

# Research on the Influence of Emoji in Advertising Slogans on Consumers' Purchase Intention

-- Investigating the Positive Effects of Emoji on Consumer Reactions to Product Slogans

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**Abstract:** In the Internet era emoji are being used more and more frequently, this study focuses on how the use of emoji in product advertising slogans affects consumers' purchase intentions. We conducted 2 experiments to explore this issue. Experiment 1 found that adding emoji to product advertisements would increase consumers' willingness to buy products, and the effect was mediated by psychological simulation. Based on this, Experiment 2 further found that the position of the emoji in the tagline would have a moderating effect, i.e., the emoji would increase purchase intention only when the emoji was in the middle of the tagline, while the emoji's effect on purchase intention disappeared when the emoji was on both sides (left or right). This study makes some theoretical contributions and practical contributions to how emoji can be used in the consumer market.

**Keywords:** Emoji, Psychological simulation, Purchase intention, Location effect.

## 1. Introduction

In the Internet era emoji are being used more and more frequently because emoji can help people better convey concepts, emotions and express ideas in online communication (Novak et al., 2015). Today more and more companies are using emoji in their marketing campaigns with some success (Bomey, 2016), for example, many well-known fast food brands and clothing brands have tried to incorporate emoji in their brand tweets on twitter and have gained more attention and likes. A recent analysis of 9,400 marketing campaigns revealed that emoji usage on Android and IOS platforms reached an average annual growth rate of 1,070% and 662%, respectively, with corporate and marketing practitioners again being the most dominant group of users (Meola, 2016). While some recent studies have begun to highlight the importance of using emoji in marketing campaigns (Das, Wiener, & Kareklas, 2019; Ma & Wang, 2021; Hewage, Liu, Wang, & Mao, 2021), exploration of whether and how emoji affect purchase intention is relatively limited. purchase intention has been relatively limitedly explored. To address this research gap, this study focuses on the product advertising domain to analyze whether the inclusion of emoji in product taglines increases consumers' purchase intention and what are the psychological mechanisms by which emoji have an effect.

Our exploration of the role of emoji on purchase intention is partly inspired by the existing literature on psychological simulation. Psychological simulation refers to a series of interactions that occur psychologically between consumers and a product (Thompson, Hamilton, & Petrova, 2009). Because emoji can convey product information to consumers in a visual way, emoji may stimulate higher levels of psychological simulation among consumers, increasing their psychological interaction with the product and, consequently, their purchase intentions. A factor closely related to psychological simulation is the position of the emoji in the tagline; emoji in the middle stimulate higher levels of

psychological simulation than emoji at the two ends, so placing emoji in the middle may achieve the best consumption results. In conclusion, this paper will explore the above issues through two studies: Study 1 intends to explore the role of emoji in increasing purchase intention and the explanatory mechanism of psychological simulation in the relationship between emoji and purchase intention; Study 2 intends to explore the position effect of emoji, i.e., whether different positions of emoji in advertising slogans will have different effects on purchase intention.

## 2. Theoretical Framework and Assumptions

### 2.1. Emoji and consumer behavior

An emoji is symbolic content presented in pictorial form, it is a pictogram that can express both expressions and mannerisms of people and places and things (McShane et al., 2021). In the opinion of some researchers, the use of emoji is not an interaction between consumers and products, but a primary way of brand communication. Many studies have found that consumers will be more willing to continue reading an advertisement or text when emoji are present in that advertisement or text (McShane et al., 2021). emoji are generally considered to be an interesting message (Jian Zou & Jiang, 2022), and when emoji are added to an advertisement it increases the perceived fun of the advertisement, which in turn Interestingness, in turn, has a positive effect on consumer behavior, so ads with emoji will get more positive attitudes from consumers (Huang, Kader, & Kim, 2021). In addition, not only in product advertisements but also in social media communication, emoji are believed to bring more fun than text (Zhang, Wang, & Li, 2021), so using emoji in product tweets is an effective way for marketers. This is because for consumers, the fun nature of marketing tweets is itself an attraction to consumers. In view of this, we believe that adding emoji to product taglines will enhance the appeal of the taglines and propose the hypothesis that H1: Ad slogans

that include emoji (compared to no emoji) can increase an individual's willingness to buy a product.

## 2.2. Emoji and mental simulation

Psychosimulation emerged as a formal concept in a study conducted by American psychologists Taylor and Schneider in 1989 (Taylor & Schneider, 1989) and is defined as an individual's simulated mental representation of an event or series of events. In the context of consumption, psychological simulation refers to a series of processes in which consumers mentally interact with a product, through which psychological simulation can increase consumers' psychological ownership and positive attitudes toward the product (Elder & Krishna, 2022). Many previous studies have found that increasing the degree of consumer-product psychological simulation is effective in increasing consumers' purchase intentions (Elder & Krishna, 2012; Shen, Zhang, & Krishna, 2016; Song, Jinzhu et al., 2020). For example, in a study by Klder and Krishna (2012), they designed two mugs, one with the handle facing left and the other with the handle facing right. It was found that consumers were significantly more likely to purchase mugs with right-facing handles than left-facing mugs because people habitually use right-handed handles. This is because people habitually use the right-handed grip. The right-handed grip is consistent with the general psychological schema of consumers and therefore has a higher level of psychological simulation, thus increasing the purchase intention. Based on the above discussion, we know that a higher level of psychological simulation leads to a higher purchase intention.

emoji are symbolic content presented in pictorial form, which can convey richer, more vivid and expressive messages to consumers (Pavalanathan & Eisenstein, 2016), for example, emoji can be used to express a range of emotions such as excitement, pleasure, and energetic, and also emoji can be used to express walking, sitting, standing and other different body postures such as walking, sitting, and standing. When consumers are confronted with cold words, they need to establish the image or state of the product through their own imagination. However, if emoji are present in the advertisement, more information can be conveyed to consumers (Pavalanathan & Eisenstein, 2016), for example, emoji can be used to express emotions in consumption or specific images of different foods such as burgers, vegetables, and noodles. Previous research has found that vividness (Vividness) is again an antecedent variable for mental simulation (Kappes & Morewedge, 2016), and the more vivid the information, the more likely it is to stimulate the mental simulation process. papies et al. (2015) found that neutral foods such as rice, presented with pictures (vivid information) compared to textual presentation (not vivid information) is more likely to allow people to simulate the real consumption of that food, including the taste and texture of the food, as well as the pleasurable mood when consuming it. The above research shows that the vividness of emoji makes them effective in increasing the degree of psychological simulation between consumers and products. And because psychological simulation leads to positive consumption outcomes (e.g., higher purchase intentions), we accordingly make the hypothesis that H2: emoji can increase the level of mental simulation of individuals and products (H2a), and mental simulation plays a mediating role in the effect of emoji on purchase intention (H2b).

## 2.3. Location effect


The position effect means that when emoji are placed at different positions in the tagline (such as the middle or the two ends), it may have different effects on the results. When the emoji is placed at the beginning of the tagline, consumers may see the emoji at the first glance and ignore the text content; when the emoji is placed at the end of the tagline, consumers may not see the emoji after reading the text content and cannot fully utilize the emoji. Therefore, we deduce that placing emoji in the middle of the advertisement may have the best effect. Putting emoji in the middle means that emoji can fully integrate with the text message, that is, emoji has the best level of interaction with the advertising slogan, and thus can stimulate the consumers' mental simulation level to the maximum. In contrast, whether the emoji is placed at the beginning (the leftmost end) or at the end (the rightmost end), it keeps a certain distance from the advertising message and is not fully integrated with the text, so the level of psychological simulation may be relatively low. And since we inferred earlier that the effect of emoji on consumers' purchase intention enhancement is achieved through psychological simulation, and since the ad slogan with emoji in the middle has the highest level of psychological simulation, its effect on purchase intention enhancement should also be the highest, accordingly we propose the hypothesis that H3: When the emoji is located in the middle of the banner, it is more effective in increasing purchase intention than when the emoji is located on the left (H3a) or right (H3b) of the banner.

## 3. Experiment 1

Experiment 1 aimed to test whether there was a main effect of emoji in advertising slogans on purchase intention and to conduct a mediating effect analysis to test whether psychological simulation could explain the above effect.

### 3.1. Methodology

The required sample size was calculated by G\*power (Faulstich, 2007). Based on the design of Experiment 1 and the effect size of previous similar studies ( $f = 0.30$ ), a minimum sample size of 150 was obtained to obtain sufficient statistical efficacy at the level of  $\alpha < 0.05$  ( $1 - \beta > 0.95$ ). A final sample of 180 participants (age =  $30.23 \pm 7.16$  years, female = 54.98%) was recruited by questionnaire star for this study. Experiment 1 used a one-way (with emoji vs. without emoji) between-group design, and participants were randomly assigned to an experimental group with emoji and a control group without emoji.

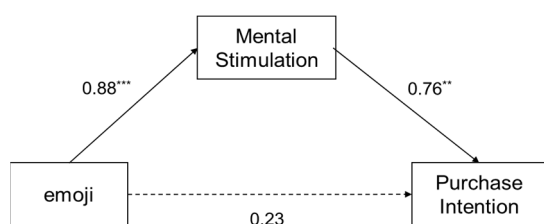
Experiment 1 used real KFC jingles as the experimental material,  With KFC, life is good. the experimental group being "Life is good with KFC" and the control group being "Life is good with KFC". After entering the task, participants were first presented with the KFC tagline with or without emoji, and then were asked to assess their purchase intention on a 3-item 7-point scale developed by Elder & Krishna (2012), "To what extent do you want to buy KFC", "To what extent do you want to buy KFC next", "To what extent do you want to buy KFC next? "The next time I have to buy food, I would consider buying KFC", and "When you have to buy food, how likely are you to actively seek out KFC and buy it" (1=very low, 7=very high). Afterwards, participants were asked to assess their own mental simulation

(Elder & Krishna, 2012) using 3 items, "To what extent can you imagine yourself eating KFC when looking at the tagline", "When looking at the tagline, I can feel the I can feel the image of eating KFC", and "To what extent can you imagine that you are eating KFC when watching the tagline" (1=very low, 7=very high). We used the mean as a measure of purchase intention and mental simulation ( $\alpha_{\text{Willingness to buy}} = 0.88$ ,  $\alpha_{\text{psychological simulation}} = 0.87$ ). Finally, the demographic variables of the participants were recorded.

### 3.2. Results

First, a one-way analysis of variance (ANOVA) was conducted with emoji as the independent variable and purchase intention as the dependent variable, and the results showed that there was a significant main effect of emoji ( $F(1, 179) = 11.23, p = .001, \eta^2 = 0.09$ ), and the emoji group had a higher purchase intention for KFC than the control group ( $M_{\text{emoji}} = 5.29$  vs.  $M_{\text{control}} = 4.15$ ), this result indicates that emoji can effectively increase people's willingness to purchase the product.

Next, we used the macro program PROCESS (Model 4) in SPSS to examine the mediating role of mental simulation in emoji's influence on purchase intention (Hayes, 2013). With emoji as the independent variable (0=control group, 1=experimental group), psychological simulation as the mediating variable, and purchase intention as the dependent variable. The results are shown in Figure 1. emoji significantly predicted the level of psychological simulation ( $\beta = 0.88, SE = 0.23, 95\% CI = [0.41, 1.34]$ ), and the level of psychological simulation significantly predicted purchase intention ( $\beta = 0.76, SE = 0.19, 95\% CI = [0.33, 1.03]$ ). However, if both emoji and psychological simulation entered the regression variance, emoji did not significantly predict purchase intention ( $\beta = 0.23, SE = 0.11, 95\% CI = [-0.23, 0.69]$ ). A bias-corrected percentile Bootstrap method test using 5000 self-samples indicated a fully mediated effect of mental simulation between emoji and purchase intention ( $effect = 0.81, SE = 0.29, 95\% CI = [0.67, 1.13]$ ), with the mediating effect accounting for 71.05% of the total effect.



**Figure 1.** Results of the mediating effect of psychological simulation in emoji influencing purchase intention

### 3.3. Summary

The results of Experiment 1 showed that adding emoji to

the advertising slogan significantly increased people's willingness to buy the product, i.e., H1 was proven. We speculate that this may be because emoji can effectively stimulate the level of psychological simulation between individuals and the product, which in turn increases purchase intention. The mediation effect analysis conducted in Experiment 1 provides data support for the above inference, and thus H2a and H2b are also verified.

## 4. Experiment 2

The increase of purchase intention by emoji in the tagline is achieved through psychological simulation, and the emoji in the middle position may cause a higher level of psychological simulation than the emoji on both sides of the tagline because it has a closer connection with the tagline. According to this logic, when emoji are located in the middle of the tagline, the promotion effect on purchase intention is better than when emoji are located on both sides of the tagline. Experiment 2 was designed to test the above position effect.

### 4.1. Methodology

The required sample size was calculated by G\*power (Faul et al., 2007). Based on the design of Experiment 2 and the effect size of Study 1 ( $f = 0.30$ ), it was obtained that a minimum sample of 220 was required to obtain sufficient statistical efficacy at the level of  $\alpha < 0.05$  ( $1 - \beta > 0.95$ ). The study ultimately recruited 242 participants (age =  $31.27 \pm 8.16$  years, female = 56.32%) by questionnaire star.

Experiment 2 included three conditions in which the emoji position was to the left, middle and right of the tagline, and a control group condition without emoji was also set, so Experiment 2 was a one-way between-groups (left emoji vs. middle emoji vs. right emoji vs. no emoji) design in which participants were randomly assigned to one of the four conditions mentioned above.

Experiment 2 had three target products, milk, sneakers, and a music app, designed with similar taglines and emoji as in Experiment 1, and the experimental materials are shown in Table 1. Upon entering the task, participants were first presented with the taglines (left emoji/center emoji/right emoji/no emoji), and the order of presentation was completely randomized for the three products. Immediately after each tagline, participants were also asked to assess the product on the same purchase intention scale and psychological simulation scale as in Experiment 1. Again, the mean value was used as the measure of purchase intention and psychological simulation. In Experiment 2, participants were also asked to report their liking of emoji (1 = very disliked, 7 = very liked) and frequency of daily use of emoji (1 = rarely used, 7 = often used) on a 7-point scale and as a control variable. Finally, participants filled in demographic variables.

**Table 1.** Combination of three products with emoji positions in Experiment 2

	Milk	Sneakers	Music App
<b>Left side emoji</b>	Deluxe Milk, for better nutrition and a better daily life.	Let Nike tell you, life is not a road in vain.	The NetEase Cloud in the headset, save your sleepless days.
<b>Middle emoji</b>	Deluxe Milk  for better nutrition and a better daily life.	Let Nike tell you , life is not a road in vain.	The NetEase Cloud in the headset  save your sleepless days.
<b>Right emoji</b>	Deluxe Milk, for better nutrition and a better daily life.	Let Nike tell you, life is not a road in vain.	The NetEase Cloud in the headset, save your sleepless days.
<b>No emoji</b>	Deluxe Milk, for better nutrition and a better daily life.	Let Nike tell you, life is not a road in vain.	The NetEase Cloud in the headset, save your sleepless days.

## 4.2. Results

We analyzed the data for the three products after averaging them.

### Willingness to buy

A univariate ANOVA with location as the independent variable, purchase intention as the dependent variable, and emoji liking and emoji usage frequency as covariates revealed a significant main effect of location ( $F(1, 241) = 9.57, p = .003, \eta^2 = 0.07$ ). Post hoc multiple comparison analysis revealed that participants' purchase intentions were higher in all conditions with emoji than without emoji ( $ps > 0.05$ ), regardless of the location of the emoji. After further analysis of the three conditions with emoji, it was found that purchase intention was significantly higher when emoji was in the middle of the tagline than when emoji was on the left ( $t(121) = 11.34, p < 0.001, \text{Cohen's } d = 1.26$ ) and on the right ( $t(128) = 10.78, p < 0.001, \text{Cohen's } d = 1.14$ ) for both conditions, while there was no significant difference in purchase intention between the latter two conditions ( $t(126) = 2.18, p = 0.32$ ).

### Mental Simulation

Next, we tested the mental simulations using the same one-way ANOVA and obtained similar results. The main effect of location on psychological simulation was significant ( $F(1, 241) = 7.99, p = .006, \eta^2 = 0.06$ ), and post hoc multiple comparison analyses revealed that the level of psychological simulation was significantly higher when emoji was in the middle of the tagline than when emoji was on the left ( $t(121) = 9.32, p < 0.001, \text{Cohen's } d = 1.17$ ) and on the right ( $t(128) = 12.32, p < 0.001, \text{Cohen's } d = 1.35$ ), while the level of psychological simulation was significantly higher in all three conditions with emoji than in the control condition without emoji ( $ps > 0.05$ ).

## 4.3. Summary

Experiment 2 replicated the findings of Experiment 1, i.e., the presence of emoji in the advertising slogan would be effective in increasing individuals' purchase intention. More importantly, Experiment 2 shows that the effect of emoji in the middle on the increase of purchase intention is better than in the far left or far right, i.e., there is a position effect of emoji, thus H3a and H3b are proved. Our data also found that the level of psychological simulation from emoji being in the middle of the tagline was significantly higher than being on the left and right, and the difference in psychological simulation of emoji in different positions may be a potential mechanism for the emergence of the position effect.

## 5. Discussion

Emoji is an increasingly popular element in the current Internet world, and this study explores the effect of emoji in advertising slogans on increasing purchase intention. Experiment 1 found that the insertion of emoji in advertising slogans would effectively increase people's willingness to purchase products, and the effect was achieved through the mediating effect of psychological simulation, i.e., the inclusion of emoji would enhance people's level of psychological simulation in consumption and make them have a higher level of psychological interaction with the product, which in turn would increase their willingness to purchase the product. Experiment 2 further explored a possible moderating variable of emoji's influence on purchase intention, namely, the location of emoji in the tagline. The

results showed that emoji had the best effect on consumers' purchase intention when they were located in the middle of the tagline (compared to when they were on the left or right side), but there was no difference in purchase intention between the two regardless of whether emoji was on the left or right side of the tagline. Therefore, this study proposes that there is a position effect on the marketing effectiveness of emoji.

The theoretical contributions of this study are reflected in the following aspects. First, based on the continuation of the research on the effect of whether to use emoji on consumer response in the marketing field, this study further conducts in-depth research on how to use emoji, which enriches the research results of emoji in the marketing field, adds to the literature on the effect of emoji on consumer response marketing, and provides new ideas for conducting future emoji research. This study finds that emoji can increase consumers' willingness to purchase products by raising the level of psychological simulation, indicating that there is a positive promotion effect of emoji on consumption. Second, this study also explores the different effects of different positions of emoji on consumption effects, which complements the influence of the position effect. While previous studies on the location effect have been applied in the fields of packaging design (Deng & Kahn, 2009), shelf presentation (Valenzuela & Raghuram, 2015), and advertising display (Yushi Jiang, 2013), this paper finds that the location effect can also be applied to the field of text processing. The consumption effect of emoji will be best utilized when there is a closer integration of emoji with text, such as when emoji is placed in the middle of text. This may be because a tighter integration of emoji with text results in a higher degree of psychological simulation and therefore better consumption. This finding complements the influence of the location effect, which also affects the degree of psychological simulation people have with the product represented by the tagline. Finally, this study also provides important evidence for the function of emoji, which can serve as a graphic cue to influence consumer behavior in adwords.

This study also has important practical implications. Companies can add emoji to their advertising slogans or text marketing based on the results of this study, and through emoji, they can stimulate the level of psychological simulation between consumers and products, which in turn can increase consumers' willingness to purchase products. In addition, in some contexts where there is a lack of product image information (e.g., product photos, product videos), companies can also use emoji to play an alternative role to image information. This study also suggests that companies need to pay attention to the design of emoji in the appropriate position of the advertising slogan or text, and it is better to put emoji in the middle than in the sides, especially to pay attention to the close integration of emoji with the product description in the advertising slogan or text, so as to achieve better marketing effect.

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