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Consumer responses to savings message framing

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ABSTRACT

Despite the prevalent use of savings messages (e.g., “get $x off” and “save $x”), no previous tourism and hospitality research has examined their effect on consumer responses. To fill that void, this study investigates the joint effect of savings message type (gain-framed vs. nonloss-framed) and weather conditions (sunny vs. rainy) on consumer attitude. The results show that individuals in rainy weather respond more favorably to a gain-framed (vs. nonloss-framed) message, and this effect is attenuated among people in sunny weather. Furthermore, this study reveals a boundary condition. When the amount of savings is presented in percentage terms (e.g., “get x% off” and “save x%”), the superiority of a gain frame disappears. Theoretical and managerial implications are discussed.

Introduction

Due to the power of price promotions in boosting sales, they are commonly implemented in the travel and hospitality industry, such as airlines, amusement parks, hotels and restaurants (Huang et al., 2014; Jang & Moutinho, 2019; Zhu et al., 2019). When designing price promotions, marketers not only need to decide the amount of savings, but also to determine how to frame the savings message (DelVecchio et al., 2007; Pentina & Taylor, 2013), since framing can influence consumer perceptions (Diamond & Campbell, 1989; Huang et al., 2016; Huang et al., 2020).

The two frequently-used messages in the tourism and hospitality industry are “save $x” and “get $x off”. For example, the former is used by Disney World for its special offers, by American Airlines in their promotional emails and by Agoda on its hotel booking website. In contrast, Grubhub adopts the latter when communicating its discounts via emails. In a similar vein, Noodles and Company (i.e., an American fast-casual restaurant located in 29 states) and Expedia use “get $x off” as the savings message on its mobile app and online coupons respectively. Are these two messages interchangeable?

Previous literature has documented the effect of personality traits (i.e., regulatory focus) on the relative effectiveness of the two message types (Pentina & Taylor, 2013; Ramanathan & Dhar, 2010). However, little is known whether situational factors matter. To bridge that gap, this study focuses on a pervasive environmental variable (i.e., weather), and investigates its effect on consumer responses to the two message types. Recent literature suggests that weather conditions can impact consumers’ variety-seeking behaviors and purchase responses to mobile promotions via mood effects (Li et al., 2017; Tian et al., 2018). Drawing from the mood regulation theory (López & De Maya, 2012) and research on hedonic intensity of gains vs. nonlosses (Idson et al., 2000), we expect that weather will moderate the relative efficacy of the two savings messages. Specifically, a gain-framed message (i.e., “get $ off”) is more effective than a nonloss-framed message (i.e., “save $”) in rainy weather, and this effect will be attenuated in sunny weather.

Furthermore, building on past work comparing dollar-off promotions and percentage-off deals (Choi & Mattila, 2014; Suri et al.,...
2013), we introduce an important boundary condition (i.e., savings presentation format). Specifically, we predict when the amount of savings is presented in percentage terms, the superiority of gain-framed messages (i.e., “get % off”) over nonloss-framed messages (i.e., “save %”) will disappear.

While previous research has examined the effect of savings message framing in the context of grocery stores (Ramanathan & Dhar, 2010) or online daily-deal sites (i.e., Groupon; Pentina & Taylor, 2013), our context is hotel bookings. Due to the increasingly competitive environment, hotel companies invest heavily on price promotions to increase sales and maximize profits (Cox, 2017; Hu & Yang, 2019; Jang & Moutinho, 2019; Martin & Isozaki, 2013). Furthermore, in recent years, hotel marketers have paid growing attention to information presentation strategies (Chen et al., 2017; Guillet et al., 2020; Li et al., 2015; Noone & Mattila, 2009), including price promotion framing (Choi & Mattila, 2014; Nusair et al., 2010). Regarding savings message promotions, both gain and nonloss frames are used by hotel brands (e.g., InterContinental) and online travel agencies (e.g., Priceline). Thus, our research can help tourism companies, especially hotels, to determine which type of savings message to implement and to understand how situational factors (i.e., weather), individual factors (i.e., mood) and the savings message itself (i.e., its presentation format) jointly influence consumer responses to price information.

Literature review

The framing of sales promotions: gain-framed vs. loss-framed

Sales promotions are typically categorized into monetary (e.g., price discounts) and non-monetary (e.g., free gifts) promotions (Builet et al., 2013). Since monetary promotions are in the same metric as pricing information, customers are inclined to integrate them with the price and consequently perceive them as reduced losses (Diamond & Campbell, 1989). In comparison, nonmonetary promotions such as free products tend to be encoded as separate gains because they are in a different metric from the price. Thus, such information is more difficult to be integrated with the product price (Diamond & Johnson, 1990).

Previous literature suggests that consumers respond differently to gain-framed and loss-framed promotions (Campbell & Diamond, 1990; Diamond & Johnson, 1990). According to the prospect theory proposed by Kahneman and Tversky (1979), losses loom larger than gains. As a consequence, sales promotions framed as reduced losses should be more effective than those framed as gains (Gamiel & Herstein, 2012). Drechsler et al. (2017) compare “X for $Y” and “X + N free” promotions, and their findings support the superiority of loss-framed promotions over gain-framed deals. However, some studies report contradictory findings (Diamond & Sanyal, 1990; Smith & Sinha, 2000; Yang & Mattila, 2020). For instance, Sinha and Smith (2000) show that a “buy one get one free” deal is more effective than a “buy two get 50% off” offer.

A few studies indicate that monetary promotions can be framed as either gains or nonlosses (Pentina & Taylor, 2013; Ramanathan & Dhar, 2010). Specifically, a price promotion can be framed as a gain using a “get $x off” message, whereas a “save $x” cue is associated with the avoidance of negative outcomes and thus leads consumers to consider the offer as a nonloss. Drawing on the regulatory focus theory, Ramanathan and Dhar (2010) demonstrate that a “get $x off” message prompts individuals to consider it as a gain, while a “save $x” cue induces people to consider it as a nonloss. Due to the influence of regulatory fit, consumers with a situational promotion focus tend to make more purchases when the message is framed as “get $x off”; in contrast, among prevention-focused people, a “save $x” cue induces more purchases. Similarly, Pentina and Taylor (2013) compare a gain-framed message (i.e., “Enjoy extra $x”) and a nonloss-framed message (i.e., “Don’t miss on a deal to save $x”). However, their results indicate that individuals with a chronic prevention focus are indifferent across the two message types. In contrast, recent research comparing gain-framed and loss-framed messages demonstrates that the match between regulatory focus and message framing increases tourists’ perceived destination image (Zhang et al., 2018), consumers’ intention to consume ethnic foods (Cui et al., 2019), perceived value of a reward program (Daryanto et al., 2010), purchase likelihood of a cable TV service (Choi et al., 2012), and the persuasiveness of anti-drunk-driving messages (Teng et al., 2019).

These inconsistent findings might imply a need for new research from other perspectives. Drawing from literature on hedonic intensity of gains vs. nonlosses, the current research focuses on the mood-lifting abilities of the two message frames.

Hedonic intensity of gains vs. nonlosses

Idson et al. (2000) were the first to investigate the difference in hedonic intensity between gains and nonlosses. They propose that since a gain is related to achieving a maximum goal (i.e., a standard one hopes to achieve) while a nonloss is associated with achieving a minimum goal (i.e., a standard one must achieve), the pleasure of a gain should be stronger than that of a nonloss. They conducted two experiments and their findings show that participants tend to have a more positive feeling when they experience a gain (vs. nonloss).

In order to extend Kahneman et al.’s (1986) proposal that the principle of loss aversion explains why a loss is perceived to be more unfair than a nongain, Liberman et al. (2005) test this principle in the context of positive outcomes and compare a gain (e.g., a price reduction) with a nonloss (e.g., an elimination of a former surcharge). Their results reveal that gains (vs. nonlosses) are perceived as fairer and induce more positive feelings, and thus contradict the theory that losses (vs. gains) are experienced more intensely.

Based on the above findings, Shi et al. (2019) investigate how regulatory focus impacts the asymmetric perception of gains vs. nonlosses. They find that the asymmetry in perceived fairness is stronger for individuals with a situational promotion (vs. prevention) focus. However, when they measured participants’ chronic regulatory focus instead of manipulating it, participants uniformly rated a gain frame as fairer than a nonloss frame.
Building on the aforementioned literature, we argue that since a “get $x off” message is gain-framed and a “save $x” message is nonloss-framed (Pentina & Taylor, 2013; Ramanathan & Dhar, 2010), the former should be more powerful in lifting negative moods than the latter, thus leading to a more positive consumer response. Further, we propose that the superiority of a gain frame over a nonloss frame is influenced by current weather conditions, and that the underlying mechanism is the influence of weather on people's mood states.

**Weather and mood**

Weather has a huge impact on many aspects of consumer behavior (Bujisic et al., 2017). The vast majority of prior studies have investigated its influence on mood (Cunningham, 1979; Goldstein, 1972; Howarth & Hoffman, 1984; Persinger & Levesque, 1983; Schwarz & Clore, 1983). Persinger and Levesque (1983) suggest that weather can explain 40% of the variation in people's daily moods. Specifically, an exposure to bright sunlight induces the brain to produce serotonin, a “happiness hormone”, thus elevating people's mood states (Kämpfer & Mutz, 2013; Lambert et al., 2002). Cunningham (1979) also shows that sunshine can boost individuals' mood states and therefore increase their willingness to help others. Kämpfer and Mutz (2013) show that people interviewed on a sunny day are more satisfied with life due to the activated positive mood. Hirshleifer and Shumway (2003) reveal that sunny weather is positively related to stock returns because investors in an upbeat mood evaluate future prospects in a more optimistic way.

In comparison, rainy weather can leave people feeling gloomy, thus putting them in a bad mood (Li et al., 2017). In addition, humidity contributes to a feeling of reduced physical energy and decreased interest in social interactions, thus resulting in a negative mood (Sanders & Brizzolara, 1982). Kliger and Levy (2003) show that investors experience a gloomy mood in rainy days, and therefore, evaluate future uncertainties in a pessimistic way. Forgas et al. (2009) find that rainy weather is associated with a negative mood state, which can trigger effortful and vigilant processing, which in turn improves memory accuracy.

Prior literature on mood regulation indicates that mood can activate a regulatory system (López & De Maya, 2012). Since individuals are hedonically orientated, they aim to maintain a positive mood state and repair a negative mood state (Arnold & Reynolds, 2009; Gendolla, 2000). Previous research suggests that the greater the discrepancy between the current affective state and an ideal one, the stronger desire for individuals to regulate their moods (López & De Maya, 2012). Hence, mood regulation activities are normally driven by the intent to repair a bad mood (Atalay & Méloy, 2011). Many studies have shown that individuals in a bad (vs. good) mood are more likely to engage in mood-lifting behaviors, such as eating indulgent snacks (Tice et al., 2001), purchasing positively valenced books (López & De Maya, 2012) and recalling positive memories (Parrott & Sabini, 1990).

To summarize, people in rainy weather tend to feel bad and attempt to elevate their mood. Since a “get $x off” message is gain-framed and should bring a stronger pleasure to consumers than a nonloss-framed message (i.e., “save $x”), we expect that people in rainy weather will respond more favorably to a “get $x off” (vs. “save $x”) message. In contrast, people in sunny weather are already in a relatively optimal state. Therefore, there should be no difference in their attitude toward the two messages. Formally, a hypothesis is proposed as follows:

**H1.** Individuals in rainy weather will show a more positive attitude toward a “get $x off” (vs. “save $x”) message, and this effect will be attenuated among individuals in sunny weather.

**Discount framing: “dollar off” vs. “percentage off”**

When communicating a discount to consumers, retailers usually present the amount of savings in a dollar format (i.e., $ off) or in a percentage format (i.e., % off) (Chen et al., 1998). Extensive literature shows the superiority of dollar-off discounts over percentage-off deals (Choi & Mattila, 2014; González et al., 2016; Suri et al., 2013; Yang & Mattila, 2020). For instance, Suri et al. (2013) suggest that consumers prefer price discounts in dollar terms to equivalent ones in percentage terms. Choi and Mattila (2014) find that consumers show a higher purchase intention with a dollar-off (vs. percentage-off) promotion.

Building on these findings, this study proposes that when the amount of savings is presented in percentages, the superiority of gain-framed messages in terms of the mood-lifting properties will disappear due to the following reasons.

First, an “$x off” deal explicitly shows the amount of savings (Chen et al., 1998), and the sign “$” links x with money, thus making monetary benefits highly salient. Therefore, when consumers are exposed to saved dollars (e.g., “get $x off” and “save $x”), they can easily realize how much they can gain or avoid losing. In contrast, an “x% off” format alone provides no information about how much consumers can save (Chen et al., 1998). To capture the amount of savings, consumers need to register the regular price and conduct mathematical computations (DeVecchiro et al., 2007), which might shift their attention away from the promotion. In addition, calculating a price discount resulting from a percentage-off promotion requires people to conduct multiplications, which entail mathematical effort (Estelami, 2003). According to a survey about quantitative literacy conducted by the U.S Department of Education, only 13% of respondents were able to correctly compute numbers in real-life situations (Suri et al., 2013). Morwitz et al. (1998) show that the computational difficulty leads some people to ignore price information presented in a percentage format.

Furthermore, previous research shows that math anxiety, the fear of doing mathematical calculations, is prevalent among people regardless of their math ability (Richardson & Suinn, 1972; Suri et al., 2013). Characterized by a feeling of tension and apprehension, math anxiety interferes with people's ability to solve mathematical problems in daily life, such as computing price discounts (Ashcraft, 2002; Suri et al., 2013). Suri et al. (2013) suggest that math-anxious individuals have a negative attitude toward mathematics, thus leading to a preference for dollar-off promotions over percentage-off offers. Therefore, when the savings message promotes monetary benefits in a percentage format (e.g., “get x% off” and “save x%”), its mood-lifting ability is likely to be nullified.
by an individual’s math anxiety.

Taken together, a boundary condition is proposed as follows:

**H2.** When the amount of savings is expressed in percentage terms, there is no interaction effect between weather and message type on consumer attitude.

**Study 1**

**Method**

To test H1, this study employed a 2 (weather: sunny vs. rainy) × 2 (savings message: get $x off vs. save $x) between-subjects experimental design. We recruited participants through Amazon Mechanical Turk, and they were randomly assigned to one of the four conditions. A total of 159 participants were recruited. Following previous consumer behavior research (Baskin et al., 2014; Cheng et al., 2020; Palmeira & Srivastava, 2013), we removed participants (n = 10) who failed the attention checks. Thus, 149 participants were retained.1

First, participants were exposed to the weather manipulation. They were told that they had planned to go to the beach with friends the next day, but the weather forecast predicted rainy or sunny weather (see Appendix A). After their exposure to the weather manipulation, participants completed a few filler items and a 7-point bipolar mood scale (sad/happy, negative/positive, and gloomy/cheerful; α = 0.96) adopted from Baek and Reid (2013).

Next, participants were instructed to finish an ostensibly unrelated study about hotel booking experience. They were told to imagine that they were browsing the Internet and that a hotel promotion (involving either a “get $x off” or “save $x” message) caught their attention (see Appendix B).

When participants finished reading the scenario, they need to complete a battery of questions. Attitude toward the promotion was measured by a 7-point, bipolar scale (unfavorable/favorable, bad/good, and poor/excellent; α = 0.85) adopted from Aggarwal and Vaidyanathan (2003). We also measured two potential covariates. Sale proneness was captured by a 4-item scale (e.g., One should try to buy brands that are on sale; α = 0.87) adopted from Drechsler et al. (2017). Regulatory focus was captured by a 7-point, 8-item scale adopted from Lee and Koo (2012). Four items were used for promotion focus (e.g., I am more oriented toward achieving success than preventing failure; α = 0.91) and for prevention focus (e.g., I am more oriented toward preventing losses than achieving gains; α = 0.92). The regulatory focus was operationalized as the difference between the two motivational orientations (Cesario et al., 2004).

To check the savings message manipulation, participants were asked two questions: “In the scenario, the promotion was ‘get $x off’” and “In the scenario, the promotion was ‘save $x’”. As for scenario realism, two items (e.g., The scenario was realistic; r = 0.73, p < 0.01) were adopted from Wu et al. (2015).

**Results**

**Demographics**

The mean age of respondents was 35 years, ranging from 19 to 73. About 60% of them were male, 73% were Caucasian, 71% earned over US$40,000 annually, and 63% had earned a four-year college degree.

**Manipulation checks**

The rating of scenario realism was high (M = 5.86). As for the mood induction, respondents reported being in a more positive mood in the sunny weather condition (M_{sunny} = 5.70) than respondents in the rainy weather condition (M_{rainy} = 3.94, t = 7.64, p < 0.01). Regarding the manipulation of savings messages, respondents in the gain-framed condition agreed that the promotion was “get $x off” (M_{get off} = 5.88) more than respondents in the nonloss-framed condition (M_{save} = 3.72, t = 6.59, p < 0.01). In contrast, respondents in the nonloss-framed condition agreed that the promotion was “save $x” (M_{save} = 5.33) more than respondents in the gain-framed condition (M_{get off} = 2.86, t = 7.70, p < 0.01).

**ANCOVA results**

Table 1 shows the descriptive statistics for the four continuous variables. To test H1, we conducted an ANCOVA with attitude toward the promotion (the dependent variable), savings message (the independent variable), weather (the moderator), and sales proneness and regulatory focus (the covariates). The ANCOVA results (see Table 2) indicate that the main effects of savings message (F[1, 143] = 2.90, p > 0.05) and weather (F[1, 143] = 3.37, p > 0.05) were both insignificant. However, their interaction was significant (F[1, 143] = 4.00, p < 0.05).

To decompose the interaction, we conducted two contrast analyses to test the simple effect of the message type across the two weather conditions (see Fig. 1). People in the rainy weather condition exhibited a more positive attitude toward the promotion with a “get $x off” message than with a “save $x” message (M_{get off} = 5.64, M_{save} = 5.05; F[1, 143] = 6.47, p < 0.05). In contrast, people in the sunny weather condition showed no difference in their attitude (M_{get off} = 5.61, M_{save} = 5.66; F[1, 143] = 0.05, p > 0.05). Thus, H1 is supported.

1 Note: Including participants failing the attention checks did not significantly change the results.
The mood effect

In order to show that mood influences the relative effectiveness of the two types of savings message, we conducted a multiple regression on consumer attitude as a function of savings message, mood, their interaction, while controlling for sales proneness and regulatory focus. The results (see Table 3) indicate a significant effect for savings message ($\beta = 1.24, t = 2.53, p < 0.05$) and mood ($\beta = 0.19, t = 2.92, p < 0.01$). More importantly, there was a significant savings message × mood interaction ($\beta = -0.21, t = -2.16, p < 0.05$). Since mood was a continuous variable, we examined the interaction effect through floodlight analysis (Spiller et al., 2013). We performed this analysis using Model 1 in Hayes' PROCESS procedure (Hayes, 2013). As shown in Figs. 2 and 3, the impact of savings message was significant for all values of mood below the Johnson-Neyman point of 4.47: individuals in a less positive mood showed a more positive attitude toward a promotion with a “get $x off” (vs. “save $x”) message. In contrast, individuals in a good mood did not differ in their attitude across the two savings messages.

Table 1
Descriptive statistics in study 1.

| Variable       | Minimum | Maximum | Mean  | Std. deviation | Variance |
|----------------|---------|---------|-------|----------------|----------|
| Attitude       | 2.00    | 7.00    | 5.49  | 1.02           | 1.05     |
| Mood           | 1.00    | 7.00    | 1.65  | 1.65           | 2.73     |
| Sale proneness | 1.00    | 7.00    | 0.31  | 1.34           | 1.80     |
| Regulatory focus | -6.00  | 6.00    | 1.13  | 2.53           | 6.40     |

Table 2
ANCOVA results in study 1.

| Source                                      | Type III sum of squares | Df  | Mean square | F-value | p-Value |
|---------------------------------------------|-------------------------|-----|-------------|---------|---------|
| Savings message                            | 2.604                   | 1   | 2.604       | 2.896   | 0.091   |
| Weather                                    | 3.030                   | 1   | 3.030       | 3.370   | 0.068   |
| Savings message × Weather                  | 3.592                   | 1   | 3.592       | 3.995   | 0.048   |
| Sale proneness                             | 15.567                  | 1   | 15.567      | 17.311  | 0.000   |
| Regulatory focus                           | 4.952                   | 1   | 4.952       | 5.507   | 0.020   |
| Intercept                                  | 186.979                 | 1   | 186.979     | 207.930 | 0.000   |
| Error                                      | 128.591                 | 143 | 0.899       |         |         |
| Total                                      | 4649.222                | 149 |            |         |         |

Table 3
Multiple regression results in study 1.

| Variable                      | Coefficient | Std. error | t value | p value |
|-------------------------------|-------------|------------|---------|---------|
| Savings message              | 1.24        | 0.49       | 2.53    | 0.01    |
| Mood                         | 0.19        | 0.06       | 2.92    | 0.00    |
| Savings message × Mood       | -0.21       | 0.10       | -2.16   | 0.03    |
| Sale proneness               | 0.24        | 0.06       | 4.14    | 0.00    |
| Regulatory focus             | 0.05        | 0.03       | 1.58    | 0.12    |
| Constant                     | 3.26        | 0.44       | 7.36    | 0.00    |
Study 2

Method

The objective of study 2 was to test H2 (i.e., the boundary condition): when the amount of savings is presented in percentage terms, the superiority of gain-framed (vs. nonloss-framed) message will disappear. In other words, there will be no interaction effect between message type and weather on consumer attitude.

A total of 174 respondents were recruited from MTurk, and 19 respondents were removed because they failed the attention checks. Thus, 155 respondents were retained. All the procedures in study 2 were the same as those in study 1, except for the savings message stimuli. Specifically, we used “get x% off” and “save x%” to replace “get $x off” and “save $x” respectively (see Appendix B).

2 Note: Including participants failing the attention checks did not significantly change the results.
Accordingly, for the manipulation check, respondents were asked two questions: “In the scenario, the promotion was ‘get x% off’” and “In the scenario, the promotion was ‘save x%’”.

**Results**

**Demographics**

The mean age of respondents was 36 years, ranging from 20 to 62. About 53% of them were male, 79% were Caucasian, 72% earned over US$40,000 annually, and 64% had earned a four-year college degree.

**Manipulation checks**

The rating of scenario realism was high (M = 5.89). As for the mood induction, respondents reported being in a more positive mood in the sunny weather condition (Msunny = 6.06) than respondents in the rainy weather condition (Mrainy = 4.33, t = 7.17, p < 0.01). Regarding the manipulation of savings messages, respondents in the gain-framed condition agreed that the promotion was “get x% off” (Mget off = 6.05) more than respondents in the nonloss-framed condition (Msave = 3.43, t = 8.94, p < 0.01). In contrast, respondents in the nonloss-framed condition agreed that the promotion was “save x%” (Msave = 5.49) more than respondents in the gain-framed condition (Mget off = 3.41, t = 6.46, p < 0.01).

**ANCOVA results**

Table 4 shows the descriptive statistics for the four continuous variables. To test H2, we ran an ANCOVA including attitude toward the promotion as a dependent variable, savings message and weather as independent variables, and sales proneness and regulatory focus as covariates. The ANCOVA results (see Table 5) indicate that the effects of savings message (F [1, 149] = 1.02, p > 0.05), weather (F [1, 149] = 0.34, p > 0.05) and their interaction (F [1, 149] = 0.01, p > 0.05) were all insignificant. Thus, H2 is supported.

**The mood effect**

In order to show that there is no interaction effect between mood and savings message type when the amount of savings is presented in a percentage format, we performed a multiple regression incorporating consumer attitude, savings message type, mood, their interaction while controlling for sale proneness and regulatory focus. The results indicate that the effect of savings message (β = −0.07, t = −0.13, p > 0.05) was insignificant, but the effect of mood (β = 0.16, t = 2.28, p < 0.05) was significant. More importantly, in line with our theorizing, the savings message × mood interaction (β = 0.04, t = 0.45, p > 0.05) was insignificant.

**Conclusion and discussion**

Price promotions are widespread in the tourism and hospitality industry (Zhu et al., 2019). In order to communicate price discounts to consumers, marketers typically employ two types of savings messages: gain-framed and nonloss-framed (DelVecchio et al., 2007; Pentina & Taylor, 2013). Despite their prevalent use, no prior tourism and hospitality research has investigated whether consumers respond differently to these two types of messages. To bridge this gap, the current study examined how weather impacts consumer responses to a “get $x off” vs. “save $x” message. Our findings reveal that individuals in rainy weather are not in a positive mood state and thus tend to elevate their mood. Therefore, they respond more favorably to a gain-framed message (i.e., “get $x off”).

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**Table 4**

| Variable          | Minimum | Maximum | Mean  | Std. deviation | Variance |
|-------------------|---------|---------|-------|----------------|----------|
| Attitude          | 3.00    | 7.00    | 5.70  | 0.99           | 0.97     |
| Mood              | 1.00    | 7.00    | 5.25  | 1.73           | 2.98     |
| Sale proneness    | 2.25    | 7.00    | 5.23  | 1.02           | 1.04     |
| Regulatory focus  | −6.00   | 6.00    | 1.12  | 2.21           | 4.87     |

**Table 5**

| Source                        | Type III sum of squares | df | Mean square | F-value | p-Value |
|-------------------------------|-------------------------|----|-------------|---------|---------|
| Savings message               | 0.907                   | 1  | 0.907       | 1.023   | 0.313   |
| Weather                       | 0.303                   | 1  | 0.303       | 0.341   | 0.560   |
| Savings message × Weather     | 0.012                   | 1  | 0.012       | 0.014   | 0.907   |
| Sale proneness                | 11.848                  | 1  | 11.848      | 13.358  | 0.000   |
| Regulatory focus              | 2.513                   | 1  | 2.513       | 2.833   | 0.094   |
| Intercept                     | 94.795                  | 1  | 94.795      | 196.877 | 0.000   |
| Error                         | 132.157                 | 149| 0.887       |         |         |
| Total                         | 5180.111                | 155|             |         |         |
than a nonloss-framed message (i.e., “save $x”) since the former has a stronger uplifting ability. In contrast, since people in sunny weather are already in a relatively optimal mood, they are unaffected by the message type. Further, this research reveals a boundary condition. When the amount of savings is presented in percentage terms, the superiority of a gain frame over a nonloss frame disappears.

**Theoretical contributions**

The current research contributes to the tourism literature in several ways. First, existing research on sales promotions mainly focuses on comparing different promotion types, such as bonus packs vs. price discounts (Byun & Jang, 2015; Chen et al., 2012; Mishra & Mishra, 2011) or different price presentations, such as dollars vs. percentages (Choi & Mattila, 2014; González et al., 2016; Suri et al., 2013). We extend this stream of research by investigating two types of savings messages: gain-framed and nonloss-framed. Moreover, previous literature has mixed findings on the superiority of gain-framed promotions over loss-framed offers, which cannot be explained by the prospect theory alone (Diamond & Sanyal, 1990; Drechsler et al., 2017; Sinha & Smith, 2000). This study offers a new perspective by focusing on the differential uplifting power between a gain frame and a nonloss frame. In line with prior research (Idson et al., 2000; Liberman et al., 2005), our findings reveal that a savings message emphasizing gains (vs. nonlosses) is more powerful in lifting an individual’s mood. This finding seems to contradict the principle of loss aversion, which suggests that losses are experienced more intensely than gains (Kahneman et al., 1991). However, as Liberman et al. (2005) state, Kahneman et al. (1991) only compare losses (e.g., a price increase) and nongains (e.g., a cancellation of a former price reduction), and both are negative outcomes. In contrast, gains and nonlosses are positive outcomes. Our research, together with a few previous studies (Idson et al., 2000; Liberman et al., 2005; Shi et al., 2019), challenges the principle of loss aversion in the context of positive outcomes. Further, we find that the superiority of a gain-framed message as a mood lifter disappears when the amount of savings is expressed in a percentage format. This finding is congruent with previous work comparing “percentage-off” and “dollar-off” promotions, suggesting that, due to computational difficulty, a percentage-off frame discourages consumers from processing the price deal (Chen et al., 1998; Suri et al., 2013).

Second, prior work has documented the significant role of mood in influencing tourist satisfaction (De Rojas & Camarero, 2008; Huang et al., 2012) and product/service evaluations (Gountas & Gountas, 2003; Sirakaya et al., 2004; Weber & Sparks, 2009). These studies resort to the mood congruence theory and demonstrate that people in a positive mood tend to evaluate tourism products more positively or are more satisfied with their tourism experiences. Andrade (2005) and Andrade and Cohen (2007) develop an integrative framework of mood congruence and mood regulation, and propose that which mechanism dominates depending on individuals’ mood states and the presence vs. absence of mood-lifting cues. Building on this framework, Chen et al. (2017) hypothesize that with a hotel room discount (a mood-lifting cue), a happy (vs. neutral) mood will increase people’s booking intention due to the mood congruent evaluation, and that a bad (vs. neutral) mood will have the same effect because of the mood regulation tendency. However, their results show no difference in hotel booking intention across the three mood states. The failure to support their hypothesis could result from using college students as participants, who were asked to indicate intention to book expensive five-star hotel rooms. Moreover, Chen et al. (2017) did not control for other factors (e.g., length of stay and supply of hotels in the destination), which could influence participants’ purchase decisions. The current research extends this stream of literature by investigating the mood effect in the context of price promotions. The findings of study 1 and study 2 indicate that mood has a positive effect on people’s attitude toward the promotion, thus supporting the mood congruence theory. On the other hand, the results of study 1 show that people in negative mood states respond more favorably to a gain-framed (vs. nonloss-framed) message, while people in positive mood states show no preference. This finding suggests that people feeling negative (vs. positive) are more motivated to elevate their mood, which is consistent with previous mood regulation literature (Parrott & Sabini, 1990; Tice et al., 2001). Overall, our results show that individuals in a good mood tend to engage in mood congruent behaviors and are unaffected by the type of mood-lifting cues. In contrast, people in a negative mood tend to engage in mood regulation behaviors when facing a cue with a good mood-lifting ability (e.g., a gain-framed message). Furthermore, despite the significant influence of mood on tourist behaviors, it is somewhat surprising that little work has studied its determinants in the tourism field. This research adds to it by showing that weather significantly influences people’s mood states.

Finally, the vast majority of tourism research on weather has studied its effect from geographical and economic perspectives, such as how weather affects the location of tourism (Becken & Wilson, 2013; Burton, 1995; Martin, 2005; Scott & Lemieux, 2010) and tourism demand/spending (Falk, 2013; Hewer et al., 2016; Shih et al., 2009; Wilkins et al., 2018). In contrast, weather has been rarely investigated in the marketing literature (Li et al., 2017), though the understanding of its effect is critical to designing effective marketing strategies (Denstadli et al., 2011). Thus, our work contributes to this stream of research by examining the impact of weather on consumer responses to savings messages. Besides, tourism research has predominantly studied weather conditions in the destination (e.g., Becken, 2013; Denstadli et al., 2011; Falk, 2013; Pizam et al., 1978). As a rare exception, Rosselló-Nadal et al. (2011) investigate how weather variability of the home country impacts outbound tourist flows. Jeuring (2017) studies the influence of weather-based differences between home and destination on holiday satisfaction. We add to this stream of literature by demonstrating that weather conditions at tourists’ home can impact their response to savings message framing. Specifically, we find that compared with a “save $x” cue, a “get $x off” message is more effective on rainy days, and this effect is attenuated on sunny days.

**Managerial implications**

Our findings provide important implications to tourism and hospitality companies using savings messages to communicate price...
discounts. First, marketers should realize that gain-framed and nonloss-framed messages are not necessarily interchangeable. As our findings suggest, their relative effectiveness is impacted by weather conditions. Due to the advancement of modern mobile and digital technologies, companies can access information about consumers' location and their local weather (Andrews et al., 2015; Fang et al., 2015). Thus, marketers should determine the savings message type depending on current weather conditions. On rainy days, a gain-framed message such as “get $x off” and “enjoy extra $x” should be utilized. In contrast, the message type does not matter on sunny days.

Furthermore, our findings indicate that weather influences consumers via mood states. Therefore, other factors affecting people's mood states should be considered when designing savings messages. For instance, music is a powerful means to alter moods (Zentner et al., 2008), and often played in restaurants and hotels (Ha & Jang, 2010; Lin, 2009). Previous research suggests that music characterized by low pitch, slow tempo or dissonant harmony tends to evoke sadness (Bruner, 1990). Thus, this type of music should be paired with a gain-framed message. In addition, frontline employees need to be trained to evaluate consumers' moods, such as through their facial expressions (Mattila & Enz, 2002). When employees communicate a price deal to consumers in a bad mood, they should emphasize how much consumers can gain.

Finally, marketing managers should be aware when the amount of savings is expressed in percentage terms, the superiority of gain-framed messages over nonloss-framed messages disappears. Hence, if managers aim to leverage a gain frame to lift consumers' mood states, they should avoid presenting the amount of savings in a percentage format.

However, caution needs to be exercised when generalizing our findings to other tourism and hospitality settings. For instance, the study findings may not apply to hotels mainly catering to business travelers. Since business travelers tend to be price insensitive and price is not a determinant of their intention to book a hotel room (Jiang, 2007; Kashyap & Bojanic, 2000), savings messages are probably unable to influence their mood. In addition, recent literature shows that luxury travelers respond negatively to price promotions due to their need for status (Jang & Moutinho, 2019; Yang et al., 2016). Thus, luxury hotels might not benefit from our study findings.

Limitations and future research

Several limitations should be noted. First, we used online experiments to test our hypotheses. Although experimental designs help to ensure high internal validity (i.e., the effect is really caused by the manipulation) and identify psychological processes, the primary disadvantage is the low level of contextual realism (Fong et al., 2016; Viglia & Dolnicar, 2020). However, in the current environment, it is difficult and even problematic to conduct a field experiment. Due to the Covid-19 pandemic, very few people book hotel rooms and flights. Today's depressed tourism and hospitality industry does not offer an attractive condition for conducting a field experiment. Moreover, in our study, weather makes a difference by influencing people's mood. Nowadays, Covid-19 has a huge negative impact on people's mood states, and is very likely to override the influence of weather on people's mood. Thus, future research should employ field experiments to examine whether our findings hold true in real life situations. In addition, our stimuli were limited to hotel rooms. Thus, examining other types of tourism and hospitality contexts such as amusement parks and restaurants is warranted.

Second, Hardesty and Bearden (2003) indicate that promotional benefit levels can influence consumer responses to price promotions. Thus, it would be interesting to examine whether the amount of savings impacts individuals' sensitivity to gains vs. nonlosses. In other words, will a greater savings increase or decrease the superiority of a “get $ off” message over a “save $” cue?

Third, this study shows that gain-framed messages are more effective than nonloss-framed messages for people in negative emotional states. Does this effect remain the same across different types of negative emotions? For instance, prior literature shows that compared to sadness, anger leads to a higher preference for an active-framed (vs. passive-framed) advertisement (Rucker & Petty, 2004). Hence, it is worthwhile to investigate whether the advantage of gain-framed messages is more salient when people feel angry (vs. sad).

Finally, the current research investigates the moderating effect of weather conditions. Other possible moderators should be examined in future studies. For instance, power (powerlessness) is related to rewards (punishments) and activates the behavioral approach (inhibition) system (Keltner et al., 2003). A gain (nonloss) frame should be more congruent with the psychological state of powerful (powerless) people. Therefore, the match between an individual's power state and savings message framing might have a positive effect on consumer responses.

Statement of contribution

1. Theoretical and practical contributions:
First, this study contributes to the tourism research on price promotions by investigating two types of savings messages: gain-framed vs. non-loss framed. Besides, research on the framing effect of sales promotion mainly resorts to prospect theory. This study offers a new perspective by focusing on the differential uplifting power between a gain frame and a non-loss frame. Second, tourism literature predominantly investigates weather conditions in the destination. We focus on the weather at tourists' home.
Finally, this study contributes to tourism research on mood by examining its effect in the context of price promotions and by showing one of its determinants, i.e., weather, a pervasive environmental variable.
Practically, the two types of savings messages are commonly used by tourism and hospitality businesses such as Disney World, American Airlines, Expedia and Grubhub. This study helps marketers to decide which type of savings message to adopt.
2. How does the paper offer a social science perspective/approach?
First, this study examines the relative effectiveness of two types of savings messages from the perspective of consumers. Consumer behavior is a popular topic in social science, and savings messages are commonly used by service companies such as airlines, hotels, restaurants and amusement parks. As for the methodology, we conduct two experiments in the context of hotels, and investigate how participants differentially respond to the two types of savings messages. Second, regarding the theoretical foundations, this study focuses on the hedonic intensity of gain-framed and non-loss-framed messages, and draws upon the mood regulation theory to explain why consumers react differently to different types of messages.

Declaration of competing interest

None.

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Appendix A. Weather stimuli

[Sunny weather]
Imagine that it is 9 o’clock am. You just woke up and see the beautiful blue sky outside (shown in the picture below). You have planned to go to the beach with your friends tomorrow. You check the weather forecast on your phone and it shows that the nice weather will last throughout the next few days.

[Rainy weather]
Imagine that it is 9 o’clock am. You just woke up and see that it is raining heavily outside (shown in the picture below). You have planned to go to the beach with your friends tomorrow. You check the weather forecast on your phone and it shows that the rain will last throughout the next few days.
Appendix B. Savings message stimuli

[in dollar terms]

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