept	46,262	1	46,262	19,504	,000	,105
AdAppeal1	,054	2	,027	,011	,989	,000
MessageFraming	2,046	1	2,046	,863	,354	,005
NicDepend	90,177	1	90,177	38,019	,000	,186
VulnerabilityMEAN	12,294	1	12,294	5,183	,024	,030
eta	14,963	1	14,963	6,308	,013	,037
AdAppeal1 * MessageFraming	1,502	2	,751	,317	,729	,004
Error	393,732	166	2,372			
Total	3332,444	175				
Corrected Total	494,987	174				

Tests of Between-Subjects Effects

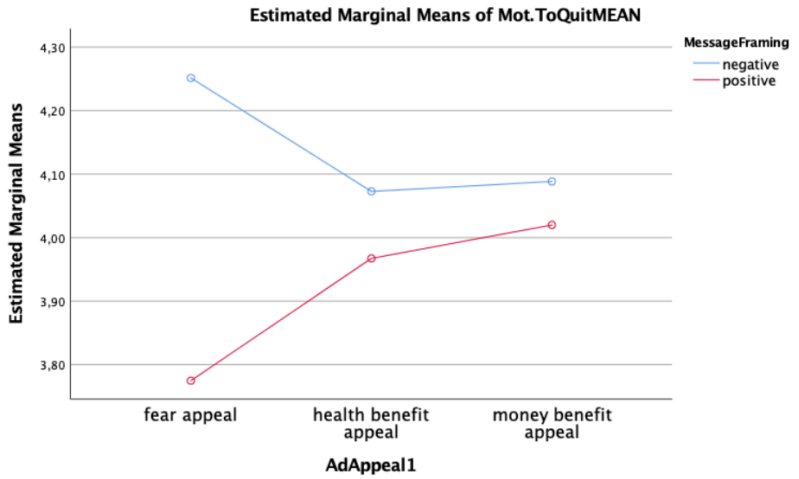
Dependent Variable: Mot.ToQuitMEAN

Source	Noncent. Parameter	Observed Power[b]
Corrected Model	42,690	,999
Intercept	19,504	,992
AdAppeal1	,023	,052
MessageFraming	,863	,152
NicDepend	38,019	1,000
VulnerabilityMEAN	5,183	,619
eta	6,308	,704
AdAppeal1 * MessageFraming	,633	,100
Error		
Total		
Corrected Total		

a. R Squared = ,205 (Adjusted R Squared = ,166)

b. Computed using alpha =

Profile Plots



Covariates appearing in the model are evaluated at the following values: NicDepend = ,0000, VulnerabilityMEAN = 4,6789, Per favore, indica la tua età: = 30,3143

Univariate Analysis of Variance 4

Between-Subjects Factors

		Value Label	N
AdAppeal1	,00	fear appeal	61
	1,00	health benefit appeal	61
	2,00	money benefit appeal	53
MessageFraming	,00	negative	87
	1,00	positive	88

Descriptive Statistics

Dependent Variable: PersuasivenessMEAN

AdAppeal1	MessageFraming	Mean	Std. Deviation	N
fear appeal	negative	4,2056	1,27358	30
	positive	3,7688	1,37415	31
	Total	3,9836	1,33288	61
health benefit appeal	negative	3,6237	1,52508	31
	positive	3,8444	1,56343	30
	Total	3,7322	1,53517	61
money benefit appeal	negative	4,3590	1,61293	26
	positive	4,3148	1,75675	27
	Total	4,3365	1,67162	53
Total	negative	4,0441	1,48908	87
	positive	3,9621	1,56362	88
	Total	4,0029	1,52318	175

Levene's Test of Equality of Error Variances[a]

Dependent Variable: PersuasivenessMEAN

F	df1	df2	Sig.
,453	5	169	,811

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.[a]

a. Design: Intercept + AdAppeal1 + MessageFraming + NicDepend + VulnerabilityMEAN + eta + AdAppeal1 * MessageFraming

Tests of Between-Subjects Effects

Dependent Variable: PersuasivenessMEAN

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	76,023[a]	8	9,503	4,814	,000	,188
Intercept	31,849	1	31,849	16,135	,000	,089
AdAppeal1	9,815	2	4,907	2,486	,086	,029
MessageFraming	,539	1	,539	,273	,602	,002
NicDepend	34,903	1	34,903	17,682	,000	,096
VulnerabilityMEAN	10,683	1	10,683	5,412	,021	,032
eta	31,364	1	31,364	15,889	,000	,087
AdAppeal1 * MessageFraming	3,158	2	1,579	,800	,451	,010
Error	327,670	166	1,974			
Total	3207,694	175				
Corrected Total	403,693	174				

Tests of Between-Subjects Effects

Dependent Variable: PersuasivenessMEAN

Source	Noncent. Parameter	Observed Power[b]
Corrected Model	38,514	,998
Intercept	16,135	,979
AdAppeal1	4,972	,494
MessageFraming	,273	,081
NicDepend	17,682	,987
VulnerabilityMEAN	5,412	,638
eta	15,889	,977
AdAppeal1 * MessageFraming	1,600	,185
Error		
Total		
Corrected Total		

a. R Squared = ,188 (Adjusted R Squared = ,149)

b. Computed using alpha =

SUMMARY OF THESIS

Background Information on Anti-Smoking Campaigns

According to Proctor (1996), anti-tobacco campaigns were firstly widely publicized by Nazis in Hitler's Germany in the 1933-1945 period. Even if multiple studies about "lung cancer correlation with smoking" come out in the late 1950s, it's only in the '90s that the anti-tobacco war movements started to publicly discourage smoking and show smoke health consequences through advertising campaign. In 1965 warning messages in tobacco packages started to appear, due to the "Cigarette Labelling and Advertising Act", with the scope of enhancing the public's awareness about the dangerous effects of smoking. Recently, in 2012, Australia was the first country to introduce "Plain Tobacco Packaging" to standardize cigarettes packaging and dilute the brand effect on smokers. Finally, in 2014, the European Tobacco Products Directive introduced health warning pictures to cover 65% of the cigarettes packages, a strategy proven to be effective on influencing smokers purchase behaviors.

According to the World Health Organization, Tobacco kills 8 million people each year, 88% from direct use and the remaining percentage from second hand smoke. One out of two smokers dies by smoke-related diseases. A 2014 study by OSSFAD showed that 22% of the Italian population smokes regularly, corresponding to 6,2 millions of men and 5,1 millions of women. The same study reported that in 2017, the percentage of male smokers decreased to 6 millions while the percentage of women smokers boosted to 5,7 millions, increasing the overall Italian smoking population by 3% (22,3%) (Indagine DOXA-ISS 2014; indagine DOXA-ISS 2017).

Even if smoking is socially less acceptable nowadays and despite the strict anti-smoking laws, still 22% Italian population, smokes , according to 2017 statistics. It is therefore evident that there is a need for more persuasive and novel anti-smoking campaigns.

Purpose of the study

The purpose of this study is to understand which type of ad appeal has higher influence on smokers' intention to quit and perceived effectiveness of the message. In particular I will be comparing fear appeal versus benefit appeal. One shows the negative consequences of smoking, the other is based on the benefits of quitting i.e positive consequences of not smoking based on protection motivation theory. Then I will be comparing different type of Message framing, gain versus loss, with the claim that a message positively framed has higher effectiveness than a negatively framed one. I will then use the message framing as a moderator of the relationship between message appeal and intention to quit- perceived effectiveness of the message. Therefore, my research question will be:

Research Question: ***what kind of ad appeal has higher influence on smokers' intention to quit in antismoking campaigns?***

Scientific Relevance

The literature gap that I'm addressing to is to study the combined effect of message positive framing with benefit appeal on smokers intention to quit and their perceived effectiveness of the message. Besides I compare benefit appeal to fear appeal which is the most commonly used so far in anti-smoking campaigns.

Finally, I will investigate previous findings on an Italian sample of smokers, where there is a lack of studies about, in marketing literature.

Managerial Relevance

The findings of this study, could make a contribution to the "Anti-smoking ad appeal" topic, clarify some doubts about the performance of some ad appeals and suggest some interesting ideas to Campaign makers in order to improve the quality of the message delivered and increase the effectiveness of the war on addictive behaviors.

The findings of this study will be also useful to other social marketing campaigns focus on addictive dangerous behavior such as drug use or alcohol abuse. Advertising agencies, marketing

communication managers and public authorities might learn from this study and design more effective campaigns based on these findings.

Anti-Smoking Advertising Campaigns

An advertising appeal, according to the Oxford Dictionary of Media and Communication, is a rhetorical mode of persuasion implicit in the advertising's psychology. Generally, ad appeals are divided into rational or emotional, positive or negative or based on hierarchical systems. As Dix & Marchegiani (2013) suggest, an appeal is " *the sticky glue that hooks the reader or viewer to the advertising message"* originating the creative context of the message and giving consistency to the campaign.

The main appeal analyzed in this thesis related to anti-smoking campaigns is fear appeal, the most commonly used in addictive behavior prevention campaigns. Other types of commonly utilized appeals are disgust, humor or emotional.

The Fear Appeal

Past research about fear appeal on anti-smoking campaign has discordant opinions. Fear appeal is a threat-based appeal on an individual's well-being to motivate him toward an action (in this thesis, smoking cessation)**,** it has been the most widely utilized appeal in social marketing and has been previously analyzed showing contrasting results(Williams 2012).

Witte and Allen (2000) in their review about fear-appeal literature said that the greatest behavioral changes are generated by strong fear appeal together with high-efficacy messages, because in presence of low-efficacy messages accompanied by strong fear appeal, the ad will generate the highest levels of defensive response from the audience.

In a context of addictive behavior, Gallopel and Valette-Florence (2002) suggested using fear-appeal ad to increase the efficiency of the anti-smoking campaign**.**

Durkin et al (2012) has found that when comparing different ad message types, those based on negative health effects are the most effective at generating increased knowledge, beliefs, or quitting behavior in their study about mass media campaign promoting smoking cessation. According to

Manyiwa and Brennan (2012) fear appeal effectiveness is enhanced by leveraging on an individual' self-efficacy. In order to discourage undesirable addictive behavior, such as smoking, Manyiwa and Brennan (2012) suggested to advertisers to consider the target' self-efficacy combined with fear appeal of the message. High self-efficacy is therefore necessary to rise intention of adopting a cessation programs.

Durkin, Brennan, Wakeield (2012) supported previous findings about fear-appeal effectiveness and asserted that while other appeal generate mixed evidence, there's no doubt about the effectiveness of showing negative health effect as fear-appeal into generating knowledge in the audience, positive effectiveness and higher quitting behavior.

In the same line, Emery et al (2014) has reported that fear-based media campaign with showing graphic imagery and strong content are better received/processed by the targeted audience of smokers than other type of appeals.

Zhao et al (2019) work has compared fear vs humor appeals in the context of prevention campaign and discovered that campaign messages featuring serious and frightening threats are more likely to be recalled and perceived to be more effective than humorous appeals.

There are some published studies indicating fear appeals are not effective. Fear appeal ineffectiveness is supported by Hastings and MacFadyen (2002). They state that fear messages are based on a rational model of decision making while the decision to smoke is not made rationally by smokers. Overtime, this kind of approaches become less effective; smokers are already conscious of negative consequences, they already want to quit and the repetition of the same message diminishes its power.

A study conducted in Australia by Amonini, Pettigrew, Clayforth (2015) found that, when smokers find themselves as a part of a small minority and it exists a supportive legislation to discourage smoking in public areas, the use of shame appeals could be effective in motivating them to quit.

According to Akyuz (2017), smokers don't like to be reminded about health risks associated to cigarette usage, they can be color-blind to messages reminding of negative consequences, resulting hence in the ineffectiveness of fear appeal advertisement.

Message Framing in Anti-Smoking Campaigns

According to Wicks (2005), a message framing is a range of meaning through which messages may be understood by the audience. The way the message is received and processed by the audience is strictly correlated to the framing of it. According to the framing effect, which is a cognitive bias observed when individual choices are influenced depending on the way the message is presented: in terms of loss or in terms of gains (Gonzalez et al 2005).

Fear appeal-based messages are loss framed, meaning that they display the loss deriving from smoking, in terms of health, external beauty decadence or money.

When taking a decision under risky circumstances, (such as the decision of smoking) individuals behave, according to what is call the prospect theory (Kahneman and Tversky,1979). When the situation involves a sure gain, people are risk adverse, while they become risk seeking when there's a sure loss involved, hence resulting in a choice "biased" by the framing of the message.

Hence, smoking cessation is a preventive behavior, which is *"any activity undertaken by a person who believes himself to be healthy for the purpose of preventing disease… in an asymptomatic stage"* (Kasl and Cobb 1966), which has a certain outcome or sure gain (disease prevention) and according to the aforementioned prospect theory, gain framing as an anti-smoking message should be more effective than loss framing it (disease catching).

Wong and McMurray (2002) discovered that smokers processed gain framed messages with more cognitive effort than loss framed i.e. negative messages, showing a higher interest due, maybe, to the fact that they are accustomed to loss-framed messages.

Gonzalez et al (2005) analyzes individuals taking decision under risk and discovered that the cognitive effort taken while selecting a sure gain choice was significantly lower than the one required to choose a risky one.

Toll et al (2007) in a smoking cessation clinical trial, affirm that smoking cessation campaign are more effective if they display the gains associated with quitting instead of focusing on the losses deriving from continued smoking.

Mollen et al (2017) study about cigarettes warning labels shows higher efficacy of gain-framed messages, specially when combined with short term consequences (such as money-saving)**,** in influencing smokers intention to quit.

Protection Motivation Theory and Antismoking Campaigns

The impact of anti-smoking messages and their effectiveness in influencing smoking behaviors can be explained by the "Protection Motivation Theory" (Rogers 1983). According to which, a person's motivation/ intention to protect himself/ herself from damage is increased by the perception of four elements: severity of the risk, vulnerability to the risk, self-efficacy in completing the harm-reducing behavior and efficacy of the response at the behavior.

Conceptual model

According to what previously said and past research about the topic, the aim of this study will be to test again the fear appeal, due to the contrasting results reported by other researches, and comparing it against the appeal based on showing all the benefits of not smoking, called the benefit appeal. The two appeals will be tested in their capability of influencing the smokers intention to quit smoking and their perceived effectiveness of the message.

Therefore, the first hypothesis will be:

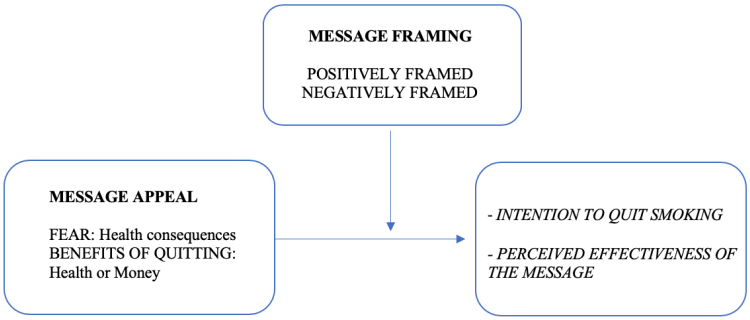
H1: Benefit appeal has higher intention to quit smoking and higher perceived effectiveness of the message than fear appeal.

The second hypothesis will be that positively framing the message could generate better results, hence:

H2: Positively framed ad message will generate higher intention to quit smoking and higher perceived effectiveness of the message than negatively framed ad message.

The third and last hypothesis will be:

H3: The effect of benefit appeal on intention to quit smoking and perceived effectiveness of the message is higher when the message is positively framed.



Methodology

This thesis is a causal research which uses an online experiment to test cause-effect relationships. Primary data will be collected online because it's an easy and fast way to collect them. The sampling method that will be used is "non-probability sampling: convenience sampling" because it's a method that allows to select easily accessible elements of a certain population.

The target population is made of Italian smokers who are 18 years old and older.

Procedure

A sample of *at least* 180 (30 x 6 scenarios) Italian respondents (will be recruited through a web link delivered by instant messages platform. The sample was subjected to an online survey realized with Qualtrics software. The experiment presented a 3x2 between-subjects design and participants were randomly assigned to 3 different appeal conditions (2 different Benefit Appeals, 1 Fear Appeal) and 2 different message framing conditions (Positively vs negatively) by showing them 6 different scenarios based on print advertising for an antismoking campaign.

The format of the images, the model, the color and the character remained the same across all the different scenarios, except for the copy that changed based on the condition with the message and image manipulation of the same model. The ads reported a young surprised woman in a blue background together with a copy that changed based on the condition.

The following table (Table 2) summarizes the structure of the surveys: the measured constructs, the scales and their sources.

Table 2: constructs, scales and sources

MEASURE	*ITEM*	*SCALE*	*REFERENCE*
Intention to quit smoking	- *Hai pianificato di smettere di fumare nei prossimi 6 mesi?*	5 points Likert scale (likely-unlikely) metric	Hummel et al (2018)
Motivation to quit smoking	-*Indica la tua motivazione a smettere di fumare:* • *Non voglio smettere di fumare* • *Penso che dovrei smettere ma non voglio* • *Voglio smettere di fumare ma non ho ancora pensato a quando farlo* • *Voglio davvero smettere di fumare ma non so quando lo farò* • *Voglio smettere di fumare e spero di farlo presto* • *Voglio davvero smettere di fumare e intendo farlo nei prossimi 3 mesi* • *Voglio davvero smettere di fumare e intendo farlo il prossimo mese*	Motivation to stop scale metric	Hummel et al (2018)
Persuasiveness of the message	-*In che misura reputi che la pubblicità sia:* • *vale la pena ricordarla* • *ha attirato la mia attenzione*	7 points Likert scale (agree-disagree) metric	Davis et al (2017)

	• *è stata efficace* • *è stata informativa* • *è stata significativa* • *è stata convincente*		
Attention check-Message framing	*-La pubblicità che hai appena visto contiene principalmente:* • *Ragioni per cui smettere di fumare sia un bene* • *Ragioni per cui smettere di fumare sia un male* • *Ragioni per cui NON smettere di fumare sia un bene* • *Ragioni per cui NON smettere di fumare sia un male*	Nonmetric(nominal)	Wong, Carissa & McMurray, Nancy (2002)
Manipulation check-Benefit appeal	*-La pubblicità che hai appena visto enfatizza:* • *I benefici dello smettere di fumare i..e. profitto* • *I costi del fumo i.e. danno*	metric	Lee, Liu, Cheng (2018)
Manipulation check-Fear appeal	*-In che misura la pubblicità ti ha fatto sentire:* • *Spaventato* • *Nervoso* • *A disagio* • *Nauseato*	Multi-item scale (agree-disagree) metric	Arthur, Quester (2004).

	• *Impaurito* • *Teso*		
Ad attitude	*-Pensi che la pubblicità sia:* • *Non reale-reale* • *Non diversa-diversa* • *Non persuasiva-persuasiva* • *Non mi è piaciuta per niente- mi è piaciuta tanto*	7 points Likert scale (not at all, a lot) metric	Andrews et al (2004)
Severity and Vulnerability to the Health risks	*-Quanto reputi gravi le seguenti conseguenze del fumo:* • *Morte prematura* • *Contrazione di malattie* • *Dipendenza da nicotina* • *Inalazione di veleni* • *Invecchiamento precoce* • *Fumo passivo Danno ai minori* *-Quanto reputi probabile che le seguenti conseguenze occorrano a te:* • *Morte prematura* • *Contrazione di malattie* • *Dipendenza da nicotina* • *Inalazione di veleni* • *Invecchiamento precoce* • *Fumo passivo Danno ai minori*	7 points Likert scale (not at all, a lot) metric	Pechmann et al (2003)

Social influence	*-Hai fratelli/sorelle fumatori/fumatrici?* *-C'è un fumatore adulto nel tuo nucleo familiare?* *-Tra i tuoi 4 amici più stretti, c'è un fumatore?*	Nonmetric (nominal)	Andrews et al (2004)

Testing Reliabilities and Validity of Multiitem scales

In order to test scales' validity I will perform a confirmatory factor analysis which, among the many purposes, it is used in marketing research to identify underlying dimensions, in data, that explain the correlation between a set of variables. Reliability of the scales allows us to determine the consistency of a measure, meaning that the obtained scores can be replicated in a consistent and accurate way over time. It will be measured through the Cronbach's alpha index.

Testing Manipulation Check

In order to test manipulation check I will perform an Independent sample t-test which tests whether the means of two independent groups, those who received the benefit appeal and those who received the fear appeal, are equal.

Testing hypotheses

In order to test my hypothesis I will use a Two-way Anova, since that there are two factors that need to be analyzed: X1 Ad appeal and X2 (moderator) Message framing. Anova will allow me to test not only the significance of the overall effect but also the significance of the interaction effect (X1*X2).

FACTOR 1 MESSAGE APPEAL

FACTOR 2 MESSAGE FRAMING		BENEFIT 1: MONEY	BENEFIT 2: HEALTH	FEAR
	POSITIVE	Group1	Group 3	Group 5
	NEGATIVE	Group2	Group 4	Group 6

Results

Out of 180 responses, 175 were retained as 5 answers were incomplete (DV had missing values). Among these 175 respondents, 109 were male (62,3%), 66 were women (37,7%) with a an average age of 30 years (*M= 30,314*, *SD= 10,04*). Table 4 summarizes how respondents were randomly assigned to different scenarios.

Table 4

	Message Appeal			
Message framing	BENEFIT 1: *MONEY*	BENEFIT 2: *HEALTH*	FEAR	**Total**
POSITIVE	27	30	31	***88***
NEGATIVE	26	31	30	***87***
Total	***53***	***61***	***61***	***175***

Testing Reliabilities

Reliability has been tested through the Cronbach's alpha index, showing good scores for the following scales:

SCALE	SCORE
Persuasiveness of the message	0.914
Ad attitude	0.719
Perceived vulnerability to the Health risk	0.859
Perceived severity of the Health risks	0.842

Regarding Motivation to quit scales, the first two items were reversed (*I don't want to stop smoking, I think I should stop smoking*) obtaining a Cronbach's Alpha of *0.706.* By checking Cr*onbach's Alpha if item deleted,* item 3 and 4 were deleted *(I want to stop smoking but haven't*

thought about when, I really want to stop smoking but I don't know when I will), because alpha increased from 0.749 to 0.778 which is acceptable.

All the items reported a score bigger than 0.7 meaning that their reliability is confirmed, therefore these scores can be replicated over time in a consistent and accurate way (see Appendix 1).

Testing Validities

Scale validity has been tested through a confirmatory factor analysis. A first factor analysis was launched with items of fear perception (for manipulation check), motivation to quit and perceived effectiveness, used as dependent variables in analysis.

4 factors reported an Eigenvalues above 1 and explained 73% of variance. However already three factors explain more than 60% variance (see Appendix 1.)

Items of Fear and Perceived effectiveness reported good communality values (above 0.5) and have sufficient loadings and load on relevant factor. Therefore scale means were created using all of their items (ManiFearMEAN with 6 items and PersuasivenessMEAN with 6 items).

Items 5-6-7 load on factor 3 and are about intention to quit , hence they were used to create the scale mean Mot.ToQuitMEAN. A second factor analysis was then run on the remaining constructs and a fixed number of 3 factors was asked (Ad attitude, Severity and Vulnerability to the Health risks. The Ad attitude constructs (with three items) reported good communality values (above 0.5) and loaded in one factor, therefore all the three items were used to create the scale mean (AdAttitudeMEAN). Regarding Vulnerability, items 6 (Vul6) and 7 (Vul7) loaded on wrong factor, therefore they were excluded from the scale mean (SeverityMEAN and VulnerabilityMEAN).

Testing Manipulation Check

To test whether ad manipulation were successful, and independent sample t-test was run.

The results were significative ($t = -2.52$, $p<0.05$) and reported higher scores for the fear appeal group (*M= 2.97*) compared to the benefit appeal group (*M= 2.39*) (see Appendix 3). Fear manipulation was successful.

Message framing manipulation has also been checked with an independent sample t-test using two variables. The mean of the positive framing group (*M= 5.44*) was higher than the mean of the negative framing group (*M= 4.66*) for the first question about the benefits (t=-2.933, $p < 0.05$). Positively framed messages were indeed perceived as positive "benefits".

However negatively framed messages were not perceived as negative "loss" as intended. So, this means that loss messages might not work in hypothesis testing because manipulation was not sufficiently good.

Testing hypotheses

In order to test hypothesis, a Two-way Anova was run 4 times: the first two were launched to analyze the influence of IV Ad appeal on DVs Motivation to quit and Perceived effectiveness, while the second two were run to analyzed the influence of IV alternative Ad appeal 1 on DVs motivation to quit and perceived effectiveness and which benefit appeal is more effective, 'money' benefit or 'health' benefit.

Test 1: the effect of ad appeal and message framing on motivation to quit. (Appendix 6)

The F test revealed an effect of independent variables on motivation to quit *(F=7.197, p< 0.05).* However, the main effect analysis showed that ad appeal effect was not significant *(F=0.009, p> 0.05)* as well as message framing *(F=1.34, p> 0.05).* There was no significant interaction between the effect of ad appeal and message framing on motivation to quit *(F=0.639, p> 0.05).* Therefore, message framing is not a moderating effect between ad appeal and motivation to quit.

Test 2: the effect of ad appeal and message framing on perceived effectiveness (Appendix 6).

The second Anova test measured the main effect of ad appeal on DV perceived effectiveness, and the interaction effect between ad appeal and message framing.

The F test revealed an effect of independent variables on perceived effectiveness *(F=***5.49***, p< 0.05).* However, the main effect analysis showed that ad appeal effect was not significant *(F=0.023, p> 0.05)* as well as message framing *(F=0.762, p> 0.05).* There was no significant interaction between the effect of ad appeal and message framing on perceived effectiveness *(F=1.60, p> 0.05).*

Therefore, message framing is not a moderating effect between ad appeal and perceived effectiveness.

Test 3: the effect of ad appeal 1 and message framing on motivation to quit (Appendix 6).

The third Anova test measured the main effect of ad appeal 1 (IV alternative) on DV motivation to quit, and the interaction effect between ad appeal 1 and message framing.

The F test revealed an effect of independent variables on motivation to quit *(F=***5.33** *, p< 0.05).* However, the main effect analysis showed that ad appeal 1 effect was not significant *(F=0.011, p> 0.05)* as well as message framing *(F=0.863, p> 0.05).* There was no significant interaction between the effect of ad appeal 1 and message framing on motivation to quit *(F=0.317, p> 0.05).* Therefore, message framing is not a moderating effect between ad appeal and motivation to quit.

Test 4: the effect of ad appeal 1 and message framing on perceived effectiveness (Appendix 6).

The fourth Anova test measured the main effect of ad appeal 1 on DV perceived effectiveness, and the interaction effect between ad appeal 1 and message framing.

The F test revealed an effect of independent variables on perceived effectiveness *(F=***4.81***, p< 0.05).*

However, the main effect analysis showed that ad appeal effect 1 was not significant *(F=2.48, p> 0.05)* as well as message framing *(F=0.27, p> 0.05).* There was no significant interaction between the effect of ad appeal 1 and message framing on perceived effectiveness *(F=0.80, p> 0.05).* Therefore, message framing is not a moderating effect between ad appeal 1 and perceived effectiveness.

General discussion

Results reported an effect of IVs (ad appeal and message framing) on Dvs (perceived effectiveness of the message and motivation to quit smoking), however they were not significant hence not replicable on a population.

Both ad appeal (fear vs benefit) and ad appeals 1 (fear, health-benefit, money-benefit) showed no significant effect on motivation to quit and perceived effectiveness, as well as message framing, that it is not a moderating effect between IVs and DVs.

All three hypothesis were not confirmed unfortunately, therefore we cannot conclude that ad appeals based on benefit are more effective in influencing motivation to quit and perceived effectiveness than other ad appeal, such the fear one.

Scientific and Managerial Implications

This study confirms previous literature about the topic, making necessary to further analyze the question, to better understand which appeal and message framing are more effective.

From a managerial point view, this study does not confirm previous research about the preeminence of gain appeal vs loss appeal (Toll et al 2007, Gonzalez et al 2005).

Research still has to investigate the topic in order to suggest better strategies to policy makers. At the current state of affairs, fear appeal remains the most used appeal in campaign to prevent addictive behaviors and literature has shown its effectiveness even if contrasting results have also been reported.

This study suggests that: by taking a glance at the four graphs reported in the chapter 4 last paragraph, we can notice how to use message framing in an efficient way.

Negatively framed messages based on fear appeal reported higher means (meaning higher motivation to quit) than positively framed one.

Negatively framed messages based on fear appeal reported higher means (meaning higher perceived effectiveness) than positively framed one.

Thus, when discussing which type of message framing should be employed in fear-based ads, findings of this study suggest that negative framing could have better results.

These suggestions could not be replicated , for example, within the benefit appeal where money-based benefit appeal and health-based benefit appeal presented almost no difference in message framing.

Regarding the hypothesis test: it emerged that three variables have an effect on motivation to quit and perceived effectiveness: the audience age, the nicotine dependence level (attested as number of cigarettes smoked daily, years smoking and previous attempts of quitting) and the vulnerability at the health risk. These findings suggest that, when designing an anti-smoking campaign, it is crucial to consider the audience age (young smokers, adults or heavy old smokers) their dependence level to nicotine (some people smoke are fine with just two cigarettes per day, some smoke 20 daily) and how they react and perceived the risks and negative health consequences deriving from smoke. Campaigns addressed to heavy smokers with low health risk vulnerability should be different than campaign targeting young smokers with low levels of nicotine dependence. Developing a specific strategy based on the target could increase the overall effectiveness of the campaign. Hence campaign diversification can increase the chances of reaching a wider target.

Limitations and suggestions for future research

As already stated before, message framing check reported that people did not perceived negative message as loss, suggesting that message manipulation did not work properly. This could have altered the outcome of the study, where people randomly selected for negatively framed message did not perceived them as losses. Further study could replicate this experiment by fine-tuning the message framing manipulation through a survey pre-test on a different sample.

Another interesting result observed here, it's the possible correlation between addictive behaviors such as smoking and significant others. When analyzing questions about nicotine dependence level it emerged an interesting correlation. To the question "Do you have brothers/ sisters smokers?", 70% of respondents said no and 30% said yes. Instead, the following questions reported interesting

answers: when answering “Is there an adult smoker in your family?” almost 60% said yes and a surprising 90% responded yes to the question “Is there a smoker among your closest 4 friends?”.
It is interesting to observe that almost 60% or respondents reported having an adult smoker in their family and 90% reported having a close friend smoker. These findings could be further analyzed by future research to understand what’s kind of influence exists between engaging in addictive behaviors and having significant others, such as friend and family who adopt them.
A focus on this aspect could fine-tune the effectiveness of anti-smoking campaign by delivering tailored message strategies based on the audience to be reached.
A possible strategy deriving from these findings could be to target young potential smokers, son of smokers, in order to discourage them into start smoking and make some anti-smoking prevention.
Another one could be to tackle the significant others problem, by exploiting social shame and isolating addictive behaviors, (such as smoking at a young age) in order to persuade young potential smokers to not follow their friends and instead, help them to quit.
Future research could also test other alternatives of benefit appeal, different than the one employed in this study (health and money). The benefit could, for example, be based on esthetical gains deriving from not smoking or social shame (Amonini, Pettigrew, Clayforth 2015).
Moreover, ads used for the survey, could be developed with a more professional look to trick users into thinking it’s a real anti-smoking campaign.

Conclusions

This study was born with a goal. Starting from the contrasting results, reported by past research, about the effectiveness of the current appeals utilized in anti-smoking campaigns,(Akyuz 2017, Hastings and MacFadyen 2002, Laroche et al 2001), moving to studies about the framing of the message contextualized in anti-smoking campaigns (Toll et al 2007, Gonzalez et al 2005) the aim was to clarify which appeal could lead to better results in terms of quitting behaviors.
Therefore, the fear appeal, commonly employed by policy makers in anti-smoking ads, have been compared to a new kind of appeal: the benefit one, based on health and money. The aim here was to

address a literature gap, the lack of studies about an appeal based on benefits of quitting, like money saving or health improvements. Then, message framing was added to better study whether positively framed messages could enhance ad performances if compared to the mainstream negatively framed one.

The survey has been prepared focusing on the following constructs: *Persuasiveness of the message, Ad attitude, Perceived vulnerability to the Health risk, Perceived severity of the Health risks, Motivation to quit, Fear appeal and Nicotine dependence level.*

Then, 180 respondents have been randomly selected for 6 different scenarios (same ad with different copy) and data have been collected and then analyzed through SPSS. Another gap have been filled: testing ad appeal effectiveness on a sample of Italian respondents.

Fear manipulation was successful, as well as positively framed messages. Unfortunately negative message manipulation did not work properly, so study's results may have been altered. This may be caused, as Akyuz (2017) suggested, by the fact that smokers can be color-blind to messages reminding of negative consequences, resulting hence in the ineffectiveness of fear appeal messages. Showing them a loss-based message does not necessarily mean that smokers perceive it as a loss.

Anyway the three hypothesis were not confirmed, requiring a further analysis about the topic, about ad appeal and message framing. Researchers could pre-test message manipulation, utilize different kind of benefit appeal (beauty or social shame), develop a better visual ad for the survey and focus again on Italian respondents where there's still a lack of research but high number of smokers.

The higher purpose of this research is to contribute to a very crucial topic, which is first of all the war against tobacco and, second of all, taking part in the development of strategies to help individuals in reducing or abandoning an addictive and dangerous behavior, such as smoking or alcohol dependence.

I hope that this study has been helpful to researchers, colleagues, managers or whoever is simply looking for information about the topic.

At the moment I am writing this final chapter, smoke still kills 83.000 (eighty three thousand) people each year, only in Italy (Corriere della Sera) and it's the main cause of death. I firmly believe that further studies about anti-smoking ads will lead to better and innovative solutions, that will help policy makers into fighting smoke dependence and reduce these negative numbers.