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Yilmaz, Semih S. and Ko, Yong Jae, "Can “What Ifs” Improve the Average Tourist’s Sustainable Behaviors? The Utility of Counterfactual Thinking in Tourism" (2015). *Travel and Tourism Research Association: Advancing Tourism Research Globally*. 9.
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Can “What Ifs” Improve the Average Tourist’s Sustainable Behaviors?

The Utility of Counterfactual Thinking in Tourism

Introduction

Having surpassed one billion international tourists in 2012 (UNWTO 2013), tourism is not only one of the biggest industries in the world, but also a significant source of pressure on natural resources. In popular destinations, this pressure might be more visible. For example, roughly 50% of visitors to Florida stay in hotels, causing them to be a large source of commercial waste in the state (Florida Department of Environmental Protection 2009), therefore making waste management a significant component of conservation schemes. On the industrial side, waste management could result in win-win outcomes in terms of environmental protection and cost minimization (Beaumont and Tinch 2004). In addition to its evident environmental benefits, water efficiency contributes significantly to cost reduction in Florida’s hotels (Florida Department of Environmental Protection 2009). Moreover, a recent survey revealed that through the promotional activities of Southwest Florida Water Management District's Water Conservation Hotel and Motel Program, 186 million gallons of water was saved in participating lodging facilities (SFWMD n.d.).

However, it is evident that no conservation initiative can be brought to full fruition without the participation of tourists, which renders business-to-tourist communication a critical area of study. UN defines sustainable tourism as “tourism that takes full account of its current and future economic, social and environmental impacts, addressing the needs of visitors, the industry, the environment and host communities” (UNEP and UNWTO 2005, p.12). Within the three-legged scope of sustainable tourism, literature has long recognized the crucial part tourists

have yet to play in environmental conservation. 'Sustainable tourism' stands as a developmental paradigm principally contrary to predominant mass tourism trends, with an emphasis on the necessity to safeguard the natural environment and resources (Bramwell and Lane 1993; Cater 1993). However, achieving sustainable tourism development requires the definition, participation, and integrative communication of tourism's relevant stakeholders (Hardy et al. 2002; Farrella and Twining-Ward 2004; Byrd 2007). Accordingly, tourists are argued to be key players in the successful implementation of sustainability because institutional efforts may not bear satisfactory results without their engagement (Swarbrooke 1999; Bardolet 2001; Weaver and Lawton 2004; Byrd 2007). Despite acknowledgement of the significance of tourists' role in achieving sustainable tourism, there seems to be a lack of research that identifies tourists' sustainability-related choices and preferences (Budenau 2007). Moreover, existing literature signals a *problematique* surrounding tourists' sustainable behavior: positive attitudes toward sustainability do not necessarily translate into action (Budenau 2007); awareness of issues (e.g. climate change) does not bring change in travel behavior (McKercher et al. 2010); willingness to pay more in taxes does not indicate assumed responsibility (Dodds et al. 2010); and regulation, not voluntary action, remains to be the chief driver for sustainability (Buckley 2012). It can be argued that these gaps necessitate a deeper understanding of the cognition of the 'average tourist' within the sustainability context, rather than scrutinizing sustainable or conscious tourists' existing behavioral patterns. With average tourist, what is meant is the tourist as the main consumer of tourism and hospitality products, predominantly vacation oriented and belonging to largely to the mass segment. There is a lack of research related to which social cognitive processes might explain or influence the average tourist's sustainable behaviors.

Theoretical Foundation

Counterfactual thinking, the interest of this study, is one such cognitive process. Long-overlooked as a non-functional human peculiarity, counterfactual thinking is simply thinking of alternatives to realities (Fessel and Roese 2007). It is a cognitive process where ‘what could have happened’ is imagined by changing or modifying a preceding event or element (“*I could have saved a lot by now if I had switched to energy efficient bulbs*”). Functionality of counterfactual thinking was first suggested by Roese (1994), who categorized counterfactuals directionally (*upward* vs. *downward*) and structurally (*additive* vs. *subtractive*). A counterfactual is *upward* if it focuses on a better alternative in the face of an undesirable present reality (e.g., A traveler thinking how she would have caught her flight if she had taken a shorter route to the airport); it is *downward* if the alternative reality is a worse situation than the present one (e.g., A traveler shuddering at the thought of the consequences if she had not made it to her flight just on time). Additionally, based on whether one adds or removes antecedents to recreate a reality in their mind, the counterfactual is either *additive* (e.g., “If I *had done* X, I would have avoided Y) or *subtractive* (e.g., If I *had not done* X, I would have avoided Y).

The functionality of counterfactual thinking (Roese 1994; 1997), however, lies at the core of this study. Counterfactuals can be functional due to their awareness-increasing effects about one’s environment and potential for improving behavior in the future as a result of this awareness (through goal activation and pursuit). Contextually, the functional potential of counterfactuals could extend to either direction or structure as a consequence of one’s assimilation towards (i.e. reflection) or contrast away (i.e. evaluation) from the imagined alternative (McMullen and Markman 2000; Markman et al. 2008). For instance, since the imagined alternative is better than reality when one generates upward counterfactuals (e.g. “I

could have gotten a better deal if I searched other hotels”), the behavior is likely to be improved in the future if one *evaluates* or contrasts away from this alternative (e.g. “I could have but I did not”). The reverse is true for downward counterfactuals since the imagined alternative is worse than reality (e.g. “I would have paid a lot more if I hadn’t found this deal last minute”); to the extent one *reflects upon* or assimilates towards the alternative, the behavioral improvement potential can be said to exist (e.g. “What if I hadn’t found this deal last minute?”). However, behavioral implications of counterfactuals may move beyond the context at hand, its effects visible in other contexts and domains through motivations, emotions, and mindsets (Epstude and Roese 2008). Counterfactual thinking has been shown to influence satisfaction levels (Medvec et al. 1995), behavioral intentions and decisions (Smallman and Roese 2009; Yoon and Vargas 2010), response to advertising messages (McMullen and Markman 2000; Krishnamurthy and Sivaraman 2002), persuasive communication (Tal-Or et al. 2004; Nan 2008), and social marketing (Page and Colby 2003). In relation to environmental communication, a relatively understudied area, Ferraro (2009) stressed the suitability of environmental policy domains for the utilization of counterfactual thinking. However, the behavioral potential of counterfactual thinking in tourism communication processes seems to be an unexplored area.

Thus, the purpose of this study was to explore the role of tourism communications in the average tourist’s sustainable behavior from a counterfactual standpoint. To address gaps of knowledge, the specific research questions were:

- How can counterfactual thinking be framed in tourism communication?
- What are the potential (and actual) behavioral outcomes of sustainability-related messages that are designed to instigate counterfactual thinking for tourism consumers?

- What is the difference in behavioral improvement between content-specific and content-neutral pathways in relation to upward or downward counterfactual thinking in a sustainability context?

Focusing on messages frequently utilized in tourism venues to elicit desirable resource use levels by tourists, the study asked whether counterfactual thinking plays a role in tourists' behavior after being exposed to messages and whether different routes of counterfactual thinking matter.

Roese (1994) suggested that affect should be an indicator of the counterfactuals exercised by the individual and utilizes affective measures as manipulation checks. Hence hypothesis 1 is:

H1: The intensity of negative feelings as a result of counterfactuals related to environmental sustainability is in the following order: $UE^1 \geq DR^2 > UR^3 \geq DE^4 \geq Control^5$

Hypothesis 2 was based on the potential behavioral change caused by the counterfactuals, as suggested by the literature (Roese 1994; 1997; Epstude and Roese 2008):

H2: Improvement in sustainable tourist/guest behavior resulting from conditions that induce counterfactual thinking is in the following order: $UE^1 \geq DR^2 > UR^3 \geq DE^4 \geq Control^5$*

Methods

An experiment was conducted on Amazon's Mechanical Turk through randomized sampling among an American population. Data was collected from a total of 232 participants in a 3 (counterfactual conditions) x 2 (type of cues) design plus a control condition. While downward counterfactuals of both modes (evaluative and reflective) were included in the study, only evaluative condition was included for the upward counterfactual. Participants were recruited for a fee of €50. The sample size was adequate (n per cell ≈ 30), as it surpassed the minimum recommended sample size of 20 per cell (Hair et al. 2010: 453) in experimental settings. Florida was selected as the destination in this study, and participants first read an introduction about the current situation of the natural environment in Florida (e.g., a 'deteriorated Florida' at present

compared to a better 'imagined' Florida, or vice versa). This introduction primed the counterfactual conditions, hence the independent variable, aimed at leading to different types of counterfactuals (upward, downward) with or without environmentally-friendly behavioral cues. Questions following the introduction focused on the affective states (e.g., *depressed-elated*, *disappointed-relieved*) and behavioral intentions of participants (e.g., 'I would cut my shower time') regarding waste minimization and resource conservation, using items based on a 7-point Likert-type scale. Answers to these questions were treated as dependent variables. The affective components were measured on a semantic differential rating scale (e.g., 1=disappointed, 7=relieved). Behavioral intentions were measured on a Likert-type scale (e.g. Definitely not=1, Definitely=7). The survey also included questions regarding beliefs (about the human beings' ability to damage the nature or remedy the damage already incurred) and sociodemographics, which may have moderation effects (Epstude and Roese, 2008). SPSS v.22 was used for data analysis. Differences among conditions were evaluated using multiple regression with interaction terms (counterfactual conditions and beliefs).

Results

The initial analysis phase measured the reliability of the questions related to sustainability (e.g., resource conservation intention in hotels). A factor analysis was conducted for a 50 participant pilot study. As a result, the 21 items in the main sustainable behavior section were reduced to 15 items. The remainder of the analyses were conducted on the entire sample set (n=232). Demographic results of the actual study revealed that 58% of the respondents were female and more than half (54.7%) had an undergraduate or higher degree. Factor analysis results for the behavioral intentions revealed 3 factors (i.e., commonsense water saving,

commonsense electricity saving, environmentalism; excluding 1 more item with low loadings), each with satisfactory Cronbach's alpha levels ($>.7$) explaining 61.8% of the responses (Table 1). These factors were considered to reflect different levels of intensity regarding the environmental behavior of average hospitality consumer.

INSERT TABLE 1 HERE

The ANOVA results of the affective measures provided support for Hypothesis 1, confirming the manipulations' effectiveness. In terms of Hypothesis 2, a multiple regression analysis with interaction terms revealed partial support and explained 29% of variance (all items checked for multicollinearity), with the only statistically significant increase in resource conservation intention (compared to control) coming from *upward* counterfactual (Table 2). That is, only the scenario that compares a current deteriorated natural environment to an imagined better natural environment caused sustainable behavior significantly higher than other scenarios. This supports the body of knowledge. Possible causes behind the lack of improvement from downward counterfactuals will be further discussed. Additionally, ongoing studies in conjunction with this research agenda, including a field experiment to increase external validity, will be discussed.

INSERT TABLE 2 HERE

Implications

In the face of the rise of alternative tourism paradigms, several researchers have voiced the practical problems of such paradigms (Cohen 1987; Butler 1990; McKercher 1993). This suggests that focusing on the 'average' tourist's behavior, rather than the enlightened few, will contribute to maximum benefits and minimum costs in the context of sustainability. Findings of this study contributes to our understanding of the average tourist's role in sustainable tourism,

particularly environmental sustainability. Specifically, counterfactuals are potentially influential cognitive elements in sustainability: when individuals perceive current negativities in the environment, and process counterfactual thoughts about a better environment, they might have a higher likelihood in engaging in environmentally friendly behavior (e.g. resource conservation intention in hotels). Tourism businesses can in turn utilize this information to augment their communication content and channels (in bedrooms, bathrooms, restaurants, airports, attraction/heritage sites, etc.) with more counterfactual-inducing cues. Additionally, tourism is not isolated from the society. In fact, in destinations such as Florida, tourism is an integral part of the economic, social and cultural life. Florida Department of Environmental Protection (2009) states that, 'the waste generated by [...] guests constitutes a large portion of the state's commercial waste stream'. Therefore, any advancement in our knowledge of sustainable tourism, is likely to make a contribution to the broader sustainability movement.

Table 1. Rotated Component Matrix^a for Hotel Guests' Resource Conservation Intention

	Component		
	1 (conscientious environmentalism)	2 (common sense water saving)	3 (common sense electricity saving)
use only environmentally friendly (soluble) packaging	.784	.210	.059
use only recyclable disposables when necessary	.744	.192	.202
take only as much food as I can finish	.730	.092	.323
prefer reusable utensils instead of disposable	.709	.156	.324
seek hotel's assistance about recycling	.643	.328	-.013
use blow-dryer less frequently	.576	.469	.276
refrain from ordering room service	.564	.076	.112
use towels instead of blow-dryer	.508	.308	.320
flush the toilet less frequently	.075	.824	.172
refrain from flushing the toilet unnecessarily	.144	.816	.118
take showers less frequently	.281	.752	-.057
cut my shower time	.340	.725	.037
have TV off when not watching it	.164	.116	.845
turn off the TV when leaving the room	.182	.031	.809
have the lights off while sleeping	.229	.074	.753

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Table 2. Multiple Regression

	B (unstandardized)	SE	B (standardized)
UpExp	1.534	.553	.482**
AbletoDmg	.365	.058	.381**
AbletoRmdy	.274	.052	.348**
AbletoRmdy x UpExp	-.277	.112	-.431*

*p < .05; **p < .01

R² = .291, p < .01

UpExp: Upward Counterfactuals with Explicit Environmentally-friendly Behavioral Cues

AbletoDmg: Belief in human beings' ability to damage the nature

AbletoRmdy: Belief in human beings' ability to remedy the damage done to nature

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