

Emojis and assertive environmental messages in social media campaigns

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Abstract

Purpose – The authors aim to examine how emojis interact with assertiveness in social media posts to encourage social media engagement and cooperation in environmental campaigns.

Design/methodology/approach – Two experiments were used to test three hypotheses.

Findings – Study 1 shows that when assertive Twitter messages include the smiley-face emoji, study participants indicate stronger social media engagement and behavioral intentions to recycle used jeans. In Study 2, participants indicate stronger social media engagement and behavioral intentions to sign a petition for reducing plastic pollution when (non) assertive Facebook messages (do not) include emojis.

Originality/value – The current research advances our understanding about how emojis interact with assertive and nonassertive message tonality in environmental social media campaigns. This research also provides new insights showing that positive emotion is the psychological mechanism underlying matching effects of emoji and message assertiveness.

Keywords Emoji, Environmental campaign, Message assertiveness, Social media engagement, Sustainable intentions

Paper type Research paper

Introduction

Approximately 92% of social media users (Grabowski, 2016) insert emoji symbols such as 😊, 🌍, 🗑️ to express emotions and ideas (Derks *et al.*, 2008), to provide nonverbal cues (Li *et al.*, 2018), and to alleviate stress in online encounters (Li *et al.*, 2018). Marketers use emojis to

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increase positive affect and purchase intentions, especially for hedonic rather than utilitarian products (Das *et al.*, 2019).

As the world becomes increasingly concerned about sustainability, private and public sectors are progressively using emojis in environmental campaigns. For example, Bacardi Limited, in partnership with Lonely Whale, a marine sustainability organization, uses emojis in their social media campaign “#TheFutureDoesntSuck” to make the public aware that plastic straws are polluting the oceans (Casey, 2019). The World Wildlife Fund (WWF) created emojis to represent endangered species for Twitter messages that raise awareness about vanishing fauna.

Thus, it is theoretically and practically important to examine whether environmental social media postings that use emojis will increase sustainable intentions and whether the effects are more or less positive in assertive social media messages. For example, how will consumers react to an assertive demand that includes a smiley-face emoji such as “☺ Recycle now!?” Strongly engaged consumers tend to have interactive co-creative experiences with social media, and to react positively to social media campaigns (Van Doorn *et al.*, 2010). Consequently, social media environmental campaigns should motivate sustainable intentions and eco-friendly behaviors among consumers who are strongly engaged in social media (Baek and Yoon, 2017; Pittman *et al.*, 2021).

Our primary purpose is to test how emojis influence social media engagement and subsequent intentions to adopt sustainable behaviors. Drawing on the emotions as social information model (Van Kleef, 2009) and language expectancy theory (Burgoon, 1995; Burgoon *et al.*, 2002), we postulate that emojis have greater effect on responses to assertive rather than nonassertive environmental messages. Specifically, emojis cause social media consumers to be highly engaged and to then comply with assertive pro-environmental messages.

When message senders use assertive language, they signal that they have strong feelings about their causes (e.g. Forgas, 1995; Kronrod *et al.*, 2012b; Sinclair and Mark, 1992). Indeed, assertive messaging is often used to promote environmental awareness (Baek *et al.*, 2015; Kim *et al.*, 2017; Kronrod *et al.*, 2012a). Hedonic consumption has been shown to generate positive emotions that then make assertive messages more persuasive (Kronrod *et al.*, 2012b). By eliciting positive affective states (Kang *et al.*, 2013; Li *et al.*, 2018), emojis paired with assertive messages should motivate ecofriendly behaviors. We also highlight positive emotion as the underlying mechanism that mediates the emoji-assertiveness effects on social media engagement and sustainable intentions.

Emojis make digital messages appear more credible (Manganari and Dimara, 2017) and make digital relationship communications seem more normal (Li *et al.*, 2018). We extend those contributions to the persuasion literature by showing that emojis interact with assertive language on social media. Social marketers can use our findings to refine visual and verbal cues embedded in environmental awareness campaigns.

Next, we review research on emoji effects, particularly regarding message assertiveness. To test the hypotheses, we conducted two environmental campaign experiments on Twitter and Facebook. We conclude with theoretical and practical implications.

Conceptual background

Emojis

Standardized emojis, a form of textual paralanguage developed and encoded by the Unicode Consortium (Das *et al.*, 2019), are images used to “supplement or replace written language” (Luangrath *et al.*, 2017, p. 98) and express feelings that are often subtle and hidden in digital and social media communications. Emojis are distinct from emoticons, which are created by using only keyboard characters such as ^5, :-P, , :\$).

Computer-generated emojis are more powerful than emoticons for enhancing moods, emotions, and persuasion; they induce positive affect and stronger purchase intentions

particularly toward hedonic products (e.g. [Das et al., 2019](#); [Ganster et al., 2012](#); [Lohmann et al., 2017](#); [Smith and Rose, 2020](#)). Consumers tend to perceive that messages containing emojis are attractive, effective, and intrinsically playful ([Ge and Gretzel, 2018](#)). The popular smiley-face 😊 has been shown to particularly decrease distress while increasing joy, persuasion, and emotional contagion ([Lohmann et al., 2017](#)). To express emotions, set tone, or draw attention, message senders can go beyond simple smiley faces and choose from a plethora of symbolic emojis such as tears of joy 😂, hearts ❤️, pizza slices 🍕, soccer balls ⚽, and lion faces 🦁.

To understand how and why emojis affect social interactions and consumer judgment, we based our theory on the *emotions as social information* (EASI) model ([Van Kleef, 2009](#)), inspired by the social-functional perspective ([Frijda, 1986](#)), to postulate that people extract social information from observing emotional expressions, and then choose appropriate responses ([Wang et al., 2015](#)). For example, individuals smile to signal that they are agreeable and have positive social intentions ([Abe et al., 2002](#); [Wang et al., 2017](#)).

Thus, message recipients process information from emotional expressions to infer how they should respond. In addition, emotions are socially contagious ([Van Kleef, 2009](#)): positive emotions generate concordance; negative or inappropriate emotions generate disagreement ([Wang et al., 2015](#)). We link those ideas to propose that emojis can activate inferential and affective pathways. For example, Facebook posts or replies that include smiley-face emojis signal that things are going well and often lead to “Like” or “Share” clicks. Indeed, when consumers report being pleased with Facebook brand posts, their “Like” clicks increase ([Yu, 2014](#)).

Extending that reasoning, we assert that marketers and advertisers can use smiley-face emojis in digital messaging to convey vivid emotional, relational information and thus foster interpersonal relationships, encourage social media engagement, strengthen relationships, increase behavioral responses and positively influence purchase intentions ([Das and Hagtvedt, 2016](#); [Ge and Gretzel, 2018](#); [Kelly and Watt, 2015](#); [Smith and Rose, 2020](#)). We hypothesize:

- H1.* The inclusion (non-inclusion) of emojis will generate stronger (weaker) social media engagement and sustainable intentions.

Message assertiveness and environmental compliance

Assertive messages use imperative, forceful and controlling terms that appear to demand compliance ([Baek et al., 2015](#); [Kim et al., 2017](#); [Miller et al., 2007](#)). The environmental communication literature indicates that assertiveness is effective for persuading consumers to adopt pro-environmental behaviors ([Baek et al., 2015](#); [Kim et al., 2017](#); [Kronrod et al., 2012a](#)). Also, social marketers primarily use assertive messages because simple formats deliver clear messages. For example, Denver Water conducted an environmental campaign using the assertive slogan “Use Only What You Need.” Greenpeace used the slogan “Stop the Catastrophe” ([Baek et al., 2015](#); [Kronrod et al., 2012b](#)).

Ironically however, assertive messages can provoke resistance. Commanding language draws suspicion and scrutiny ([Miller et al., 2007](#); [O’Keefe, 1997](#); [Zemack-Rugar et al., 2017](#)) and weaken persuasion by inviting reactance ([Brehm, 1966](#); [Brehm and Brehm, 1981](#); [Dillard and Shen, 2005](#); [Kim et al., 2017](#); [Quick and Stephenson, 2007](#)). Psychological reactance theory ([Brehm, 1966](#)) posits that reactance, an unpleasant motivational arousal, emerges when people perceive threats to their freedom of choice ([Brehm, 1966](#); [Brehm and Brehm, 1981](#)). By directly ordering specific actions, assertive messages often increase perceptions of threat to autonomous behavior and intensify refusals to cooperate in contexts such as antismoking campaigns ([Grandpre et al., 2003](#)), flossing recommendations ([Dillard and Shen, 2005](#)), exercise promotions ([Quick and Considine, 2008](#)), and environmental advertising ([Baek et al., 2015](#); [Kim et al., 2017](#)). For example, an examination of TV condom ads reported that imperatives such as “must” tended to increase anger and lower intentions to comply ([Quick and Stephenson, 2007](#)). Taken together, assertive messages increase reactance and reduce

consumer compliance with recommended behaviors, compared with nonassertive messages (Kronrod *et al.*, 2012a).

Although assertive language can evoke noncompliance, language expectancy theory argues that it can be highly persuasive, depending on cultural and sociological norms that moderate impacts of assertive language (Burgoon, 1995; Burgoon *et al.*, 2002). For example, in highly individualistic cultures, assertive messages violate expectations and thus evoke reactance; in highly collectivist cultures, assertive language aligns with expectations and evokes acceptance (Kim *et al.*, 2017).

Previous intentions may also affect reactions. Assertive language urging sun safety was shown to be more persuasive for people who already intended to avoid sun damage, but less persuasive for people who had no such intentions (Buller *et al.*, 1998). Similarly, assertive messages were more persuasive among those who valued the advocated issues (Kronrod *et al.*, 2012a). Those findings indicate that compliance is more likely when messages are congruent with message receivers' cultural expectations, intentions to adopt an advocated behavior, or perceptions that issues are important.

Importantly, assertive messages tend to be more effective for hedonic consumption than nonassertive messages because positive mood induced by hedonic consumption creates message receiver's communication expectation of assertive messages (Kronrod *et al.*, 2012b). The matching (mismatching) between the language of requests and communication expectations could increase (decrease) consumer compliance (Kronrod *et al.*, 2012b).

We argue that sustainable social media campaigns can strategically use upbeat emojis in assertive messages to persuade consumers to comply and to strengthen persuasiveness by elevating their mood states and loosening social rules (Bloch, 1996; Forgas, 1999a, b). Smiley-face emojis are often interpreted as signaling a positive emotion and building cooperative relationships. Thus, they may attenuate resistance to assertive messages. We predict that when people feel positive affect, their social rules and frames are loosened, and they are more receptive to assertiveness.

Building on that logic, we predict that assertive messages paired with emojis effectively enhance social media engagement and sustainable intentions. Indeed, emojis in digital communications express emotions and add social cues (Li *et al.*, 2018). If emojis are matched with assertive messages about ecofriendly behavior, they should evoke positive emotions, social media engagement, and sustainable intentions (Schreiner *et al.*, 2021). In contrast, nonassertive messages do not evoke reactance and thus do not need emojis. Language that is non-assertive and autonomy-supportive rather than assertive and controlling restores feelings of freedom and increases intentions to comply with behavioral requests (Baek *et al.*, 2015; Miller *et al.*, 2007). Accordingly, we hypothesize that nonassertive rather than assertive environmental messages will generate stronger social media engagement and sustainable intentions, with or without emojis. Furthermore, social media engagement is strongly related to behavioral intentions (Jiménez-Castillo and Sánchez-Fernández, 2019; Rahman *et al.*, 2018). However, if emojis are mismatched with assertive messages, expectations may be violated, triggering resistance to persuasion and lowering engagement (Baek *et al.*, 2015). Therefore, we hypothesize:

H2 (Moderation). Emojis will significantly interact with message assertiveness in determining social media engagement and sustainable intentions. Specifically:

- (1) Assertive environmental messages with emojis will strengthen social media engagement and sustainable intentions.
- (2) Nonassertive environmental messages without emojis will strengthen social media engagement and sustainable intentions.

The social-functional perspective suggests that emotions evolved to facilitate social engagement (Frijda, 1986). In digital spheres, emojis are frequently used to express emotion, encourage social interactions and clarify intentions. By inducing positive affective states (Kang *et al.*, 2013; Li *et al.*, 2018), emojis intensify compliance with assertive messages (Bang *et al.*, 2021; Kronrod *et al.*, 2012b). People who feel upbeat and positive moods tend to speak assertively when making requests, but their exuberance may also cause them to underestimate their offensiveness (Forgas, 1995, 1999a, b; Sinclair and Mark, 1992). Positive emotions have also been shown to alter responses to linguistic usage (Beukeboom and Semin, 2006; Fox and Stafford, 2021) and to determine reactions to assertive messages about price discounts (Bang *et al.*, 2021).

Sociolinguistic literature has shown that when people are feeling positive emotions, they are more receptive to and willing to comply with assertive language (Forgas, 1995; Kronrod *et al.*, 2012b; Sinclair and Mark, 1992). Positive mood thus mediates the interaction between message assertiveness and hedonic consumption. On the other hand, language also influences emotions and moods (Leggitt and Gibbs, 2000). When emojis are used as a form of communication along with assertive language to promote hedonic products, the emoji evokes affective experiences such as pleasure, fun, and self-expression (Baek and King, 2013), so that consumers are more receptive to forming purchase intentions (Das *et al.*, 2019). Building on those insights, we expect that when a social media venue combines emojis with assertive messages, users will feel positive emotions, become more strongly engaged, and be more likely to form sustainable intentions.

H3 (Mediation). Positive emotion will mediate the interaction effect of emoji and message assertiveness on social media engagement and sustainable intentions.

Experiment 1

Study 1 was an investigation of whether emojis strengthen social media engagement and sustainable intentions, using a one-factor (emoji: present vs. absent) between-subjects design.

Method

We recruited 114 adults (69.3% men; average age 35.1) from Amazon Mechanical Turk (MTurk) in exchange for money. Participants met a 97% human intelligence task (HIT) approval rate. Following Puzakova and Aggarwal (2018), qualification criteria required 5,000 approved HITS.

Participants first viewed one of two fictitious Twitter postings from Madewell, a clothing company, encouraging consumers to recycle used jeans for a housing insulation program. One message included emojis; the other did not (Appendix 1). To measure social media engagement, we used four items from Giakoumaki and Krepapa (2020), modified to better fit the Twitter context and answered on a seven-point Likert scale (1 = strongly disagree, 7 = strongly agree): “I would like to follow Madewell on Twitter;” “I intend to click on the ‘like’ button for the tweet from Madewell;” “I intend to retweet the tweet from Madewell;” and “I intend to reply to the tweet from Madewell.” To measure sustainable intentions, we asked participants to indicate their likelihood of recycling used jeans on a three item, seven-point scale anchored by unlikely/likely, impossible/possible, and improbable/probable (Baek and Yoon, 2017).

Results

Social media engagement and sustainable intentions. We conducted an independent *t*-test to examine whether a message with or without emojis shapes stronger social media engagement and sustainable intentions. The use of emojis had a significant main effect on social media

engagement ($M_{\text{emoji present}} = 5.21$ vs. $M_{\text{emoji absent}} = 4.46$; $t = 2.49$, $p < 0.05$) and sustainable intentions ($M_{\text{emoji present}} = 5.54$ vs. $M_{\text{emoji absent}} = 4.71$; $t = 2.92$, $p < 0.01$).

Mediation analysis. We conducted a mediation analysis with the emoji factor (0 = absent, 1 = present) as the independent variable, sustainable intentions as the dependent variable, and social media engagement as the mediator. As Figure 1 shows, PROCESS model 4 with 5,000 bootstrapped resamples indicated that the emoji had a significant indirect effect on social media engagement (95% CI from 0.13 to 1.04).

Discussion

Study 1 supports our theorizing. When assertive messages include smiley-face emojis, they elicit stronger social media engagement and sustainable intentions. To extend the findings, in Study 2 we examine whether emojis change the persuasiveness of assertive and nonassertive environmental messages.

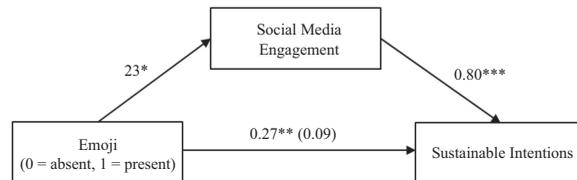
Experiment 2

In Study 2, we assessed how emojis or the lack of emojis interact with assertive and nonassertive messages in facilitating social media engagement and promoting intentions to sign an online petition for reducing plastic pollution. Participants were randomly assigned to one of four experimental conditions in a 2 (emoji: present vs absent) \times 2 (message assertiveness: assertive vs nonassertive) between-subjects design.

Method

We recruited 192 adults (56.8% men; average age 35.1) from Amazon Mechanical Turk (MTurk), in exchange for money. Participants viewed one of four fictitious Facebook postings for Greenpeace USA, a nonprofit organization calling for reduced plastic consumption (Appendix 2). The messages were either assertive or nonassertive and each appeared with and without emojis. Following previous research (Baek *et al.*, 2015; Kim *et al.*, 2017), the assertive message contained imperatives such as *should* and *must* (e.g. “What you must due to create a plastic-free future”), whereas the nonassertive message highlighted autonomous actions, such as *feel free to* and *worth* (e.g. “What you can due to create a plastic-free future”).

Social media engagement was measured by four items on a seven-point scale (1 = strongly disagree, 7 = strongly agree; Giakoumaki and Krepapa, 2020): “I would like to follow Greenpeace on Facebook”; “I intend to click on the ‘like’ button for the Facebook post from Greenpeace”; “I intend to share the Facebook post from Greenpeace”; and “I intend to comment on the Facebook post from Greenpeace.”



Note(s): All coefficients are standardized; The value in parentheses indicates the direct effect of emoji on sustainable intentions after controlling for the mediator; Emoji through social media engagement had a significant indirect effect on sustainable intentions because the bias-corrected 95% confidence interval (CI) did not contain zero (95% CI = 0.13 to 1.04); * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1.
Mediation model

Positive emotion was measured with a single item, “At this moment, I feel happy about the Facebook post from Greenpeace,” answered on a seven-point scale (Baek and Reid, 2013). Studies have validated the use of single items to measure positive emotion (Larsen et al., 2009; Russell and Carroll, 1999). To measure sustainable intentions, we asked participants whether they would be likely to sign a petition calling for a plastic-free future, answered on a three item, seven-point scale anchored by unlikely/likely, impossible/possible and improbable/probable (Baek and Yoon, 2017). For a manipulation check, participants responded to a single item, “The Facebook message was assertive” on a seven-point scale (Kim et al., 2017).

Results

Manipulation check. Our message assertiveness manipulation was successful. Participants exposed to the assertive (nonassertive) Facebook message viewed the post to have an assertive (nonassertive) tone ($M_{\text{assertive}} = 4.96$ versus $M_{\text{nonassertive}} = 3.78$; $t = 5.12$, $p < 0.001$).

Social media engagement. A 2 (emoji: present vs absent) \times 2 (message assertiveness: assertive vs nonassertive) ANOVA revealed that emoji had a main effect ($F(1, 188) = 5.32$, $p < 0.05$), but message assertiveness did not ($F(1, 188) = 0.92$, $p = 0.34$). An important and significant two-way interaction effect emerged for social media engagement ($F(1, 188) = 20.28$, $p < 0.001$). As Figure 2 shows, follow-up contrasts showed that assertive messages with an emoji drew stronger social media engagement than nonassertive messages with an emoji ($M_{\text{assertive}} = 4.16$ versus $M_{\text{nonassertive}} = 2.85$; $t = 4.13$, $p < 0.001$). In contrast, nonassertive messages without an emoji drew stronger social media engagement than assertive messages without an emoji ($M_{\text{assertive}} = 3.63$ versus $M_{\text{nonassertive}} = 4.48$; $t = 2.36$, $p < 0.05$).

Sustainable intentions. A 2 (emoji: present vs. absent) \times 2 (message assertiveness: assertive vs. nonassertive) ANOVA showed that emoji ($F(1, 188) = 0.48$, $p = 0.63$) and message assertiveness ($F(1, 188) = 0.23$, $p = 0.63$) had no main effects. As expected, emoji and message assertiveness had a significant two-way interaction effect on sustainable intentions ($F(1, 188) = 10.29$, $p < 0.01$). Follow-up contrasts indicated that assertive messages with emojis generated stronger sustainable intentions ($M_{\text{assertive}} = 5.23$ versus $M_{\text{nonassertive}} = 4.60$; $t = 2.09$, $p < 0.05$). In contrast, nonassertive messages without emojis generated stronger sustainable intentions ($M_{\text{assertive}} = 4.65$ versus $M_{\text{nonassertive}} = 5.50$; $t = 2.43$, $p < 0.05$).

Serial mediation analysis. We conducted a moderated serial mediation analysis, using PROCESS Model 85 with 5,000 bootstrapped resamples (Hayes, 2013). As Figure 3 shows, the findings indicated a significant moderated mediation index (index = 0.14, 95% CI = 0.00 to 0.32). We also found a significant indirect effect in the assertive message condition (95%

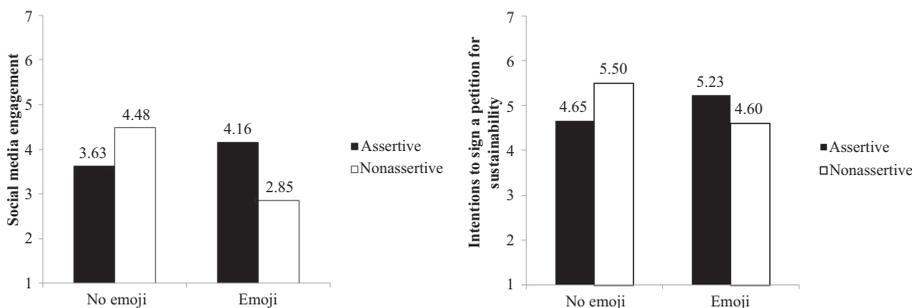
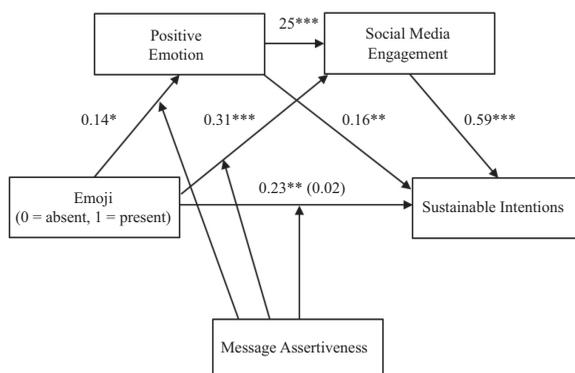


Figure 2. Emoji and message assertiveness effect on social media engagement and intentions to sign a petition for sustainability



Note(s): All coefficients are unstandardized. The serial mediation analysis with 5,000 bootstrapped resamples was performed with model 85 in the PROCESS macro (Hayes, 2013); Moderated mediation index = 0.14, 95% CI [0.00 to 0.32]; Assertive message condition = 95% CI [0.00 to 0.24]; nonassertive message condition = 95% CI [-0.14 to 0.06]; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 3.
Serial mediation model

CI = 0.00 to 0.24), but a nonsignificant indirect effect in the nonassertive message condition (95% CI = -0.14 to 0.06). Taken together, our results strongly indicate that the emoji effect occurs through positive emotion and social media engagement in the assertive but not in the nonassertive message condition.

Discussion

Study 2 identifies a boundary condition for emoji effects observed in Study 1. Message assertiveness moderates the effect: participants responded more positively to the assertive message that included emojis, but more negatively when emojis were removed. In addition, participants responded more positively to the nonassertive message that had no emojis. Positive emotion (i.e. happiness) appears to be the underlying mechanism: emojis make message recipients feel happy and willing to comply with pro-environmental, sustainable requests in assertive social media messages. Thus, emojis cushion otherwise reactive, boomerang effects.

General discussion

Social media marketers are increasingly integrating visually appealing and engaging emojis into social media conversations (Herring and Dainas, 2017). In this article, we report the results of two experimental studies testing whether social media postings can use emojis to increase eco-friendly behaviors, particularly when paired with assertive messages.

In Study 1, we show that a Twitter message that includes the smiley-face emoji generates stronger social media engagement and behavioral intentions to recycle used jeans, in comparison with the same message without the emoji. Study 2 shows that an assertive Facebook message that includes emojis generates stronger social media engagement and behavioral intentions to sign a petition for reducing plastic pollution. The same message without the emoji evokes disengagement and noncompliance.

Our research makes several theoretical contributions to the few studies showing how emojis impact affective and behavioral reactions to service employees (Li et al., 2018) and product advertising (Das et al., 2019). Emojis were shown to strengthen the persuasiveness of

marketing messages and the credibility of an online product review (Manganari and Dimara, 2017). However, by demonstrating that emojis can increase the persuasiveness of environmental campaigns, we fill a gap regarding effects of emojis in prosocial advertising.

Second, we advance our understandings of how emojis interact with assertive message tonality in environmental campaigns. Social marketers widely use assertive messages to encourage immediate prosocial actions, but forceful messages tend to induce psychological reactance (Brehm, 1966; Brehm and Brehm, 1981; Dillard and Shen, 2005; Kim *et al.*, 2017; Quick and Stephenson, 2007). Numerous empirical demonstrations showed that personal, situational, and cultural factors determine whether pro-environmental assertive messages encourage compliance (Baek *et al.*, 2015; Kim *et al.*, 2017; Kronrod *et al.*, 2012a), but we lack tests showing how inanimate emojis provide visual cues encouraging eco-friendly actions, except for a study showing that an ad featuring a reusable cup emblazoned with an emoji-like smiley face increased recycling intentions (Han *et al.*, 2019). Our complementary study shows how emojis can attenuate potential negative responses to message assertiveness.

We provide new insights showing positive emotion to be the psychological mechanism underlying effects of emojis on message assertiveness. Positivity is known to prompt prosocial behaviors (e.g. Aknin *et al.*, 2018; Bang *et al.*, 2021; Cavanaugh *et al.*, 2015). For instance, price discounts were shown to induce positive moods that motivated reciprocity through prosocial behavior (Bang *et al.*, 2021). By integrating the EASI model (Van Kleef, 2009) with language expectancy theory (Burgoon, 1995; Burgoon *et al.*, 2002), we show that the emoji induces positive emotion that subsequently motivates compliance. We further demonstrate that positive emotion is the mediator that drives behavioral responses to pro-environmental social media campaigns.

Practical implications

Our research has important practical implications in showing that social media prosocial campaigns can increase engagement and sustainable intentions by using emojis to visually indicate casual friendliness, enhance brand personality, anthropomorphize social media posts, and encourage social media engagement (e.g. Das *et al.*, 2019; Holtgraves and Robinson, 2020). Brands can use emojis to encourage target audiences to, for example, “Like us on Facebook” or “Subscribe to YouTube.” When nonprofit organizations send assertive emails demanding actions regarding environmental or social causes, they can use emojis to counter reactance.

Environmental groups seeking to raise awareness about important issues such as global warming and deforestation can use emojis as visual metaphors that add emotional tones, perhaps as pictures that depict melting sea ice, starving polar bears, and plastic ingestion in fishes (Huhmann and Albinsson, 2019; Peterson *et al.*, 2017). For example, a bicyclist emoji 🚲 could be embedded within the assertive message “Bike more, drive less” to encourage attention to environmentally friendly transportation. By showing that emojis persuade by evoking positive emotion, we hope that our findings encourage designers to devise more creative and humorous emojis that will build emotional connections in various product categories where emoji impacts may vary (Das *et al.*, 2019).

However, we urge caution. For assertive-toned messages, emojis can counter reactance and increase receptiveness, but for nonassertive-toned messages, emojis may be counterproductive. Organizations can encourage sustainability by incorporating emojis into assertive, demanding messages such as “Recycle used jeans now!” However, emojis may backfire if they appear in soft, nonassertive messages, such as “Why do not you recycle used jeans now?” Therefore, social marketers should be careful to use emojis in certain situations where they are a good fit.

Limitations and directions for future research

Our research has some limitations that warrant future research. First, factors such as emoji designs, product types, and consumer characteristics may determine whether emojis are congruent with assertive messages. For example, smiley-face versus frowny-face emojis may incur different responses (Aluja *et al.*, 2020). Thus, future study should clarify whether emoji types enhance congruence with message features. Second, our focus was on nonprofit environmental organizations, but future research could observe effects of emojis for advertising various types of products such as utilitarian versus hedonic products or high-involvement versus low-involvement products.

In addition, audience characteristics may determine the best use of emoji marketing. For example, a study based on Hofstede's cultural dimensions showed that demographics and culture affect how individuals use emojis to communicate emotions (Li *et al.*, 2019). Tweeters from high power distance countries tend to embed negative emojis, but messages from strong individualism countries are more likely to feature positive emojis. Therefore, future study should examine how emoji designs should be customized to ensure that message tones match with demographics and cultural backgrounds of target audiences (Yoon *et al.*, 2021).

We acknowledge that using three emojis in Study 1 and five emojis in Study 2 might introduce possible confounds. Future research should consider whether using single versus multiple emojis changes the dynamics of environmental message assertiveness.

Finally, our data came from an Amazon MTurk online panel, a popular and convenient source for social science researchers (Baek and Yoon, 2017; Kees *et al.*, 2017), but the source is limited because it may draw insincere and professional study participants. Future research might maximize data quality by using quality assurance measures such as attention checks and questions about participant involvement (Kees *et al.*, 2017). Future research could enhance generalizability by using a representative sample of social media users.

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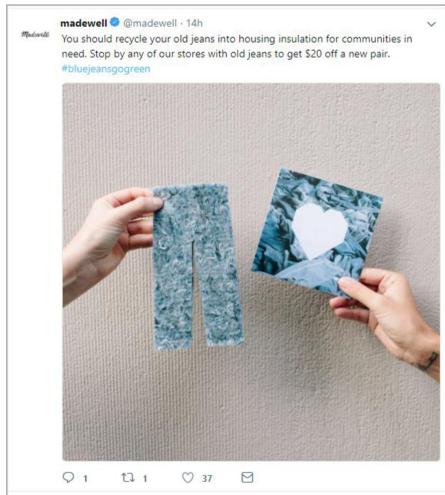
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Appendix 1

Study 1 Stimulus

Presence versus absence of emoji



Presence versus Absence of Emoji Effects on Assertive Social Media Content



Presence versus Absence of Emoji on Nonassertive Social Media Content



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