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Effects of Narrative vs. Non-narrative Message on Attitudes and Memory: Comparison of Implicit and Explicit Attitude Measures

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EFFECTS OF NARRATIVE VS. NON-NARRATIVE MESSAGE ON ATTITUDES AND MEMORY: COMPARISON OF IMPLICIT AND EXPLICIT ATTITUDE MEASURES

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ABSTRACT

With the presumption that reading narratives helps to transform information search into a pleasant experience, a wide range of applications of narrative techniques has been developed in marketing fields. This research explores the effects of narrative messages by employing two different types of attitude measures (i.e., explicit vs. implicit). The results show that there are no statistical mean differences of between narrative and non-narrative messages in term of attitudes, but message effects are significant in short-term memory. This study is anticipated to have the potential to enhance our understanding of implicit and explicit attitudes, and measurement of the effects of narrative and non-narrative messages.

Keywords. Narrative, non-narrative, implicit/explicit attitudes, memory, implicit association test (IAT).

INTRODUCTION

Within the context of travel and tourism industry, the narrative message has been an important research issue due to its potential advantages over the traditional non-narrative message through “eliciting user preferences and conveying relevant information about holistic vacation experiences” (Gretzel, 2006). With the presumption that reading narratives transforms consumers’ information search process into a pleasant experience, which turns this effortful activity into a self-oriented and rewarding one (Bloch, Sherrell, & Ridgway, 1986), many researchers have revealed empirical evidences that narratives can engage readers in a pleasurable way and creates immersion experiences (Mateas, 2004; Ryan, 2001), enhance comprehension and leads to better learning (Laurillard, 1998).

The advantages of narratives over non-narratives in promoting beneficial, expected behavioral changes or other psychological outcomes have been counted as the narrative effects. The narrative effects have been empirically measured in many studies (e.g. Green, 2004; Slater, Buller, Waters, Archibeque, & LeBlanc, 2003). For instance, Slater et al. (2003) investigated whether narrative messages are more effective in promoting beneficial changes in dietary behaviors. They presented the messages relevant to fruit and vegetable consumption in three formats: 1) conversations, 2) personal testimonies and 3) newsletter articles. In addition, a substantial study focused on story event, the perceived realism of the story, and the number of story-relevant beliefs (Green 2004).

With the realization of the importance of narrative effects in persuasion, this research explores the narrative effects on individuals’ attitudes and memory by manipulating two types of message (i.e., narrative vs. non-narrative). Specifically, the purpose of this study is (1) to assess individual’s attitudes toward two messages employing both explicit and implicit measures, (2) to compare individuals’ memories in two message types, and (3) to discuss further implications for the narrative measurement in the hospitality and tourism study. This study is assumed to have the potential to enhance not only our understanding of message effects on attitude and memory but also measurement of the message effects in the context of hospitality and tourism research.
LITERATURE REVIEW

Narrative Effects on Attitude and Memory

In terms of communication speed, information is conveyed at a slower rate if it were written in a narrative rather than a normative style. For example, suppose you are to introduce a tourism destination, City A, which enjoys an oceanic climate, abundant vegetation, a clean sky, a booming economy, and friendly people. You may write up two essays in different styles, a normative one and a normative one, to cover the same set of the key features (i.e. oceanic climate, abundant vegetation, clean sky, booming economy, and friendly people). It only takes a sentence of 10 words for the normative as follows.

*City A is oceanic, clean, friendly, young people, green (i.e. abundant in vegetation) and growing (i.e., booming in economy).*

In contrast, if you make it into a narrative, it will probably take one or two hundred words and end up with something like the following:

*Taking a bird view from my plane, I could see City A like a shining seashell lying on the west coast of Atlantic Ocean in the twilight of November. After I settled in the hotel, I walked on the street only with my t-shirt on but it was not cold at night. The next morning, I decided to take a quick look around the city by bus and was so impressive to see young people on the bus often give their seats to the elderly. I learned from a local storekeeper that the economy of the city enjoyed a 15% growth in the past year. It is amazing that the sky is so blue and the wind is so refreshing, I could hardly notice any air pollution that is usually the price for economic growth. Probably, this is attributable to the extremely high vegetation coverage in this city.*

Interestingly, although narrative writing incorporates much more irrelevant information and increases the work load of cognitive processing, the amount of critical information to be conveyed is better preserved in long-term memory. Bower & Clark (1969) provided empirical evidence for this phenomenon. They first had subjects learned 12 lists of nouns by 1 of 2 methods. For method 1, subjects simply read and rehearse the word list. For method 2, subjects were taught to make up a narrative passage or a meaningful story into which all the stimulus word were embedded. After learning a word list, subjects were immediately tested to recall the words in order. Both study methods led to equally perfect memory in the immediate recall. However, after all 12 lists had been tested, probed tests were given to examine the long-term memory of the word lists. The result showed that memory of lists learned through forming narrative passage was almost 7 times as well as those learned through rehearsal. Along the same line, Yekovich & Kulhavy (1976) found that people better recalled a list of critical words immediately after learning and in two days later when the words were learned through reading a prose or generating narratives with the words compared to the control condition in which word lists were simply rehearsed.

As to the cognitive mechanism underlying the memory benefit for narrative information, there are a few possibilities. For one thing, a narrative might form a thematic organization for the information, which enhances the long-term memory encoding, reduces interference, and facilitate retrieval as well (Bower & Clark, 1969). To support this view, Mandler & Johnson (1977) analyzed the underlying structure of simple stories and found that the structure of stories helps both children and adults to form schemata that guide encoding and retrieval.

For another, narrative writing might bring about deeper level of processing which also benefits long-term memory (Bower & Bryant, 1991; Craik & Lockhart, 1972; Craik & Tulving, 1975). Craik & Tulving (1975) provided empirical evidence for the notion of "depth of processing" in human memory. They first instructed undergraduate participants to answer questions concerning the physical, phonemic, or semantic characteristics of a long series of words and then challenged them with an unexpected task of recalling the words right after the initial question phase. They found that the semantic questions, which took longer to answer and involved deeper level of processing, were associated with higher retention of the target words.

Moreover, the memory advantage of narrative stimuli could also be accounted for by the fact that a
narrative helps to form fewer but bigger chunks of information. A chunk measures a unit of mental information that consists of a group of concepts independent of another mental information unit. For example, a chunk of information could be a word, a phrase, a sentence or even a poem, with which a person is so familiar that it can be smoothly recited without a pause. A number of studies suggest that our working memory is limited to process about four chunks of verbal information at a time (Chen & Cowan, 2005; Cowan, 2001; Cowan, Chen, & Rouder, 2004; Miller, 1956). However, a narrative contains a number of associations between concepts and episodes of a story, which reduces the number of independent information units or chunks by increasing the size of individual chunks. Such a transformation makes possible more information to be processed in the working memory with a capacity limit of about 4 chunks. Therefore, given the interactive relationship between long-term memory and working memory (Baddeley, 2000; Cowan & Chen, 2009), narrative stimuli can be encoded into and retrieved from long-term memory in a more efficient way through working memory. Based on findings about the relationship between narrative information and memory in the literature, we predict that people will form better memory of narrative advertisements that they are exposed to and also manage to recall more key words from narrative advertisements afterwards.

METHOD

Experiment 1

Experiment 1 was used to examine the quality of our stimuli and see if they were valid to test our hypotheses regarding the effect of writing style on people’s attitude toward a touristic destination. The stimuli (i.e., reading scripts) of this study were supposed to be based on destinations of equivalent touristic values. In other words, the touristic characteristics of destinations per se should be neutral to people’s attitude.

Subjects. 49 undergraduate students from the mid-west area in the U.S participated in the experiment to fulfill a course requirement. Subjects had the informed consent about the experiment but were unaware of the specific hypothesis to be tested.

Stimuli and Apparatus.

6 reading scripts: We first constructed the profiles of three imaginary tourism destinations, which possessed characteristics of an island, a mountain and a metropolis, respectively. Scripts to be used as reading stimuli in the experiment were written for each destination in two styles (i.e., narrative vs non-narrative) and different names were adopted for a destination with the same profile in different scripts. The word count of the scripts ranges about 230~300 words. In this way, a total of 6 scripts (See Appendix 1) were prepared, which were titled as Ocatura, Urbight, Montoor, Senaten, Hilouta and Cinigif, with the first three being in narrative writing style and the second three in non-narrative style.

<table>
<thead>
<tr>
<th>Destination Type</th>
<th>Message Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ocean</td>
<td>Narrative</td>
</tr>
<tr>
<td>City</td>
<td>Urbight</td>
</tr>
<tr>
<td>Mountain</td>
<td>Montoor</td>
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</tbody>
</table>

4 Likert scale questions for writing style manipulation check: We designed 4 Likert-scale questions to check if our manipulation of writing style was effective so that participants were aware of the writing style of a script. Participants responded to each question with one of the following 5 options by pressing a number key on the keyboard: 1) strongly agree, 2) agree, 3) Neutral, 4) disagree, and 5) strongly disagree.

12 Likert scale questions for explicit attitude measurement: We also designed 12 Likert-scale questions regarding the explicit attitudes toward the destination described in a script for participants to answer after the reading. Response options were the same as the 4 Likert-scale questions for checking awareness of writing style.
Words used in the Implicit Association Test (IAT). 14 key words chosen evenly from two scripts in a pair and 14 adjectives as appealing/unappealing attributes were used in the categorization tasks in the IAT procedure.

Hardware & Software: The experiment was computerized and implemented on laptop computers with 19 inch LCD monitor. The entire experiment, including presentation of the reading scripts, administration of the explicit questions and implementation of the IAT procedure, was computerized with the psychological program E-prime.

Procedure. The experiment was divided into two phases: 1) explicit & implicit attitude measures after reading pairs of scripts, and 2) final free recall of words from the scripts.

Phase 1. This phase consists of three blocks of an identical process. The block started with a self-paced reading of a pair of scripts, which shared the same writing style but of different destination profiles. Half of the participants read three pairs as Ocatura vs Urbight, Urbight vs Montoor and Montoor vs Ocatura, whereas the other half did another three pairs as Senaten vs Hilouta, Cinigif vs Senaten and Hilouta vs Cinigif. The order of pairs and scripts within a pair were all randomized. Upon reading the first script in a pair, participants first answered the 4 questions regarding its writing style and then the 12 questions regarding explicit attitude toward the destinations described in the script. After that, they continued to read a second script in the pair and then responded to the two sets of questions. When participants had finished reading both scripts and answering the questions, they started a 5-stage IAT procedure.

Phase 2. After Phase 1, in which three pairs of scripts had been read and both explicit questions and IAT procedure had been carried through, participants were asked to recall any words they still remembered from all scripts they had read in the experiment by typing them into the keyboard. They were encouraged to take as much time as needed to recall as many words as possible.

Experiment 2

Experiment 2 was used to test the hypothesis that the writing style of a script about a destination has an effect on people’s attitude toward that destination. The method of Experiment 2 was almost identical to Experiment 1 except that the reading script pairs were formed in such a way so that two scripts that were written based on the different destinations and in different styles can be compared. As a result, half of the participants read three pairs as Ocatura vs Cinigif, Urbight vs Hilouta, and Montoor vs Senaten, and the other half read Ocatura vs Hilouta, Urbight vs Senaten and Montoor vs Cinigif. The order of pairs and scripts within a pair were all randomized. In addition, Experiment 2 was carried out to 107 participants from the same population as in Experiment 1.

FINDINGS

Stimulus script quality check

First of all, we had to make sure that different destinations are perceived equally appealing in terms of their touristic characteristics, so that the difference in people’s implicit attitude from reading two scripts of different destinations and different styles can be purely attributed to the factor of writing styles rather than people’s preference of one destination over the other. To meet this prerequisite for the stimulus, we screened the 6 scripts using a series of implicit attitude test procedures, in which any two scripts of the same writing style were contrasted and the association strength between the theme destination and the appealing attributes were measured with the logarithm of reaction time (RT) in the combined categorization task.

It can be inferred that the destination with shorter average log(RT)s in a contrast enjoys higher preference. A two-way factorial ANOVA shows a significant interaction between types of contrasts and preference between two destinations (See Figure 1), F(5, 141)=6.030, MSE = .002, p<.001. A post hoc Newman-Keuls test indicates that the two significant individual contrasts (i.e., Senaten vs cinigif; and Montoor vs Ocatura) were responsible for the significant interaction across all contrasts, suggesting people show...
preference to Senaten and Ocatura, both of which are based on the prototype of a oceanic destination, over other destinations among which there is no clear preference. Therefore, scripts of Senaten and Ocatura will be excluded from the stimulus set, because their theme destinations involve a tourism value superior to other destinations, which in turn, compromises the equality assumption about the destination quality in our experimental design.

**Figure 1**
The Results of Script Quality Check

![Graph showing appealingness of destinations indexed by the reversed of Log(RT) across 6 contrasts. Error bars denote 0.95 confidence intervals.]

**Awareness of writing style difference**

Participants’ awareness of a script’s writing style is examined with 4 Likert Scale questions before the explicit and implicit attitude tests were carried out. These 4 questions were randomly presented, including: 1) This script is written in a personal story telling manner; 2) This script seems to be from blogs; (3) This script is written in a formal manner; and 4) This script seems to be from official tourism brochures or websites. The average Likert score of question 1 and 2 was calculated as an index of narrative writing style, whereas that of question 3 and 4 as an index of non-narrative writing style. A two-way (writing style x script) factorial ANOVA on average Likert scores shows a significant main effect of writing style, $F(1, 212)=16.482$, $MSE = .745$, $p<.001$, and a significant interaction between writing style and script, $F(3, 636)=343.34$, $MSE = .641$, $p < 0.001$, suggesting that participants were clearly aware of the difference in the writing style across 4 scripts and their perception of the writing style was also consistent with our manipulation of each script stimulus.
Effects from writing styles on explicit attitudes

Participants’ explicit attitude toward a destination was measured by 12 Likert scale questions presented in random order. A mean weighted Likert score for the narrative scripts was 3.02 and for the non-narrative scripts was 2.98, showing no significant difference between scripts of two writing styles, \( F(1, 105) = .462, \text{MSE} = .219, p = .498 \) (See figure 2). This suggests that participants’ general explicit attitude toward a destination was not affected by the writing style of the script they read.
Effects from writing styles on implicit attitudes

We are more interested in how writing style affects participants’ implicit attitude toward a destination. For this purpose, participants were required to read in random order two scripts of different writing styles (i.e., narrative and non-narrative) and of different destinations (i.e., either Montoor vs Cinigif or Urbight vs Hilouta) that, however, had similar touristic values and thus imposed little differential effect on people’s attitude according to the previous script screening test. The index of implicit attitude, the logarithm of reaction time (i.e., Log(RT)), was measured during the combined categorization tasks. The shorter the average log(RT) from a task associating one destination with appealing attributes, the more appealing this destination is than the other.

As Figure 4 shows, the mean Log(RT) from a combined categorization task in which a destination was described in a narrative script and was associated with appealing attributes was 2.95, whereas that for a non-narrative script was 2.94. The difference is not statistically significant, with p = .051. Although it is close to significance, the trend that narrative scripts produced slower reaction time doesn’t support the idea that a destination presented in a narrative style can appear more appealing at all.

![Figure 4](image)

The Results of Implicit Attitude Measure

Effects from writing styles on memory of script key words

Finally, we examined how narrative writing style affects memory of keywords from the scripts in the final recall task, as it is theoretically predicted that narrative scripts should be advantageous for semantic information to be encoded into and retrieved from long-term memory. As Figure 5 shows, an average of 2.61 keywords were recalled from narrative scripts while 1.95 from non-narrative scripts, yielding a significant difference, F(1,106) = 8.513, MSE = 2.690, p < .01. This finding confirms our prediction, suggesting that narrative scripts do benefit people’s memory of a destination’s characteristics, although better memory of a destination doesn’t necessarily result in people’s favorable attitude toward it.
CONCLUSION

This study focuses on the effectiveness of narrative writing styles as compared to non-narrative writing style. Initially, it was anticipated that narrative writing styles would tend to be more appealing than non-narrative ones. However, it is indicated that there is not statistically significant between narrative writing styles and non-narrative ones. On the other hand, the narrative effect on memory is salient. That is, the effectiveness of function of narrative writing styles is almost equivalent to non-narrative style on people’s attitude toward a tourism destination when depicted with tourism destination information in the script whereas the effect would influence people’s short-term memory. This study can be used as a basis for more extensive examinations of narrative message effects and empirical testing of implicit attitudes in the hospitality and tourism settings. Future research should revisit the research topic to draw a complete picture of message effects on attitudes and memory.

REFERENCES


Appendix 1

Ocatura

It was early May when I visited to Ocatura. The first thing I noticed when I got out of the plane in Ocatura was the exotic scenery. It’s literally paradise on earth!! When I took my taxi to the hotel, I could hear the sounds of the ocean on the beach and feel the warmth of the sun on my face. As soon as I arrived in the hotel, I went out to the beach. The sand was white and the water was clear, the waves were huge and the cliffs were as high as the sky. I saw palm trees swaying and people surfing as I sat on the beach. I had never been surfing before, so I planned on taking some lessons on how to surf. Then I headed out to a famous local restaurant, and I got fresh oysters. The food was amazing and the price was pretty reasonable. My first full day at Ocatura came to an end while enjoying the beautiful sunset. Some chirping birds made the moment even more fantastic.

I think Ocatura is “the tourist spot” with all kinds of attractions and vendors on every corner to sell you all different types of services, experiences, and products. Through my trip to Ocatura, I not only had the opportunity to see a lot of things but also had the chance to meet many gentle people there. They were all nice and willing to help you when you have problems as a tourist. In all, I will never forget my experience in Ocatura, and definitely revisit if I have an opportunity. I absolutely recommend you go there, if you are considering Ocatura for your vacation. Majestic sapphire waters and turquoise waves of Ocatura’s best beaches await you.

Senaten

In 2003 alone, according to state government data, there were over 6.4 million visitors to Senaten with expenditures of over $10 billion. Due to the mild year-round weather, tourist travel is popular throughout the year. At first glance, this bustling cityscape may seem familiar, but set against the warm wash of pink clouds at dusk, the azure ocean, and the unmistakable silhouette of many landmarks, these city lights are like no other lights on Earth. It’s this fundamental contrast between the ancient and the modern that makes discovering Senaten so enjoyable. Yes, the bright lights of Senaten can certainly catch your eye, but to discover the real side of Senaten you need to look beyond.

Senaten is home to one of the world’s tallest sea mountains and the birthplace of surfing and parasailing. Senaten is one of the youngest geological formations in the world. But perhaps Senaten’s most unique feature is its people’s spirit: the warmth of the people that wonderfully complements the perfect temperatures. Step off the plane and it's as if the volume on your senses has been turned up. Smell the fresh plumeria in the air. See sapphire seas, emerald valleys, and halos of rainbow arches. Feel the warm radiance of the sun on your cheeks while a cool rush of ocean water sucks the sand from between your toes. It’s no secret that Senaten is a scenic paradise for the senses, but an exploration of the rich cultural history of the local people makes your first visit to Senaten even richer. With so much to experience, you’ll find the warm embrace of Senaten waiting for you on your second visit and beyond.

Urbight

When walking out into Urbight, I think that this place is full of activities, shopping, and nightlife. I am definitely able to feel the crowds rushing by me along with the fast paced traffic. All the amazing sky scrapers as far as the eye can see. Being able to see the famous landmarks in Urbight is something I have always wanted to do. In Urbight, the smells of food are everywhere! I love the tastes and smells for various types of foods and the fact that everything is authentic just makes it that much better. I spend an outrageous amount of time trying all the different types of authentic food.

The culture in Urbight is so diverse that I feel like as if I walk into exotic place which I’ve never been. The nightlife in Urbight is always awesome. After I get done with dinner, I head to the clubs downtown. It is just literally awesome!! The sounds in the club are louder than I’ve ever heard, and the vibrations run through my body. On my way to hotel slightly over midnight, I still see many downstream musicians play and artists draw their minds in the streets. In all, I never forget my experience in Urbight, and definitely revisit if I have an opportunity. I absolutely recommend you to go there, if you are considering Urbight for your vacation.

Cinigif

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With diverse neighborhoods citywide and a different experience waiting around every corner, Cinigif offers up a feeling of energy and excitement that is unmatched. Cinigif is one of the global centers of international finance, politics, communications, film, music, fashion, and culture, and is among the world's most important and influential cities. It is home to many world-class museums, art galleries, and theatres. Many of the world's largest corporations have their headquarters here. There is more than $1 billion in unmet retail demand resulting from a population of more than 300,000 workers, 37,000 residents and 8 million visitors each year. The streets are extremely active, with pedestrian counts comparable to those of midtown. Affluent residents and highly trained service professionals offer unforgettable experience for tourists.

Cinigif has, as tourists might expect, all the eating options are covered. Anyone can find almost every type of food available and every cuisine of the world is represented. There are literally tens of thousands of restaurants, ranging from dingy $2-a-slice pizza joints to the $500-a-plate prix fixe sushi. Thousands of delis, bodegas, and grocery stores dot every corner of Cinigif and DIY meals are easy and cheap to find. There is no place for nightlife and entertainment in the world like Cinigif. Cinigif truly never sleeps! In all, Cinigif will give tourists an unforgettable experience as a center for culture, food, fashion, and entertainment.

Montoor

I close my eyes and only see mountains calling my name in the dead of winter when I think of this area. Montoor is beautiful and surrounded by mountains as I heard. I have to say Montoor is the cleanest place I've ever visited. As soon as I get into Montoor, I can smell the snow and hear the swish of my skis. With the mountains surrounding the environment it make sightseeing wonderful, form snow capped mountain to beautiful white clouds it is the ideal get away. I go to a ski resort which provides heavenly sceneries!! I see one of the most amazing and bright sunshine which is reflected on snow there. The ski resort has different slopes for the difficulty of the mountain you attempt to go down. I am on the beginner slopes the entire time, but the experience was just fantastic. I am really looking forward to getting lessons.

The cold weather won’t bother anyone who come for the sport of skiing and dressed properly. Horseback riding into the mountains is even more fun than hiking. My guide shows me some of the trail sights to make it even more exciting. I stay in a nice lodge cabin resort right in the mountains, with a nice hot tub. The environment is really laid back and great for overall relaxing. In all, I never forget my experience in Montoor, and definitely revisit if I have an opportunity. I absolutely recommend you to go there, if you consider Montoor for your vacation.

Hilouta

Hilouta is at an altitude of 5,280 feet/1,600 meters, where nearly 3 million people live in a metropolitan area. Hilouta has the nation's largest city park system, with more than 200 parks within city limits and 20,000 acres of parks in the nearby mountains. Hilouta is the perfect blend of outdoor adventure and urban sophistication. With snowcapped peaks providing a spectacular backdrop, Hilouta is as refined as it is laid-back. It’s a place where ski travelers rub elbows with rock climbers at local brewpubs, at art festivals, or while strolling their favorite pedestrian mall. And with 300 days of sunshine per year, it’s easy to see why people fall in love with Hilouta the first time they visit.

Late spring/early summer and early autumn are excellent times to visit Hilouta if you are an outdoor sports enthusiast. The weather is generally pleasant, there is an abundance of outdoor festivals at these times, and the mountains offer great beauty in the form of plenty of wildflowers in early summer and the fantastic color of the changing aspen trees in September. Of course, for skiing enthusiasts, winter is the best time to visit Hilouta. There are many ski resorts about 1 1/2-2 hours west of Hilouta, though the weekend traffic to these resorts can be very slow, especially in inclement weather. There are also numerous mountain trails for hiking and cross-country skiers that are generally free. Simply speaking, when you wake up in Hilouta, adventure awaits.