**The effect of crime perception and information format on tourists’ willingness/intention to travel**

**1. Introduction**

As Kelvin J. Lancaster (1966) states in his seminal paper, consumers do not derive utility directly from goods; instead they derive it from the properties or characteristics of the goods. As a consequence, preference ordering is the result of ranking and comparing individual features of different goods or commodities.

Based on this view, a tourist, when choosing a destination to visit, even if the set of characteristics offered by one destination is very specific and highly valued, may switch to another option when faced with a particularly undesirable feature such as the presence of crime or a safety-related issue. For example, a traditional sun and sand destination will find itself vulnerable to danger, as a tourist could change to a destination that is very similar but without danger.

The main threats for tourists reported in the literature are crime, terrorism, political instability, health concerns and natural disasters (Pizam & Mansfeld, 1996). With respect to crime, we find an extensive literature investigating its relationship with tourism. The main view is that tourism may stimulate the economic activity of a region, which, as Gould et al. (2002) point out, could result in more job opportunities for residents and hence a lower crime rate. On the other hand, a higher inflow of tourists may also result in an increase in crime rate as it constitutes a stronger incentive for crime to act. Therefore, in this case, crime would be considered as an externality produced by the presence of tourism. Given the endogenous relationship between tourism and crime, the overall effect is not yet clear and it remains an empirical question.[[1]](#footnote-1) This line of research includes McPheters & Stronge (1974) for the case of Miami, Jud (1975) for Mexico, and Albanese (1985) for Atlanta.

Within the literature relating tourism and crime, the effect of crime perception on tourists’ intention to travel to a destination is a research topic that is of particular relevance for this study. For instance, it has been shown that crime perception can change tourists’ intention to visit a destination. Barker et al. (2003) state that fear of insecurity is just as relevant as a real act of crime in terms of its impact on tourist intention to visit the destination. Destinations perceived as dangerous are prone to lose new tourists, reduce the intention to revisit, spread negative recommendations and deteriorate the overall destination image. Along the same lines, [Sönmez and Graefe (1998)](#_ENREF_26) found that crime perception is affected by tourists’ past experience and therefore affects their future intention to visit a destination. However, some other results from the literature point in the opposite direction. Holcomb and Pizam (2006) and George (2010), for instance, found that tourists who personally experienced acts of crime would still revisit the destination.

For a person, risk perception of a tourist destination is the result of individual beliefs derived for instance by the type of information available at the moment of taking the decision to travel, by previous experiences on similar destinations or by several other potential factors, many of them analyzed in the literature (e.g. Reisinger & Mavondo 2005). Consequently, risk perception is a construct that is always considered and examined in concomitance with other variables. Consider for instance the case in which you visit a destination with a native friend born in that particular place. Even if you might have a certain prior over the level of insecurity of the destination, the fact that you go with a friend may alter your perception of risk and consequently it becomes impossible to clearly isolate its effect on your decision to travel. Or consider the case you have been visiting a country and now you are deciding whether to return even if you heard about recent episodes of crime. Again, your previous experience might magnify, reduce or somehow alter your risk perception of that particular country (Sönmez & Graefe 1998). As a consequence, even if the researcher seeks to measure the effect of risk perception on the intention to travel, the presence of potentially strong interactions between many “confounding” variables increases substantially the difficulty of finding a correct identification strategy.

With this premise, a natural question would be: Could it be possible to properly isolate risk perception and then finding its effect on the decision to travel? In fact, this paper wants to fill this gap as we believe that answering this question would be particularly beneficial for policy makers, especially for those operating in countries in which tourism is one of the main drivers of economic growth. They must understand how tourists are affected by crime threat. For instance, if policy makers do not include costs related to the crime externality in their tourism cost-benefit analysis, investment will be insufficient to ensure tourists’ security. Considering the relevance of the topic from a tourist perspective, we analyze the effect of crime perception on the willingness to travel to a destination by means of a randomized laboratory experiment in which we use Colombia as the proposed destination of interest. We aim at capturing the immediate impact of including the perception of crime on individuals’ willingness/intention to travel to a destination for which we have previously only shown its positive attributes. To fulfill this objective, we use priming techniques in which we expose subjects to a specific stimulus using different video messages. Priming operates from the assumption that people form attitudes based on the considerations that are most salient when they make decisions (Hastie & Park, 1986).

We design four experimental treatments. In the first treatment participants are exposed to a documentary video of Colombia in which only positive features of the destination are highlighted, while in the second treatment participants are exposed to the same video extended with a second part in which issues related to crime and violence are presented for the purpose of enhancing the subjects’ crime perception of the country.

Treatments three and four are exactly symmetrical to the first two, but instead of using a documentary format we use a video with TV news type format, from the Colombian TV channel Caracol, where the message is delivered directly by the presenter. By proposing and comparing two different formats in which priming is performed, we are also able to study whether the magnitude of the treatment effect depends on the format in which the message is delivered. Results show a considerable impact of the introduction of crime perception on the willingness to travel to the destination. Additionally, the message results to be sensitive to the format in which it is delivered.

The paper is structured as follows. First, we highlight its main contributions to the literature and correspondent set of hypotheses of the study. Second, we briefly introduce Colombia as a tourist destination with outstanding natural resources but also safety issues. Third, we introduce the experimental design, and the results obtained. We conclude with a discussion of the results and their policy implications.

**2. Literature Review**

This paper relates and contributes to two strands of literature in tourism and in communication. The first examines the effect of crime and the risk perception of a destination on tourists’ intention to travel. According to this literature the perception of risk or unsafety has important implications in the selection process of the destination to visit. From a general perspective, if a tourist has a preconceived opinion of a destination as characterized by risk and safety problems he or she will not visit that destination. For example, those persons perceiving terrorism as a risk would like to avoid visiting the Middle East (Sonmez & Graefe 1998) or those worrying about danger derived from the quality of food and water would be more likely to avoid traveling to Africa and Asia (Lepp & Gibson, 2003). Individual perception of risk has also been shown to be substantially affected by the arrival of new pieces of information reporting for example episodes of violence or political tensions in a country. In this case, a destination might be immediately excluded from the previously considered options (Brunt, Mawby, & Hambly, 2000 ; Faulkner, 2001).

Generally, from the literature we derive a negative relationship between a tourist’s country risk perception and his or her intention or willingness to visit that country (e.g. Fuchs & Reichel 2011; Kozak, Crotts & Law 2007). However, we also notice that this relationship has been found to be sensitive to several factors such as the experience of the traveler (Lepp & Gibson, 2008) or having previously visited the same destination (Fuchs & Reichel 2011; Sönmez & Graefe 1998), among others.

We argue that the interaction of all these potential confounding factors within the main relationship of interest increases the difficulty in disentangling the direct and immediate effect of crime perception of a country on the intention or willingness to visit that country. Therefore, in this paper we want to fill this gap by providing a clear causal link by means of a controlled laboratory experiment. Specifically, in our setting, we use priming techniques to raise subjects’ crime perception of a particular destination and afterward we measure their willingness/intention to travel to that destination. Thus, we test the two following hypotheses:

**H1:** Exposure to a documentary format video with negative tourist attributes of a country negatively affects subjects’ willingness/intention to travel to the country.

**H2:** Exposure to a TV news format video with negative tourist attributes of a country negatively affects subjects’ willingness/intention to travel to the country.

Second, we contribute to the literature on consumer reactions to different media formats in communicating risk messages. This literature builds on the influential work of Kahneman & Tversky, (1982), who were the first to recognize, within the framework of prospect theory, the existence of the framing effect. Basically, they showed that, contrarily to traditional economic theory, the framing of choices can have profound consequences on people’s decision making process and particularly on respondents’ perception of risk (Tversky & Kahneman 1986). Following this line, several studies highlighted how different frames in the news can have diverse consequences on the public interpretation of facts and events (Iyengar & Kinder, 1987 ; Neuman, Just, & Crigler, 1992 ; Norris, 1995).

Related to our study is the work of Chipman et al. (1996) on audience response to risk communication messages delivered in different formats. They studied the effect of four different media formats (video news release, video public service announcement, print news release, and newsprint column) on consumer perception with respect to the risk of using agricultural chemicals in the food supply. They found that consumer perception differed depending on the format and that the audience preferred video news release and newsprint column approaches. Similarly to the work of Chipman et al. (1996), in our study we test two different formats in which the same information is delivered to the audience, i.e. documentary format and TV news format, although we add some important features. First, instead of evaluating the format per se, we are interested in the effect of the format on the audience’s subsequent choice. Second, we provide quantitative measurement of such effect, and third, we use a random sample of the population studied, increasing external validity of the overall result.

Our approach also relates to the recent work of Brown (2015), who found that prolonged exposure to broadcast media’s framing of a crime episode in a country has a dramatic impact on tourism demand for the country. We complement Brown (2015), as we are instead capturing the immediate effect of a TV news item on tourist intention to visit a country. Given the result reported in Chipman et al. (1996), in which the audience shows a preference for news type format, and considering the strong effect on tourism demand highlighted in Brown (2015), we speculate that a TV news format would be more effective and therefore have a stronger impact than a documentary format in supplying the same information to the audience. Therefore, we test the two following hypotheses:

**H3:** For negative news, the effect of priming on the willingness/intention to travel is stronger when the stimulus is given in TV news format as opposed to documentary format.

**H4:** For positive news, the effect of priming on the willingness/intention to travel is stronger when the stimulus is given in TV news format as opposed to documentary format.

We propose that a possible reason for this could be the fact that certain types of TV information are more likely to trigger viewers’ emotions, for instance when the topic involves crimes (as previously proposed by Uribe & Gunter 2007 or by Coleman & Wu 2010), or is characterized by different presentation styles, as pointed out by Grabe, Lang & Zhao (2003). We therefore test the efficacy of two different channels that we assume are characterized by different “emotional intensity”. Thus, by means of a controlled laboratory experiment we are able to disentangle the marginal value of the emotional part of a message aimed at evoking crime perception and subsequently capture its effect on subjects’ willingness/intention to travel.

**4. The two sides of Colombia**

Colombia is a country with 47,661,787 inhabitants composed of five very different natural regions: the Andes region in the south, the Pacific Ocean coastal region, the Caribbean Sea coastal region, the Llanos (plains) region, and the Amazon rainforest region.

Thanks to this huge variety of environments, the country occupies the second place in the world, following only Brazil, in term of biodiversity (Mittermeier, Myers, Thomsen, Da Fonseca, & Olivieri, 1998).

From a geographical point of view the country is “a paradise” for tourists, receiving 3,233,162 foreign tourists in 2014, and therefore positioning tourism as one of the main contributors of country’s GDP. This figure has increased 24.66% with respect to 2016 and more than 60% with respect to 2014. Despite being in position 63 in terms of country international arrivals, the aforementioned arrivals’ growth is on the top of the world. Venezuela, United States and Brazil are the main contributors to these arrivals. The region with the higher number of incoming tourism is Bogotá (1,448,974 arrivals) followed by Bolivar (436,002) and Antioquia (374,947 tourists). Some of the main tourist attractions are: Bogotá, Medellin, San Andrés Island, the Salt Cathedral of Zipaquirá, the Amazon Rainforest, the Lost City and Cartagena de Indias. 234 cruises were reported which accounts for 344,624 passengers, being Cartagena the most important port. 1,652,523 tourists visited one of the country’s natural parks (particularly the “Parque Corales de Rosario” with more than 1 million of visitors). Around 10% of the overall country’s labor force was employed (directly or indirectly) in the tourism sector (Leguizamon, 2016).

However, Colombia is characterized as well by a long history of violence and crimes related to narcotraffic and guerrilla war, leaving millions of deaths in the last decades.

Recently the country has been working substantively toward the reduction of crime, especially in terms of guerrilla war and narcotraffic. A first result is that the number of victims started to drop significantly from 2004, going from 437,061 in 2008 to 216,062 in 2014. The correlation between cycle of terrorism and foreign arrivals throughout the last decades was extremely high. Thus, while tourist arrivals decreased from 1996 to 2003 in 66.5%, from 2004 to 2017, tourist arrivals increased more than 400% (Bassols, 2016).

**5. Method**

**5.1 Priming**

Priming is a process that occurs in the subconscious when a person is exposed to a stimulus with the aim of increasing the availability of a specific type of information which activates memory associations before taking a decision or carrying out a task (Higgins, 1981). The specific stimulus will increase the probability that a certain response will occur. Priming can be effective with different types of stimulus, be they verbal, textual (Shrum, Wyer Jr & O’Guinn 1998) or visual, such as through the use of pictures, images or videos (Anderson & Bushman, 2001 ; Mandel & Johnson, 2002). It has been proved to be a powerful technique in very different fields of research such as cognitive psychology, consumer behavior, or behavioral economics (see for instance Cohn & Maréchal (2016) for the use of priming in incentivized economic experiments).

One of the main advantages of the use of priming, which we leverage in our paper, is that, if used with a clearly identified stimulus, it is an effective method of testing for causal effects (Al-Ubaydli, Houser, Nye, Paganelli, & Pan, 2013).

**5.2 Experimental setting**

The experiment took place in March 2016 at Tecnocampus, a university campus affiliated to Pompeu Fabra University in Barcelona. Participants were undergraduate students studying Business Administration and Tourism. The experiment consisted of four treatments with a total of 106 subjects. Participants’ average age was 21 and the sample comprised 56 males and 50 females. Subjects were randomly recruited via email among the campus student population, made up of more than 3,000 students. The entire sample of recruited students were Spanish and from de region of Catalonia as the laboratory experiment requires the physical presence of participants in the University Campus[[2]](#footnote-2). In each session subjects were randomly assigned to one of the four treatments[[3]](#footnote-3). Before starting each session the experimenter read aloud the general part of the instruction,[[4]](#footnote-4) which was common to all groups. After the general instruction, each group was exposed to a different priming stimulus. The setting was a 2x2 between-subjects design where participants in each group received a distinct priming stimulus represented by a video that differed between each group based on two dimensions: the intended message delivered (positive or negative) and the format in which the message was communicated (documentary format or TV news format).

Dimension 1: Type of message

A. Only positive attributes: Subjects were exposed to a video in which only positive tourist features of Colombia were presented and highlighted.

B. Negative attributes: Subjects were exposed to the same video showing positive attributes of Colombia followed by a second video in which crime-related issues and negative attributes of the country were highlighted.[[5]](#footnote-5)

Dimension 2: Channel for delivering the message

A. Documentary format: Both positive and negative features were delivered by means of a documentary video format.

B. TV news type format: Both positive and negative features were delivered by a presenter through a TV news type format from the TV channel Caracol.

Table 1 reports the combination of the two dimensions and shows, in each cell, the independent treatment obtained.

[Insert Table 1 here]

In the first treatment (T1) the priming task consists of a documentary format video of Colombia in which only positive aspects were highlighted such as the beauty of its beaches, cultural aspects and adventure. In the second treatment (T2) the same documentary format video was extended with a second part in which only negative aspects of Colombia were highlighted such as crime, violence and narcotraffic. In the third treatment (T3) the priming task consisted of a TV news format video from the Colombian TV news channel Caracol in which the journalist was reporting that Colombia is one of the preferred tourist destination for US citizens. The presenter mentioned only positive tourist attributes of the country. In the fourth treatment (T4), the same TV news format video was extended with a second one in which the same presenter from the TV channel Caracol reported data on recent crimes and episodes of violence occurring in the country.

For each independent treatment, after receiving the appropriate priming stimulus, subjects answered a questionnaire consisting of six questions (see appendix) where the main question of interest for our study was “Please rate from 0 to 10 your willingness/intention to visit Colombia on your next trip”.

**6. Results and hypothesis testing**

In this section, we reproduce results for the hypotheses tested. We use a boxplot for a general description, a Mann-Whitney test for initial evidence and a linear regression model for an estimation which takes into account additional controls.[[6]](#footnote-6)

*6.1 Descriptive analysis*

Figure 1 reports a visual representation (i.e. a boxplot) of the distribution of the willingness/intention to travel to Colombia on a 10-point Likert scale. The boxplot splits the distribution of the answers. The horizontal line contained in each box represents the median of the distribution of the answers for each treatment to the question on willingness/intention to travel to Colombia. From this figure we notice that the distribution of the willingness to travel to Colombia differs notably when comparing T1 and T3 (only positive features) with T2 and T4 (positive plus negative counterpart). In particular the median for T1 and T3 is higher than the median for the group with the positive and negative counterpart. Likewise, the variability of the valuations is higher in the group with only positive features due to the fact that these groups include valuations of 9 and 10 points (with the exception of one outlier in T4). Comparing T1 and T2 (documentary format videos) the difference in median is equal to 3 (from 7 to 4) while the median difference when comparing T3 and T4 (news) is 2.5 (from 4.5 to 2). In this respect, we report descriptive evidence for H1 and H2; that is, exposure to documentary videos or news with negative tourist attributes has a negative effect on subjects’ willingness to travel. The lowest median is for T4, so H3 might also be supported: for negative news, the effect of priming is greater when the stimulus is given in the form of TV news. However, in our case, the effect of priming for positive news is stronger in the case of documentary videos, since the highest willingness to travel is obtained in T1.

[Insert Figure 1 here]

*6.2 Testing hypotheses*

Previous descriptive evidence does not take into account whether the difference is statistically significant or not. To this end we report, for each hypothesis listed in section two, the test of equality of means and the Mann-Whitney test. The non-parametric Mann-Whitney U test (or rank sum) test is an alternative to the t-test that does not rely on distributional assumptions. It is commonly used when the dependent variable is ordinal (as in our case) or when the groups are characterized by different numbers of participants. Mann-Whitney tests the hypothesis that two independent samples (that is, unmatched data) are from populations with the same distribution (Feltovich, 2003).[[7]](#footnote-7)

**H1:** Exposure to a documentary video with negative tourist attributes of Colombia negatively affects subjects’ willingness/intention to travel.

We can see from Table 2 that the average willingness to travel (on a scale from 1 to 10) in treatment 1 (T1) is 6.64 while for treatment 2 (T2) it drops to 4.53. Both the t-test and the Mann-Whitney test confirm the statistically significant difference between the two groups. The result confirms that evoking crime perception has an immediate impact on subjects’ willingness/intention to travel to Colombia.

[Insert Table 2 here]

**Result 1:** Hypothesis 1 (H1) is supported.

**H2:** Exposure to a TV news format video with negative tourist attributes of Colombia negatively affects subjects’ willingness to travel.

We can see from Table 3 that the average willingness to travel in treatment 3 (T3) is 5.2 while for treatment 4 (T4) it falls to 3.10. In terms of medians the difference is 2.5 (from 4.5 to 2). Both the t-test and the Mann-Whitney test confirm the statistically significant difference between the two groups. The result confirms that evoking crime perception through TV news has an immediate impact on subjects’ willingness to travel to Colombia.

[Insert Table 3 here]

**Result 2:** Hypothesis 2 (H2) is supported.

**H3:** For negative news, the effect of priming on the willingness to travel is stronger when the stimulus is given in TV news format as opposed to documentary format.

We can see from Table 4 that the average willingness to travel in treatment 2 (T2) is 4.53 while for treatment 4 (T4) it decreases to 3.10. Both the t-test and the Mann-Whitney test confirm the statistically significant difference between the two groups.The result confirms our original speculation that, for negative news, the effect of priming on the willingness to travel is stronger (more negative) when the stimulus is given in TV news format as opposed to documentary format.

[Insert Table 4 here]

**Result 3:** Hypothesis 3 (H3) is supported.

**H4:** For positive news, the effect of priming on the willingness to travel is stronger when the stimulus is given in real TV news format as opposed to documentary format.

We can see from Table 5 that the average willingness to travel in treatment 3 (T3) is 5.2 while for treatment 1 (T1) it is higher (6.64). Both the t-test and the Mann-Whitney test confirm the statistically significant difference between the two groups. However, the evidence is contrary to our speculation. Thus, the result rejects that for positive news the effect of priming on the willingness to travel is stronger when the stimulus is given in the form of real TV news. In our case the documentary format is more effective.

[Insert Table 5 here]

**Result 4:** Hypothesis 4 (H4) is rejected.

*6.3 Regression analysis*

In the following subsection we present a regression analysis controlling for other variables of interest for our study such as participants’ gender, travel experience outside Europe and experience with the specific destination (i.e. whether they have previously seen images of Colombia and whether they know someone who has traveled to Colombia). Our empirical strategy consists in running an OLS model on the determinants of willingness to travel to Colombia controlling for these variables in addition to the treatments.[[8]](#footnote-8) A linear regression model is commonly used when we are interested in explaining the determinants of a quantitative variable (y) that we would like to predict or understand. In addition, we also have some independent variables that we are going to be using to explain y. By far the most common form of linear regression used is ordinary least squares (OLS) regression. The OLS method attempts to obtain the best slopes for the explanatory variables, i.e. the slopes which minimize the sum of the squared error between the values of the dependent variables and our model’s predictions for these values (Wooldridge, 2002). Finally, in our case, the dependent variable is ordinal. However, O’Brien (1979) and Schroeder et al. (2016) justify the use of linear regression models when the ordinal variable has more than five categories. Results are shown in Table 6. The effect of gender, travel experience and previous exposure to images of Colombia are statistically insignificant. However, previous experience in terms of knowing someone who has previously traveled to Colombia has a negative impact on the willingness to travel there. Specifically, the reduction in the willingness to travel is 1.45 points. Once these variables are controlled for, promoting only positive attributes increased the willingness to travel by more than 3 points (with respect to exposure to a TV news format video with negative tourist attributes of Colombia), while promoting positive attributes of the destination by news only increases willingness to travel by 1.73 points. Thus, although exposure to negative attributes (either by documentary format or by TV news format) reduces the willingness to travel to Colombia, exposure to a documentary video with negative attributes of the destination has only a slightly negative effect if we compare it to exposure to only positive attributes through TV news (0.37 points, i.e. the difference between the two coefficients of 1.73 and 1.36 respectively). Finally, of the two channels through which the destination can be exposed to negative attributes, TV news has a stronger impact of 1.36 points. In this regard, further evidence for H1, H2 and H3 is obtained. Again, we have observed the opposite pattern to what we expected with respect to H4, that is, a positive message is more effective if delivered through a documentary type format.

[Insert Table 6 here]

**7. Discussion**

By using a controlled laboratory experimental design based on a priming task, we were able to tackle from a causal perspective two important questions that have been previously addressed in the literature on tourism and communication.

First, we found that a high perception of crime in a country has a direct and negative effect on the willingness/intention to visit that country. The fact that the result comes from a causal link allows us to show clearly that the perception of crime causes a decline in tourism. Previous papers use macroeconomic and microeconomic data to address this question. In this context, causality problems arise and it is not surprising that the empirical literature has produced mixed results. Therefore, while some research has shown that crime perception can change tourist intention to visit a destination (Barker et al. (2003), others such as Holcomb & Pizam (2006) and George (2010) found effects in the opposite direction. In this respect, priming, which we used in our paper, provides a clearly identified stimulus and it is an effective method of testing for causal effects (Al-Ubaydli et al., 2013). By leveraging our experimental design, we capture the direct effect of crime perception, which is not influenced by other variables, causality problems, sampling or location-specific effects.

Second, by testing different priming tasks we address the question of whether crime perception differed based on the communication channel or format selected. Literature in psychology and consumer behavior has observed that the same message, delivered in one way or another, known as the framing effect (Tversky & Kahneman, 1986), obtains very different results. In this respect, our paper is in line with Chipman et al. (1996). In our study we test two different formats in which the same information is delivered to the audience, i.e. the documentary format and the TV news format. For the first time in tourism literature, our paper has tested these two hypotheses, that is, whether a negative and a positive message regarding crime is stronger if delivered through an “emotional” channel represented by the TV news format.

With respect to results, we find, in line with the literature on framing and communication that the channel matters. A negative message regarding crime is stronger if delivered through an “emotional” channel, represented by the TV news format. The audience preference for the video news release is also found in Chipman et al. (1996). This result highlights the potential danger and over-effect that media possess on affecting the audience’s belief, and thus future tourist inflow.

Our approach also relates to the recent work of Brown (2015), who found that prolonged exposure to broadcast media’s framing of a crime episode in a country has a dramatic impact on tourism demand for the country. We complement Brown (2015), as we are instead capturing the immediate effect of a TV news video on tourist intention to visit a country.

Surprisingly, we found that a positive message regarding the beauty of a country is more effective if delivered through a documentary format instead of through a TV news type format. This last result can be particularly interesting for destination marketing organizations (DMOs) when deciding in which channel to invest their communication budget. In this light, documentary format videos might increment the effectiveness of positive messages.

**Policy Implications**

The result that a high perception of crime in a country has a direct and negative effect on the willingness/intention to visit that country, highlights the tremendous impact that crime perception can have on future inflow of tourists, especially for a tourist-based country. Although, our result is not only important for prime destinations but also for destinations with a recent growth in their incoming number of tourists. In this context, if policy makers do not properly include crime-related costs in the tourism cost-benefit calculus, there is a risk of underinvestment in suitable safety policies and the future benefit of tourism will be lower. Policy makers, travel agencies, DMOs, should not underestimate the effects of crime perception on tourism. For instance special packages that include additional security services could be developed to appeal to those tourists with lower tolerance to risk, or to less active, and experienced travelers, in order to enhance their feelings of safety and security. As the consequence of crime perception on tourists’ intention to travel may have a long lasting effect, a preventive policy could be more effective than a policy for image recovery. In particular, a policy to increase the probability of apprehension can be prioritized as we know from Rational Choice Theory that the certainty of apprehension is more effective than the severity of punishment in deterring crime (Clarke & Hope, 1984). Therefore, an increase in the number of police officers in tourist areas may induce a sense of safety and also a reduction of episodes of crime. Surveillance cameras and informative campaigns can be alternative options to increase safety perception.

The analysis presented here is not exempt of limitations. First, we have obtained a short-run effect of crime on the willingness to visit Colombia. Nevertheless, what about long-run effects? Are these effects on the willingness to visit Colombia persistent? If a tourist decided to visit Colombia, would he/she change idea after being exposed to a recent episode of crime? Second, as stated, Colombia has somehow a reputation of a dangerous country; would the results obtained in this paper be the same with another country characterized by a lower crime rate? The present topic could be interesting as well from a more disaggregated point of view. For example, future research could study the effect of crime perception to different types of tourism (business, sand and sun, cultural, urban, cruise, event tourism, etc.).

In the paper we obtained that a negative message regarding crime is more powerful if delivered through TV news format. In this respect it is especially important for DMOs to make regular attempts to communicate openly while fighting against “sensationalist” negative media coverage. We have shown as well that the use of a documentary format can be particularly effective to leverage positive attributes of a destination and consequently it may be the more suitable channel when counterattacking a previously acquired bad reputation of a destination. In sum, if media messages lead to a misperception of risk (i.e. increase of risk), marketers should either provide tourists with more risk-reduction opportunities (e.g., more information about a destination) or reposition the travel products in order to induce tourists to seek information from sources other than the mass media. We consider that little research have been done at this respect. For example, as possible extensions, researchers could test whether the results relating to the effectiveness of different communication formats would be maintained if DMOs use other channels such as blogs, social networks, word of mouth, etc.

Finally, we believe that future research should investigate further the mechanisms behind the result of this paper. In general the use of controlled laboratory experiments in tourism is scarce. As we have shown, this methodology allows the researcher to capture more accurately the causal link regarding the effect of crime perception on tourism. By leveraging the same methodology, we believe that psychological factors should be analyzed further in order to deeply understand tourists’ reactions to risk perception. With a better understanding of psychological implications, marketers could direct different communication strategies to tourists with a higher risk tolerance with respect to tourists with lower tolerance.

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**Table 1. Message and format combinations**

|  |  |  |
| --- | --- | --- |
| Message / Format | Documentary Format | TV News Format |
| Positive | **T1 (Pos / Documentary)** | **T3 (Pos / TV News)** |
| Negative | **T2 (Neg / Documentary)** | **T4 (Neg / TV News)** |

**Figure 1.** Boxplot of willingness to travel to Colombia by treatment group (T1 T2 T3 T4)

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**Table 2. Test of equality of means and Mann-Whitney test (H1). Variable: willingness to travel to Colombia**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Mean** | **t-statistic** | **Median** | **Mann-Whitney** |
| **T2 - Neg\_documentary** | 4.53 |  | 4 |  |
| **T1 - Pos\_documentary** | 6.64 | 3.82\*\*\* | 7 | 3.47\*\*\* |
| **N** | 65 |  |  |  |

\*\*\*1% level of significance

**Table 3. Test of equality of means and Mann-Whitney test (H2). Variable: willingness to travel to Colombia**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Mean** | **t-statistic** | **Median** | **Mann-Whitney** |
| **T4-Neg\_news** | 3.10 |  | 2 |  |
| **T3-Pos\_news** | 5.2 | 2.74\*\*\* | 4.5 | 2.87\*\*\* |
| **N** | 41 |  |  |  |

\*\*\*1% level of significance

**Table 4. Test of equality of means and Mann-Whitney test (H3). Variable: willingness to travel to Colombia**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Mean** | **t-statistic** | **Median** | **Mann-Whitney** |
| **T4-Neg\_news** | 3.10 |  | 2 |  |
| **T2-Neg\_documentary** | 4.53 | 2.12\*\* | 4 | 2.37\*\* |
| **N** | 53 |  |  |  |

\*\*\*1% level of significance

**Table 5. Test of equality of means and Mann-Whitney test (H4). Variable: willingness to travel to Colombia**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group** | **Mean** | **t-statistic** | **Median** | **Mann-Whitney** |
| **T1-Pos\_documentary** | 6.64 |  | 7 |  |
| **T3-Pos\_news** | 5.2 | 2.29\*\* | 4.5 | 2.25\*\* |
| **N** | 53 |  |  |  |

\*\*\*1% level of significance

**Table 6. Determinants of willingness to travel to Colombia**

|  |  |
| --- | --- |
| **Variable** | **Coefficient** |
| **Gender** | -0.58 |
| **Travel outside Europe** | -0.01 |
| **Previous images from Colombia** | -0.06 |
| **Knowing someone who has traveled to Colombia** | -1.45\*\*\* |
| **Treatments. Reference: T4-neg\_news** |  |
| **T2-neg-promotional** | 1.36\*\* |
| **T3-pos\_news** | 1.73\*\* |
| **T1-pos\_promotional** | 3.11\*\*\* |
| **Constant** | 6.44\* |
| **Adjusted R-squared** | 0.32 |
| **N** | 106 |

\*\*5% level of significance

\*10% level of significance

1. It is only recently that several studies have attempted to properly tackle this relationship from a causal perspective (e.g. Biagi & Detotto, 2014 ; Grinols, Mustard, & Staha, 2011 ; Montolio & Planells-Struse, 2013). [↑](#footnote-ref-1)
2. The entire experiment was run in Tecnocampus, as it is the University Campus in which both authors are affiliated and work. We decided to run the experiment in our laboratory, requiring participants to be physically in the campus, instead of opting for an online setting. The reason is that, each student was taken individually in front of a pc screen and the treatment was delivered under the supervision of one of the two experimenters (i.e. the authors of the paper). No communication was allow during the experiment and each participant could not undertake any other action. We opted for this methodology as with a laboratory experiment, there is a complete control over possible confounding factors which is sometimes difficult to obtain with online experiments. [↑](#footnote-ref-2)
3. Commonly, in a laboratory experiment the term “Treatment” denotes the unique condition imposed to a number of subjects of the experimental sample. For instance, in this paper there are 4 independent treatments. The term “Session“, denotes a number of subjects from the different treatments that are simultaneously in front of a computer screen. For a laboratory experiment, usually the number of sessions depends on the number of computers available in the lab at the same time. [↑](#footnote-ref-3)
4. In the instructions we explained to each subject that he/she will have to carefully watch a video (or two, depending on the respective treatment) and after the video he/she will have to answer 13 multiple choice questions. [↑](#footnote-ref-4)
5. We decided to use the positive prime as our control treatment instead of using a neutral prime. We wanted to make the participants in each group as similar as possible to each other with respect to their preconceived opinion about the country. In this way, by adding the negative prime we made sure participants had very similar priors regarding Colombia between groups and we were able to isolate the effect of crime perception. [↑](#footnote-ref-5)
6. These methods are widely used in experimental economics (see, for example, Normann, Requate and Waichman(2014)). [↑](#footnote-ref-6)
7. The robust rank-order test gives similar results. [↑](#footnote-ref-7)
8. We have also run regression models for each subsample (promotional and TV news). [↑](#footnote-ref-8)