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Research Paper

User Responses to Pro-Environmental Facebook Messages of Pride and Guilt

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ABSTRACT

Persuasive communication studies have examined the effects of emotional messages on pro-environmental behavioral intentions and behaviors. However, more research needs to focus on the importance of social media activities which can expand the range of campaign messages. By reviewing eWOM literature, the current study scrutinizes how exposure to a pro-environmental Facebook post carrying pride or guilt-framed messages affects Facebook activity intentions-liking, sharing, and commenting on the post-and pro-environmental behavioral intentions. Also, empathy as an internal factor is examined to verify its role in eliciting pride and guilt. The findings show that satisfaction elicited by exposure to a pro-environmental message positively predicts the intentions of all Facebook activities and pro-environmental behaviors. However, feeling guilty does not predict preferences to like and share the post. In addition, empathy is positively linked with both moral emotions. These results indicate that positive moral emotions could be more effective than negative moral emotions in enhancing the virality of pro-environmental messages. A practical recommendation would be to create campaign messages inducing positive moral emotions that encourage users to actively share the notes to meet their desire to enhance self-presentation on social media.

Keywords: Moral emotions, Facebook, pro-environmental behavioral intention, eWOM

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1. INTRODUCTION

Researchers have investigated the effects of varied media channels on delivering pro-environmental campaigns to promote public interest in environmental challenges and to raise the gravity of pro-environmental behaviors (e.g., Han & Xu, 2020; Han et al., 2018). Previous research argued that social media are among the most effective and resourceful tools for disseminating campaigns (Fernandez et al., 2017). Because of expanded connectivity networks, individuals can broaden the reach of the information and inspire others to encourage pro-environmental behaviors on social media. For example, if individuals like, share, and comment on a pro-environmental campaign they read on social media, the message could go viral and reach more people than the campaign producer initially intended.

The emotional aspects of social media messages account for much in encouraging social media activities (Alhabash et al., 2013; Yu, 2014). Researchers argued that emotions are determinants of information sharing on social media (Berger & Milkman, 2012; Rimé, 2009). Especially, moral emotions react to ethical violations or encourage moral behaviors, and therefore, experiencing moral emotions drives people to become morally responsible for environmentally desirable acts (Baek & Yoon, 2017; Haidt, 2003). Of moral emotions, pride and guilt have been explored as motivational factors that lead to prosocial and pro-environmental behaviors (Bamberg & Möser, 2007; Tangney et al., 2007). However, evidence is lacking in exploring how pride and guilt play a role in maximizing the range of campaigns via social media. Hence, examining both pro-environmental behaviors and social media activities due to exposure to pro-environmental movements evoking moral emotions is crucial.

One intrinsic factor closely related to moral emotions is empathy (Cohen, 2010). Empathy is an other-oriented emotional reaction that individuals experience to benefit others in need (Batson et al., 2015). Here, perceiving others in need is a prerequisite for altruistic behaviors. Therefore, an

empathetic individual tends to perceive others in the market and value others' welfare based on altruistic motivation, leading to morally desirable acts. Interestingly, little research has provided empirical evidence supporting the link between empathy and moral emotions. Therefore, the purpose of the current study is to grasp how empathy and exposure to an emotional pro-environmental Facebook post affect pride and guilt, which could, in turn, lead to intentions to like, share, and comment on the center as well as to engage in pro-environmental behaviors.

2. LITERATURE REVIEW

2.1 Moral emotions and empathy

Self-conscious moral emotions are essential to pro-environmental behaviors (Yuriev et al., 2020; Haidt, 2003). Self-reflection and self-evaluation of preceding behaviors and engaging in a moral act induce these emotions (Tangney et al., 2007). Since emotional experiences can be restored and retrieved when individuals encounter a similar situation to the past, they can anticipate what emotions they would experience when engaging in certain behaviors after repetitive emotional experiences. In other words, moral emotions can have the power to motivate people to behave in a certain way. For instance, individuals who felt negative emotions due to engaging in immoral acts in the past attempt to amend the demeanors anticipated to elicit negative emotions. Thus, the message reminding them of previous painful emotional experiences could influence subsequent behaviors pro-socially. Similarly, positive emotions will likely lead to morally acceptable behaviors, which are anticipated to induce positive emotions again.

Pride and guilt are moral emotions that could encourage pro-environmental behaviors (Back & Yoon, 2017; Tracy & Robins, 2007). Tangney and his colleagues (2007) classified pride and guilt as self-conscious moral emotions and studied their roles in the mechanism of ethical behaviors. Pride is a positive moral emotion that can enhance a sense of self-worth and promote moral and normative behaviors. Therefore, feeling proud likely leads to pro-environmental behaviors, which can, in turn, result in positive emotional states (Tracy & Robins, 2007). The study compared it with shame to clarify the characteristics of guilt (Tangney et al., 2007). Both guilt and shame are the negative emotions that motivate people to behave morally and avoid wrongdoing (Kroll & Egan, 2004). These emotions are explanatory factors of pro-environmental behaviors. Although both are negative and painful emotions, guilt is behavior-focused, whereas shame is self-focused (Lewis, 1971; Tangney, 1990).

Thus, when people feel guilty due to a particular act, they are motivated to amend the show for the good of others (Tangney & Dearing, 2002). Previous studies have proved that moral emotions successfully elicited by the researchers as intended encourage people to behave pro-environmentally. Rees and colleagues (2015) showed that exposure to a short text about confrontation with human-caused environmental damages, designed to elicit guilt, positively predicted guilt. Accountability, in turn, enhanced pro-environmental behaviors and behavioral intentions. Zubair and colleagues (2020) utilized the Event Rated Potentials technique to examine the neural mechanism. They found that exposure to positive and negative framing messages containing inspirational words of pride and guilt was influential in the context of green marketing.

Empathy is one of the significant individual traits that can strengthen emotional Facebook campaign effects. Empathy refers to the ability to experience others' thoughts and feelings as if experiencing oneself (Carré et al., 2013). In addition, empathy is an other-focused response; that is, empathetic ability enables individuals to recognize the difference between their own emotions and others' emotions and, further, embrace them (Derntl et al., 2010). Much research has considered empathy to have two aspects–cognitive and affective empathy (Jolliffe & Farrington, 2006). The affective aspect of empathy reflects corresponding reactions to others' emotions and the ability to share their emotional states (Carré et al., 2013). In the cognitive view, empathy is the ability to understand or infer others' perspectives (Decety, 2011). Cognitive empathy is a perspective-taking process (van Berkhout & Malouff, 2015).

Empathy is closely associated with moral emotions because individuals, as social members, often give emotional responses to social events that may not directly affect the self (Haidt, 2003). Empathetic individuals are also likely to share and comprehend the states of others who are not directly related to themselves. Considering that empathy is an indicator of behaviors beneficial to society, empathetic individuals who are prone to sympathize with others and appreciate others' perspectives experience moral emotions that respond to moral violations or inspire moral acts (Davis, 1983; Eckland et al., 2020; Eisenberg & Miller, 1987; Roberts et al., 2014). This feature suggests the possibility that the empathetic capacity could be linked with moral emotions–pride (Michie, 2009) and guilt (Tam, 2019), which contribute to pro-environmental behavioral intentions (Barón et al., 2018). Thus, we proposed:

H1a: Individuals exposed to a pride-appeal Facebook post will report a higher level of pride than those exposed to a guilt-appeal Facebook post.

H1b: Individuals exposed to a pride-appeal Facebook post will report a lower level of guilt than those exposed to a guilt-appeal Facebook post.

H2: Empathy will positively predict a) pride and b) guilt.

H3: a) Pride and b) guilt will positively predict intentions to behave pro-environmentally.

2.2 Facebook activities

Social media allow users to be selectively exposed themselves to particular messages and communicate with others without geographical and time constraints (Han & Xu, 2020). These distinctive features of social media facilitate persuasive powers to promote socially desirable behaviors. Virality is another reason to consider social media as a platform to circulate numerous clear messages (Xenos et al., 2017). By liking, sharing, and commenting on social media posts, an individual indicates that the message is socially congenial and consistent with their personal view (See Cappella et al., 2015). Also, such social media activities imply high levels of validity and acceptability of the message considering selective exposure and retransmission.

Pro-environmental messages draw public attention to environmental issues and further motivate users to be engaged in pro-environmental discourse and share pro-environmental ideas (Luck & Ginanti, 2013). Social media enable such addresses to be created, reshaped, and retransmitted by experts and ordinary people. Importantly, depending on the modalities of content and social capital on social media, the degree to which individuals like and share posts could vary. For example, Facebook allows multiple modalities of content, including text and media content (image and video), whereas Twitter and Instagram offer limited modalities of content (Waterloo et al., 2018). In addition, Facebook is based on the reciprocal following. Facebook posts are visible to an articulated list of friends, creating a relatively semi-public space (Boyd, 2011; Waterloo et al., 2018). This feature enables Facebook users to communicate with both strong–family and friends–and weak ties–acquaintances and casual contacts–unlike other social media that show a more significant proportion of fragile relations (de Zúñiga et al., 2018; Lin et al., 2014; McLaughlin & Vitak, 2012). Furthermore, Facebook is a crucial communication channel for building pro-environmental attitudes (Kane et al., 2012), and it is the biggest social media platform (Dixon, 2022). Hence, Facebook messages encouraging pro-environmental behaviors

could be circulated more widely and effectively than ones sent via other platforms (Han & Cheng, 2020).

Previous eWOM literature implies the importance of social media activities in the pro-environmental campaign context (e.g., Han et al., 2018; Luck & Ginanti, 2013). eWOM (electronic word of mouth) refers to computer-mediated communication regarding a product, service, or brand among consumers (Hennig-Thurau et al., 2004). eWOM research has primarily focused on the effects of reviews of a product or service on consumers' attitudes and behavioral intentions (e.g., Kusumawati et al., 2019; Nadarajan et al., 2017; Ruiz-Mafe et al., 2020). However, the implication suggests that the mechanism of eWOM can be extended to account for the effects of pro-environmental messages on social media users. For example, Filieri and colleagues (2020) investigated how positive and negative Amazon reviews affected users' attitudes toward products and environmental concerns. The finding showed that depending on the perceived impact of the products on the environment, review valence carrying environmental messages influenced environmental concern and attitudes differently.

2.3 Emotional messages on Facebook

Researchers have considered an emotional aspect of a message to be a key indicator of social media activities because people socially share their emotions and want others to sympathize with their emotional circumstances (Liu et al., 2021; Rimé et al., 1998). Emotional expressions tend to be processed faster and more efficiently than non-emotional expressions (Kanske & Kotz, 2007). Specifically, emotional valence, which is "emotional evaluation ('positive' or 'negative') of particular events, objects, or situations" (Catino & Patriotta, 2013, p, 441), is closely related to social media activities, including giving eWOM (Coviello et al., 2014). One of the primary purposes of providing eWOM on social media is to establish a positive self-image and achieve self-enhancement (Gentile et al., 2012; Kim & Lee, 2011). EWOM on social media tends to be self-driven (Roma & Aloini, 2019). Thus, social media users are likely to share positive emotion-laden messages as these messages can build positive images of the senders (Alhabash et al., 2013). A study revealed that emotionally arousing or positive-valenced messages were positively associated with liking or sharing a brand post (Yu, 2014). Septianto and colleagues (2021) found that advertisements of sustainable luxury brands featuring a pride appeal increased eWOM intentions. Since social media users focus on 'self' and desire positive self-presentation (Liu et al., 2021), pro-environmental messages eliciting pride could be a significant indicator of eWOM.

In contrast to the positive bias reflected on the psychological mechanism behind the eWOM effect, as discussed above, several eWOM studies have provided empirical evidence supporting negative bias in information processing. Negative information is more salient and influential than positive (Chiou & Cheng, 2003; Peeters & Czapinski, 1990; Rozin & Royzman, 2001). Also, compared to positive reviews, negative reviews are perceived to be more trustworthy (Filieri, 2016) and more diagnostic to evaluate a product or service (Bone, 1995). Furthermore, negative eWOM significantly impacts consumers' attitudes (Purnawirawan et al., 2015). Hence, guilt elicited by exposure to a pro-environmental message could positively affect Facebook activity intentions. Notably, evidence is lacking in securitizing how pride and shame evoked by a pro-environmental message are associated with Facebook activities—liking, sharing, and commenting on the message. To fill this gap, the current study proposed the following hypotheses:

H4: Pride will positively predict intentions a) to like a pro-environmental Facebook post, b) to share a pro-environmental Facebook post, and c) to comment on a pro-environmental Facebook post.

H5: Guilt will positively predict intentions a) to a pro-environmental Facebook post, b) to share a pro-environmental Facebook post, and c) to comment on a pro-environmental Facebook post.

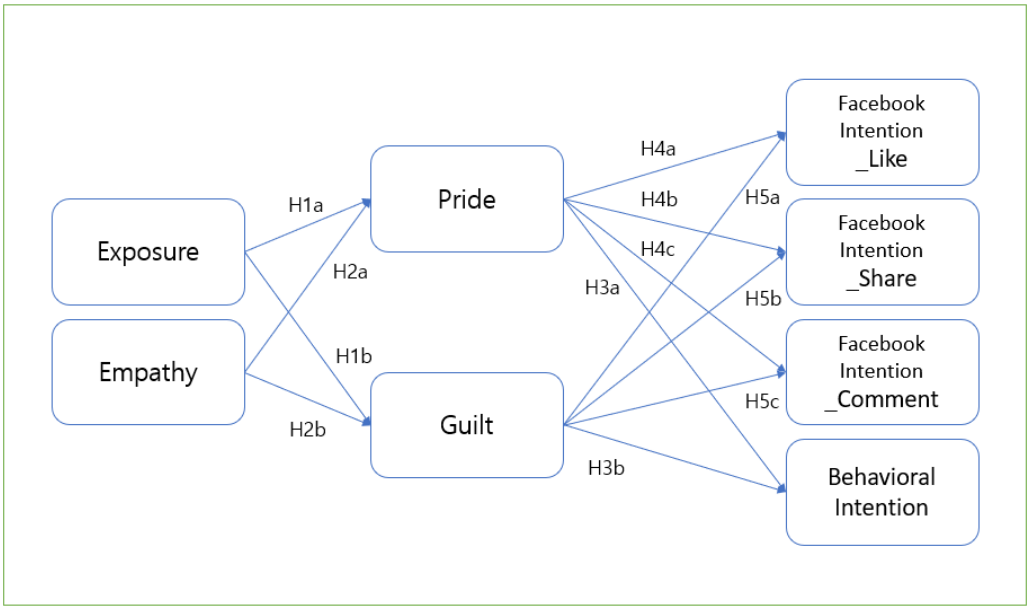


Figure 1. Conceptual model

3. METHODOLOGY

3.1 Sample

Participants were recruited from Amazon Mechanical Turk (MTurk). Many studies have completed online surveys using MTurk (e.g., DiRusso & Myrick, 2021; Septianto et al., 2021), and participants of MTurk surveys have shown high levels of attentiveness and diversity (Buhrmester et al., 2018; Hauser & Schwarz, 2016). As the purpose of the current study is to examine the effects of emotional Facebook messages, participants were asked if they use Facebook as an everyday routine on a 7-point Likert scale (M = 5.46, SD = 1.18). Four participants choosing '(1) strongly disagree' were excluded from the analysis. After removing two additional incomplete responses, 231 were retained in the final sample (Table 1).

Table 1. Sample characteristics

Variable	Values	Frequency	% Frequency
Sex	Male	151	65.4
	Female	78	33.8
	Non-binary/third gender	1	.4
	Prefer not to say	1	.4
	Total	231	100
Income	Less than $49.999	48	20.8
	$50,000 ~ $99.999	122	52.8
	$100,000 ~ $149,999	46	19.9
	$150,000 ~ $199,999	12	5.2
	Over $200,000	3	1.3
	Total	231	100
Ethnicity	European American	89	38.5
	African American	15	6.5
	Hispanic	41	17.7
	Asian	62	26.8
	Other	24	10.4
	Total	231	100

Age	Mean	SD	Min.	Max.
	33.887	8.42	21	63

3.2 Procedure and Stimulus

The online experiment was a posttest-only, between-group design with two conditions: exposure to a pride-appeal Facebook message (116 participants) or a guilt-appeal Facebook message (115 participants). The Institutional Review Board approved the study at the authors' affiliated university.

All participants voluntarily participated in and received $0.65 for the 20-minute-long survey. They were randomly exposed to either of two experimental stimuli. After reading the stimulus, they were asked to answer the questions measuring empathy, emotions (pride and guilt), Facebook activity intentions, pro-environmental behavioral intentions, and demographics. The stimuli were designed to mirror Facebook posts searched using the keywords "pro-environment" and "sustainability" and to elicit either pride or guilt. Both bars contain text, photos, and hashtags related to environmental issues (Figure 2). Researchers used the search keyword "pro-environmental behaviors" to find the images for the stimuli.

Furthermore, Facebook texts were constructed briefly to prevent participants' attention from being distracted. Thus, the pride-appeal post includes a message stating that "If you are engaged in acts like picking up trash, you will be the hero saving our planet. These are not trivial. You should be proud of yourself," along with a photo of people blogging, which refers to picking up litter while jogging. The guilt-appeal message depicts a dumping ground with overflowing trash: "If you are engaged in acts like throwing away trash on the street, you will be the one destroying our planet. These are not trivial. You should feel guilty." Different hashtags were added to reflect each emotional appeal, such as #GreenHero, #GreenPride, and #GreenGuilt. These two posts are identical except for the texts, pictures, and hashtags demonstrating different emotional tones.

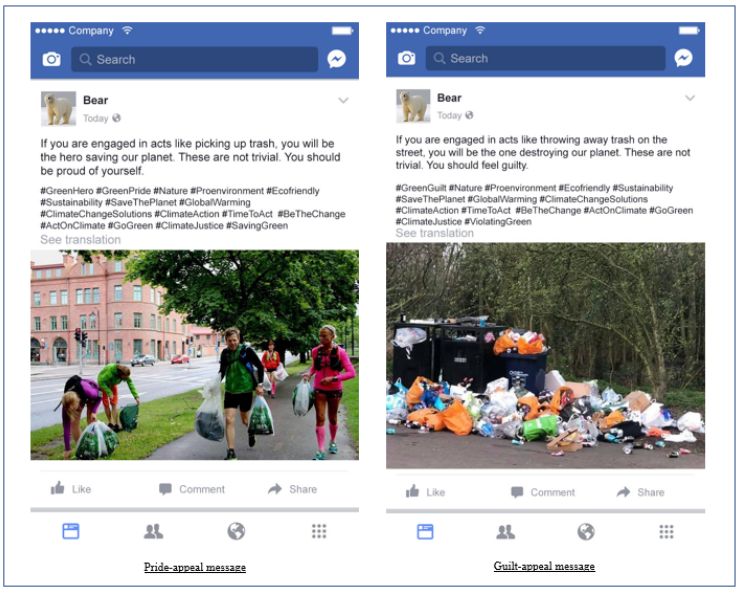


Figure 2. Facebook posts stimuli

3.3 Measures

Exposure to Facebook posts. The data collection format was set to collect a highly similar number of participants for each condition. This resulted in almost equal sample sizes for the pride-appeal and guilt-appeal needs. Thus, effect coding was used for further analyses (Guilt = -1, Pride =1).

Pride and guilt. After seeing one of the Facebook posts, participants rated their emotions on a 7-point Likert scale (1=strongly disagree, 7=strongly agree). Six questions adopted from Amatulli et al. (2019) and Kim and Hall (2019) fall into two categories: pride (feeling proud, confident, accomplished; M = 5.45, SD = 1.36, α = .90) and guilt (feeling guilty, remorseful, sorry; M = 4.97, SD = 1. 61, α = .90).

Empathy. Eighteen items were adapted from Carré et al. (2013) to measure empathy levels on a 7-point Likert scale. Example items include "I can understand my friend's happiness when she/he does well at something." and "I often become sad when watching sad things on TV or in films." (M = 5.26, SD = 0.83, α = .89).

Intention to like, share, and comment on a Facebook post. Participants answered three questions asking the extent to which they intend to select (M = 5.68, SD = 1.06), share (M = 5.55, SD = 1.05), and comment on (M = 5.71, SD = 1.07) the Facebook post about pro-environmental behaviors they read on a 7-point Likert scale (Brody et al., 2012).

Pro-environmental behavioral intentions. The pro-environmental behavioral intention scale by Brody et al. (2012) was adopted, and ten items were used (i.e., planting trees, using recycled products, choosing a fuel-efficient vehicle, etc.) on a 7-point Likert scale (M = 5.65, SD = .69, α = .85).

Control variables. Participants' age, sex, ethnicity, and income were obtained to be controlled for the analysis. Table 2 shows descriptive statistics and reliabilities of each variable.

Table 2. Descriptive statistics, reliability, and inter-correlations

Construct	Mean	SD	α	Correlations						
Exposure	-	-	-	1						
Empathy	5.26	.83	.89	.01	1					
Pride	5.45	1.36	.90	.34**	.31**	1				
Guilt	4.97	1.61	.90	-.22**	.56**	-.07	1			
Facebook-like	5.68	1.06	-	.05	.20**	.33**	-.02	1		
Facebook - share	5.55	1.05	-	.04	.28**	.21**	.09	.37**	1	
Facebook - comment	5.71	1.07	-	.02	.39**	.26**	.19**	.30**	.43**	1
Pro-environmental behaviors	5.64	.69	.85	.029	.57**	.23**	.27**	.52**	.58**	.54**

* p < .05, ** p < .01, *** p < .001

4. RESULTS

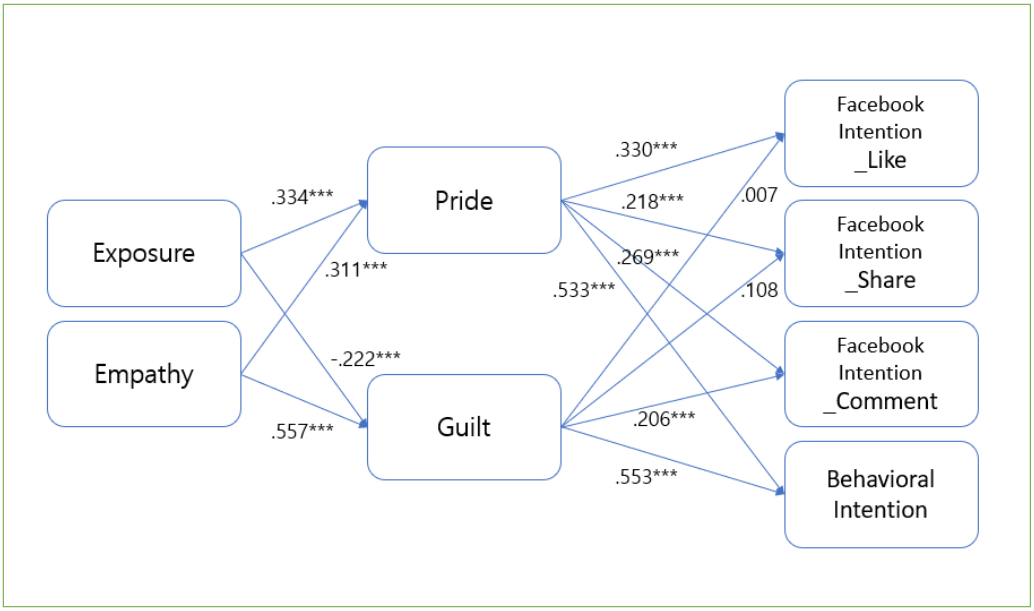
4.1 Hypotheses testing

An independent sample t-test was employed to examine the levels of each emotion after exposure to either of the Facebook posts. Participants seeing the pride-appeal post (M = 5.89, SD = 0.66) reported significantly higher levels of pride than those visiting the guilt-appeal post [H1a] (M = 4.98, SD = 1.69, t = 5.45, p < .01) while those exposed to the guilt-appeal post (M = 5.28, SD = 1.74) reported significantly higher levels of guilt than those exposed to the pride-appeal post [H1b] (M = 4.57, SD = 1.44, t = -3.39, p < .01).

A path model was developed and analyzed using AMOS 21 to investigate the purpose of the current study. The analysis results confirmed that the induced moral emotions positively affect the intentions of Facebook activities and pro-environmental behaviors. The analysis provided a good fit for the data (Table 3). In the path model, emotionally appealing messages significantly induced pride and guilt, as hypothesized [H1a, H1b]. Furthermore, hypotheses regarding the effect of empathy on pride and guilt [H2] and the effects of these moral emotions on pro-environmental behavioral intentions and Facebook activity intentions [H3, H4, and H5c] were all verified, except for H5a and H5b. The significance of the coefficients is presented in Figure 3.

Table 3. Model fit

CMIN				IFI	TLI	CFI	RMSEA
CMIN	DF	P-value	CMIN/DF				
35.088	30	.239	1.170	.991	.980	.991	.027



* p < .05, ** p < .01, *** p < .001

Figure 3. Path analysis

In the path model, empathy was positively and significantly associated with pride (β = .311, p < .001) and guilt (β = .557, p < .001) [H2]. The intention of pro-environmental behaviors was significantly predicted by pride (β = .533, p < .001) and guilt (β = .553, p < .001) [H3]. In addition, pride significantly predicted the intentions to like (β = .330, p < .001), share (β = .218, p < .001), and comment on the pro-environmental Facebook post (β = .269, p < .001) [H4]. Guilt was significantly associated with one's intention to comment on the pro-environmental Facebook post (β = .206, p < .001). The links between guilt and intentions to like and share the post were positive but insignificant [H5].

5. DISCUSSION

A crucial insight comes from our findings showing the utility of emotionally framed campaign messages in increasing Facebook activity intentions. In line with eWOM literature (e.g., Septianto et al., 2021; Yu, 2014), this result indicates that positive moral emotions elicited by

emotionally framed messages increase intentions to share eWOM, which can enlarge the message leverage. This finding confirms the merits of persuasive messages carrying positive moral emotions. eWOM occurs between people who have little relationship with one another (i.e., strangers; Dellarocas, 2003) or between significant others (i.e., friends or followers; Zhang et al., 2021). Though this feature also applies to communication on Facebook, one's Facebook environments are often connected with the real world, unlike different eWOM media such as review sites (Liu et al., 2021). Thus, individuals are likely to share positive emotions and messages via Facebook to establish a positive self-image, highlighting morally desirable behaviors (Liu et al., 2021). Because pride gives a sense of purpose (Fredrickson, 2009) and those feeling proud perceive themselves as the responsible agent of accomplishment (Tracy & Robins, 2004), the experience of feeling proud intensifies their desire to establish a positive self-presentation through positive self-disclosure. Elevating self-image by positively disclosing oneself by liking or sharing morally desirable messages can be perceived as a reward, which could drive them to engage in the same activities. Supporting our findings, previous research showed that positive emotional expressions are better perceived than negative ones on Facebook, Twitter, Instagram, and WhatsApp (Waterloo et al., 2018). Given that inspirational messages tend to be more effective than non-emotional messages (Kanske & Kotz, 2007), the current study offers a clear contribution that outlines how to construct influential pro-environmental campaigns on Facebook.

Inconsistent with our predictions, the negative bias is only partially confirmed. The current study's finding did not correspond with previous eWOM research showing a more powerful impact of negative messages than positive messages on readers (e.g., Filieri, 2016; Purnawirawan et al., 2015). This result demonstrates that the role of emotional valence in information processing might vary as a function of different media platforms. A previous study verified that positive emotions lead to a greater willingness than negative emotions to share eWOM on social media (Liu et al., 2021). However, on review sites that tend to be fact-driven and allow users to share their experiences openly, emotional valence did not impact one's willingness to give eWOM (Choi & Kim, 2014; Roma & Aloini, 2019). The researchers argued that the positivity bias reflected in the eWOM-giving intention on social media results from the social media environments, which disturb users from freely sharing negative thoughts and emotions. Though participants in the current study were willing to write comments on the guilt-

framed message, whether the comments would support or contradict the statement remains an open question. This finding speaks to the gravity of exploring how social media users' motivation behind eWOM-giving is activated depending on media environments.

Pro-environmental behavioral intentions are significant outcomes produced by pride and guilt. This finding aligns with previous studies on emotional effects on pro-environmental behaviors or behavioral intentions (e.g., Bissing-Olson et al., 2016; Tangney et al., 2007; Zubair et al., 2020). Specifically, the result of the current study indicates that pride experienced by exposure to a Facebook post that supports readers and encourages morally desirable behaviors could enhance a sense of self-worth and promote such a course of action (Tangney et al., 2007). Similar to pride, guilt research pointed out that guilt motivates people to behave morally and reparate for undesirable actions to decrease anticipated negative emotions (Kroll & Egan, 2004; Tangney & Dearing, 2002). In this study, feeling guilty due to the Facebook post criticizing readers might trigger the motivation to reduce anticipated negative emotions by increasing the intention to engage in pro-environmental behaviors.

The current study provides empirical evidence proving empathy is critical in increasing pride and guilt. Empathy literature emphasizes that appropriate training programs could foster and develop empathy (Lam et al., 2011; van Berkhout & Malouff, 2015). A meta-analysis examining the effects of empathy training programs found that empathy was effectively trained, especially when individuals were given training compensations and participated in programs involving multiple behavioral skills training methods (van Berkhout & Malouff, 2015). Since empathy is closely associated with moral emotions leading to pro-social and pro-environmental behaviors, society and communities need to teach individuals how to take the perspective of others and to show empathy via empathy training programs. Individuals having elevated hearts could show more robust emotional responses to pro-environmental campaigns and could eventually be motivated to engage in pro-environmental behaviors.

6. CONCLUSION

By taking the theoretical perspective of eWOM, this study contributes to persuasive communication research. The overarching implication of the results stresses the significance of pro-environmental campaigns inducing moral emotions in terms of spurring Facebook activity

intentions and pro-environmental behavioral intentions. In addition, empathy as an internal trait plays a pivotal role in increasing the levels of pride and guilt.

This study has limitations, which may offer suggestions for future research. First, this study used a self-administered online survey to measure behavioral intentions rather than behaviors. However, previous literature states that behavioral intention is the best indicator of a behavior (Montano & Kasprzyk, 2015). Nevertheless, on account of the possibility that people overestimate their behaviors when answering self-reported survey questions, self-reported behaviors may not correspond with observed behaviors (Chao & Lam, 2011). Due to this reason, the behavioral intentions measured in this study may not be a robust predictor of pro-environmental behaviors and Facebook activities. Therefore, future research may attempt to observe how individuals are engaged in behaviors after exposure to emotional campaigns relevant to pro-environmental behaviors.

Second, this study used pictures stressing litter as the stimuli because they were a) less likely to evoke strong responses, such as sadness or resentment, compared to images of animals suffering from environmental destruction, b) applicable to both positive and negative emotional appeals, and c) more likely than other pro-environmental behaviors to be considered an achievable behavior. Although a pretest to examine the effectiveness of the stimuli was not conducted before the current study, exposure to the stimuli successfully induced the emotions intended. Nevertheless, future studies must pretest the incentives to ensure that emotional triggers engender feelings as intended. Furthermore, as mentioned above, the current research scrutinized the emotional reactions to exposure to a picture portraying a specific behavior, littering. This limited type of Facebook post might constrain the persuasive impact on behavioral intentions regarding general pro-environmental behaviors. Hence, future studies should test several stimuli describing various pro-environmental behaviors.

Lastly, the current study did not include a control group to be compared with experimental conditions. The presence of the control condition, such as a neutral message, can provide a precise understanding of the impacts of emotional appeal messages on specific behaviors and behavioral intentions. Therefore, researchers should consider social media posts containing neutral messages, posts without an environmental reference in general, or posts without emotional appeals in the future.

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REFERENCES

Alhabash, S., McAlister, A. R., Hagerstrom, A., Quilliam, E. T., Rifon, N. J., & Richards, J. I. (2013). Between likes and shares: Effects of emotional appeal and virality on the persuasiveness of anti-cyberbullying messages on Facebook. *Cyberpsychology, Behavior, and Social Networking*, 16, 175–182. doi:10.1089/cyber.2012. 0265

Amatulli, C., De Angelis, M., Peluso, A. M., Soscia, I., & Guido, G. (2019). The Effect of Negative Message Framing on Green Consumption: An Investigation of the Role of Shame. *Journal of Business Ethics*, 157(4), 1111–1132. https://doi.org/10.1007/s10551-017-3644-x

Baek, T. H., & Yoon, S. (2017). Guilt and shame: Environmental message framing effects. *Journal of Advertising*, 46(3), 440-453.

Bamberg, S., & Möser, G. (2007). Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behavior. *Journal of environmental psychology*, 27(1), 14-25. https://doi.org/10.1016/j.jenvp.2006.12.002

Barón, M. J., Etxebarria Bilbao, I., Apodaka Urkijo, P., Conejero López, S., & Pascual Jimeno, A. (2018). *Moral emotions associated with prosocial and antisocial behavior in school-aged children*. Psicothema.

Batson, C. D., Lishner, D. A., & Stocks, E. L. (2015). *The empathy—Altruism hypothesis. Oxford Handbooks Online*. 1-27. doi: 10.1093/oxfordhb/9780195399813.013.023

Berenguer, J. (2007). The effect of empathy in pro-environmental attitudes and behaviors. *Environment and Behavior*, 39(2), 269-283.

Bissing-Olson, M. J., Fielding, K. S., & Iyer, A. (2016). Experiences of pride, not guilt, predict pro-environmental behavior when pro-environmental descriptive norms are more positive. *Journal of Environmental Psychology*, 45, 145-153.

Bone, P. F. (1995). Word-of-mouth effects on short-term and long-term product judgments. *Journal of business research*, 32(3), 213-223.

Boyd, D. (2010). Social network sites as networked publics: Affordances, dynamics, and implications. In *A networked self* (pp. 47-66). Routledge.

Brody, S., Grover, H., & Vedlitz, A. (2012). Examining the willingness of Americans to alter behavior to mitigate climate change. *Climate Policy*, 12(1), 1–22. https://doi.org/10.1080/14693062.2011.579261

Buhrmester, M. D., Talaifar, S., & Gosling, S. D. (2018). An evaluation of Amazon's Mechanical Turk, its rapid rise, and its effective use. Perspectives on Psychological Science, 13(2), 149-154. https://doi.org/10.1177/1745691617706516

Cappella, J. N., Kim, H. S., & Albarracín, D. (2015). Selection and transmission processes for information in the emerging media environment: Psychological motives and message characteristics. Media Psychology, 18(3), 396-424. doi: 10.1080/15213269.2014.941112

Carré, A., Stefaniak, N., d'Ambrosio, F., Bensalah, L., & Besche-Richard, C. (2013). The Basic Empathy Scale in adults (BES-A): factor structure of a revised form. *Psychological assessment*, 25(3), 679.

Catino, M., & Patriotta, G. (2013). Learning from errors: Cognition, emotions and safety culture in the Italian air force. *Organization Studies*, 34(4), 437-467. https://doi.org/10.1177/0170840612467156

Chao, Y. L., & Lam, S. P. (2011). Measuring responsible environmental behavior: Self-reported and other-reported measures and their differences in testing a behavioral model. *Environment and Behavior*, 43(1), 53–71. https://doi.org/10.1177/0013916509350849

Chiou, J. S., & Cheng, C. (2003). Should a company have message boards on its websites? *Journal of Interactive Marketing*, 17(3), 50-61. https://doi.org/10.1002/dir.10059

Cohen, T. R. (2010). Moral emotions and unethical bargaining: The differential effects of empathy and perspective taking deterring deceitful negotiation. *Journal of Business Ethics*, 94(4), 569-579. doi: 10.1007/s10551-009-0338-z

Choi, J., & Kim, Y. (2014). The moderating effects of gender and number of friends on the relationship between self-presentation and brand-related word-of-mouth on Facebook. *Personality and individual differences*, *68*, 1-5. https://doi.org/10.1016/j.paid.2014.03.040

Coviello, L., Sohn, Y., Kramer, A. D., Marlow, C., Franceschetti, M., Christakis, N. A., & Fowler, J. H. (2014). Detecting emotional contagion in massive social networks. *PloS one*, 9(3), e90315. https://doi.org/10.1371/journal.pone.0090315

Davis, M. H. (1983). The effects of dispositional empathy on emotional reactions and helping: A multidimensional approach. *Journal of Personality*, 51(2), 167-184.

Decety, J. (2011). The neuroevolution of empathy. *Annals of the New York Academy of Sciences, 1231,* 35–45. doi:10.1111/j.1749-6632.2011 .06027.x

Dellarocas, C. (2003). The digitization of word of mouth: Promise and challenges of online feedback mechanisms. *Management Science*, 49(10), 1407-1424.

Derntl, B., Finkelmeyer, A., Eickhoff, S., Kellermann, T., Falkenberg, D. I., Schneider, F., & Habel, U. (2010). Multidimensional assessment of empathic abilities: Neural correlates and gender differences. Psychoneuroendocrinology, 35, 67–82. doi:10.1016/j.psyneuen.2009.10.006

de Zúñiga, H. G., Barnidge, M., & Scherman, A. (2018). Social media social capital, offline social capital, and citizenship: Exploring asymmetrical social capital effects. In *Digital Politics: Mobilization, Engagement and Participation* (pp. 44-68). Routledge.

DiRusso, C., & Myrick, J. G. (2021). Sustainability in CSR Messages on Social Media: How Emotional Framing and Efficacy Affect Emotional Response, Memory and Persuasion. *Environmental Communication*, 15(8), 1045–1060. https://doi.org/10.1080/17524032.2021.1933120.

Eckland, N. S., Huang, A. B., & Berenbaum, H. (2020). Empathic accuracy: Associations with prosocial behavior and self-insecurity. *Emotion*, 20(7), 1306.

Eisenberg, N., & Miller, P. A. (1987). The relation of empathy to prosocial and related behaviors. *Psychological bulletin*, 101(1), 91.

Fernandez, M., Piccolo, L. S., Maynard, D., Wippoo, M., Meili, C., & Alani, H. (2017). Pro-environmental campaigns via social media: Analysing awareness and behavior patterns. *Journal of Web Science*, 3(1).

Filieri, R. (2016). What makes an online consumer review trustworthy? *Annals of Tourism Research*, 58, 46-64. https://doi.org/10.1016/j.annals.2015.12.019

Filieri, R., Acikgoz, F., Ndou, V., & Dwivedi, Y. (2020). Is TripAdvisor still relevant? The influence of review credibility, review usefulness, and ease of use on consumers' continuance intention. *International Journal of Contemporary Hospitality Management*.33(1), 199-223. https://doi.org/10.1108/IJCHM-05-2020-0402

Fredrickson, B. (2009). *Positivity: Top-notch research reveals the 3-to-1 ratio that will change your life*. Harmony.

Gentile, B., Twenge, J. M., Freeman, E. C., & Campbell, W. K. (2012). The effect of social networking websites on positive self-views: An experimental investigation. *Computers in Human Behavior*, 28(5), 1929–1933. https://doi.org/10.1016/j.chb.2012.05.012

Haidt, J. (2003). The moral emotions. In R. J. Davidson, K. R. Scherer, & H. H. Goldsmith (Eds.), *Handbook of affective sciences* (pp. 852–870). Oxford University Press.

Han, R., & Cheng, Y. (2020). The influence of norm perception on pro-environmental behavior: A comparison between the moderating roles of traditional media and social media. *International Journal of Environmental Research and Public Health*, 17(19), 7164. https://doi.org/10.3390/ijerph17197164

Han, R., & Xu, J. (2020). A comparative study of the role of interpersonal communication, traditional media, and social media in pro-environmental behavior: A China-based study. *International Journal of Environmental Research and Public Health*, 17(6). https://doi.org/10.3390/ijerph17061883

Han, W., McCabe, S., Wang, Y., & Chong, A. Y. L. (2018). Evaluating user-generated content in social media: an effective approach to encourage greater pro-environmental behavior in tourism? *Journal of Sustainable Tourism*, 26(4), 600-614. http://dx.doi.org/10.1080/09669582.2017.1372442

Hauser, D. J., & Schwarz, N. (2016). Attentive Turkers: MTurk participants perform better on online attention checks than subject pool participants. *Behavior research methods*, 48(1), 400-407.

Hennig-Thurau, T., Gwinner, K. P., Walsh, G., & Gremler, D. D. (2004). Electronic word-of-mouth via consumer-opinion platforms: what motivates consumers to articulate themselves on the internet? *Journal of interactive marketing*, 18(1), 38-52. https://doi.org/10.1002/dir.10073

Jolliffe, D., & Farrington, D. P. (2006). Development and validation of the Basic Empathy Scale. *Journal of Adolescence, 29,* 589–611. doi: 10.1016/j.adolescence.2005.08.010

Kane, K., Chiru, C., & Ciuchete, S. G. (2012). Exploring the eco-attitudes and buying behavior of Facebook users. *Amfiteatru Economic*, XIV(31), 157–171.

Kanske, P., & Kotz, S. A. (2007). Concreteness in emotional words: ERP evidence from a hemifield study. *Brain Research*, 1148, 138-14 https://doi.org/10.1016/j.brainres.2007.02.044

Kim, J., & Lee, J. E. R. (2011). The Facebook paths to happiness: Effects of the number of Facebook friends and Self-presentation on subjective well-being. *CyberPsychology, behavior, and social networking*, 14(6), 359-364. https://doi.org/10.1089/cyber.2010.0374

Kim, M. J., & Hall, C. M. (2019). Can climate change awareness predict pro-environmental practices in restaurants? Comparing high and low dining expenditure. *Sustainability (Switzerland)*, 11(23). https://doi.org/10.3390/su11236777

Kroll, J., & Egan, E. (2004). Psychiatry, moral worry, and moral emotions. *Journal of Psychiatric Practice®*, 10(6), 352-360.

Kusumawati, A., Utomo, H. S., Suharyono, S., & Sunarti, S. (2019). Effects of sustainability on WoM intention and revisit intention, with environmental awareness as a moderator. *Management of Environmental Quality: An International Journal*. 31(1), 273-288. doi: 10.1108/MEQ-03-2019-0064

Lam, T. C. M., Kolomitro, K., & Alamparambil, F. C. (2011). Empathy training: Methods, evaluation practices, and validity. J*ournal of Multidisciplinary Evaluation*, 7(16), 162-200.

Lewis, H. B. (1971). Shame and guilt in neurosis. *Psychoanalytic Review*, 58(3), 419-438.

Lin, H., Tov, W., & Qiu, L. (2014). Emotional disclosure on social networking sites: The role of network structure and psychological needs. *Computers in Human Behavior*, *41*, 342-350.

Liu, H., Jayawardhena, C., Osburg, V. S., Yoganathan, V., & Cartwright, S. (2021). Social sharing of consumption emotion in electronic word of mouth (eWOM): A cross-media perspective. *Journal of Business Research*, 132, 208-220. https://doi.org/10.1016/j.jbusres.2021.04.030

Luck, E., & Ginanti, A. (2013). Online environmental citizenship: Blogs, green marketing, and consumer sentiment in the 21st century. *Electronic Green Journal*, 1(35), 1–26.

McLaughlin, C., & Vitak, J. (2012). Norm evolution and violation on Facebook. *New media & society*, *14*(2), 299-315.

Michie, S. (2009). Pride and gratitude: How positive emotions influence the prosocial behaviors of organizational leaders. Journal of Leadership & Organizational Studies, 15(4), 393-403.

Montano, D. E., & Kasprzyk, D. (2015). Theory of reasoned action, the theory of planned behavior, and the integrated behavioral model. *Health behavior: Theory, research and practice*, 70(4), 231.

Nadarajan, G., Bojei, J., & Khalid, H. (2017). The study on negative eWOM and its relationship to consumers' intention to switch Mobile Service Providers. *Procedia Computer Science*, 124, 388-396. https://doi.org/10.1016/j.procs.2017.12.169

Peeters, G., & Czapinski, J. (1990). Positive-negative asymmetry in evaluations: The distinction between affective and informational negativity effects. *European review of social psychology*, 1(1), 33-60. https://doi.org/10.1080/14792779108401856

Purnawirawan, N., Eisend, M., De Pelsmacker, P., & Dens, N. (2015). A meta-analytic investigation of the role of valence in online reviews. *Journal of Interactive Marketing*, 31, 17–27. https://doi.org/10.1016/j.intmar.2015.05.001

Rimé, B. (2009). Emotion elicits the social sharing of emotion: Theory and empirical review. *Emotion Review*, 1(1), 60-85.

Rimé, B., Finkenauer, C., Luminet, O., Zech, E., & Philippot, P. (1998). Social sharing of emotion: New evidence and new questions. *European review of social psychology*, 9(1), 145-189. https://doi.org/10.1080/14792779843000072

Roberts, W., Strayer, J., & Denham, S. (2014). Empathy, anger, guilt: Emotions and prosocial behavior. *Canadian Journal of Behavioural Science/Revue canadienne des sciences du comportement*, 46(4), 465.

Roma, P., & Aloini, D. (2019). How does brand-related user-generated content differ across social media? Evidence reloaded. *Journal of Business Research*, 96, 322-339.

Rozin, P., & Royzman, E. B. (2001). Negativity bias, negativity dominance, and contagion. *Personality and social psychology review*, 5(4), 296-320. https://doi.org/10.1207/S15327957PSPR0504_2

Ruiz-Mafe, C., Bigné-Alcañiz, E., & Currás-Pérez, R. (2020). The effect of emotions, eWOM quality, and online review sequence on consumer intention to follow advice obtained from digital services. *Journal of Service Management*, 31(3), 465-487. https://doi.org/10.1108/JOSM-11-2018-0349

Septianto, F., Seo, Y., & Errmann, A. C. (2021). Distinct Effects of Pride and Gratitude Appeals on Sustainable Luxury Brands. *Journal of Business Ethics*, 169(2), 211–224. https://doi.org/10.1007/s10551-020-04484-7

Shah, Z., Wei, L., & Ghani, U. (2021). The Use of Social Networking Sites and Pro-Environmental Behaviors: A Mediation and Moderation Model. *International Journal of Environmental Research and Public Health*, 18(4), 1805. https://doi.org/10.3390/ijerph18041805

Tam, K. P. (2019). Anthropomorphism of nature, environmental guilt, and pro-environmental behavior. *Sustainability*, 11(19), 5430.

Tangney, J. P. (1990). Assessing individual differences in proneness to shame and guilt: van de development of the Self-Conscious effect and Attribution Inventory. *Journal of personality and social psychology*, 59(1), 102.

Tangney, J. P., & Dearing, R. L. (2002). Gender differences in morality. In R. F. Bornstein & J. M. Masling (Eds.), The psychodynamics of gender and gender role (pp. 251–269). *American Psychological Association*. https://doi.org/10.1037/10450-007

Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral emotions and moral behavior. *Annual review of psychology*, 58, 345.

Taylor, S., & Todd, P. (1995). Understanding household garbage reduction behavior: a test of an integrated model. *Journal of public policy & marketing*, 14(2), 192-204. https://doi.org/10.1177/074391569501400202

Tracy, J. L., & Robins, R. W. (2007). The psychological structure of pride: a tale of two facets. *Journal of personality and social psychology*, 92(3), 506.

Tracy, J. L., & Robins, R. W. (2004). " Putting the Self Into Self-Conscious Emotions: A Theoretical Model." Psychological Inquiry, 15(2), 103-125. https://doi.org/10.1207/s15327965pli1502_01

van Berkhout, E. T., & Malouff, J. M. (2016). The efficacy of empathy training: A meta-analysis of randomized controlled trials. *Journal of counseling psychology*, *63*(1), 32. http://dx.doi.org/10.1037/cou0000093

Waterloo, S. F., Baumgartner, S. E., Peter, J., & Valkenburg, P. M. (2018). Norms of online expressions of emotion: Comparing Facebook, Twitter, Instagram, and WhatsApp. *new media & society*, *20*(5), 1813-1831.

Xenos, M. A., Macafee, T., & Pole, A. (2017). Understanding variations in user response to social media campaigns: A study of Facebook posts in the 2010 US elections. *New Media & Society*, 19(6), 826-842. https://doi.org/10.1177/1461444815616617

Xia, Z., Zhang, S., Tian, X., & Liu, Y. (2021). Understanding waste sorting behavior and key influencing factors through the internet of things: Evidence from the college student community. *Resources, Conservation and Recycling*, 174, 105775. https://doi.org/10.1016/j.resconrec.2021.105775

Yu, J. (2014). We look for social, not promotion: Brand post strategy, consumer emotions, and engagement. *International Journal of Media & Communication*, 1(2), 28-37. doi: 10.5176/2335-6618_1.2.17

Yuriev, A., Boiral, O., & Guillaumie, L. (2020). Evaluating determinants of employees' pro-environmental behavioral intentions. *International Journal of Manpower*.

Zhang, H., Liang, X., & Qi, C. (2021). Investigating the impact of interpersonal closeness and social status on electronic word-of-mouth effectiveness. *Journal of Business Research*, *130*, 453-461. https://doi.org/10.1016/j.jbusres.2020.01.020

Zubair, M., Iqbal, S., Usman, S. M., Awais, M., Wang, R., & Wang, X. (2020). Message framing and self-conscious emotions help to understand pro-environment consumer purchase intention: an ERP study. *Scientific Reports*, 10(1), 1–8. https://doi.org/10.1038/s41598-020-75343-8.

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