Original Article

"They Are Wallowing in Luxury, but Complain About the Struggles of Lockdown"

A Field Study of Audiences' Responses to Celebrity COVID-19 Posts

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Abstract: Many people are fascinated by celebrities and like to follow them and leave positive comments online about the luxurious lives they lead. There are doubts and concerns, however, about whether celebrity posts regarding personal experiences and advice generate positive responses when their audience is in a situation of chronic stress, such as during a pandemic. On the basis of a field study of real celebrity COVID-19 Instagram posts, this study tested a model for exploring the role of both contextual (i.e., references to luxury in celebrity posts) and individual (i.e., upward social comparison orientation [SCO] and attitudes toward the celebrity) factors in explaining how audiences respond emotionally and behaviorally (i.e., commenting) to celebrity posts during a stressful period. The results indicated that the audience's emotional and behavioral responses were more negative toward posts with more cues of luxury. SCO seems to moderate these effects, indicating that upward SCO based on these cues can motivate and support to a certain level, but switches to negative effects once the focus on luxury becomes too strong. The results regarding attitudes toward the celebrities behind the messages confirmed the powerful role of this variable during chronic stress, establishing a link between more positive attitudes and more positive emotional responses (amusement and inspiration). These results offer some first exploratory insights into the role of celebrity representations during a global period of stress, which could lay the basis for future experimental research on this topic.

Keywords: COVID-19, online celebrity messages, attitudes, online commenting, social comparison orientation

People have been fascinated by celebrities for a long time (Giles, 2000). Studies investigating the reasons and motives behind this fascination regularly point to how celebrities function as role models with whom people want to connect and become (parasocial) friends (e.g., De Backer et al., 2007; Hartmann et al., 2008). This connection between celebrities and their audience has changed due to the development of social networking sites (SNS; i.e., web-based platforms that allow individuals to create a profile and build a network of connections with others; Boyd & Ellison, 2007). First, thanks to SNS, it has become easier to access celebrities' personal stories and private information that can be used as exemplary material (Marwick, 2015). As a result, audiences follow celebrities on SNS on a large scale (Kowalczyk & Pounders, 2016) and use their posts as inspiration for their own development, career, or lifestyle (Giles & Maltby, 2004).

Given this role modeling and advisory function, celebrities often try to help during stressful periods by sharing personal messages and advice. Scholars have indicated an increase in shared celebrity messages during several world crises (e.g., Ebola, Zika virus; Manganello et al., 2020), including the current one of COVID-19 (Larabee, 2020). Whereas many believed in the positive and supportive contribution made by these posts, the popular press recently expressed concerns about the fact that such celebrity messages might be processed differently during stressful periods (Cummins, 2020; Larabee, 2020). Although this has not yet been investigated in a celebrity-audience context, it is known that chronic stress levels have implications for the way people interact with each other, and for how they process messages of others and regulate their emotional responses to these messages (Leventhal, 1970). Due to the high pressure on the cognitive mechanisms that help us deal

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with frustrations and anger (because of social differences, for instance), there is often less empathy and more (displacement) aggression between social groups (Johnson & Knobloch-Westerwick, 2014; Seo & Hyun, 2018). One of the contexts in which this has been confirmed is pandemics. Analyzing 14 pandemics across history, Jedwab and colleagues (2020) found that nine resulted in mild-to-serious forms of increased social and racial polarization, sometimes accompanied by protests and aggression among different social groups (Jedwab et al., 2020). Given that celebrities belong to a different social group than most of their followers, it might be interesting to see how audiences respond to personal celebrity posts when experiencing chronic stress.

Whereas audience responses to other social groups in times of chronic stress used to take the form of civil wars and physical conflicts, SNS allow new types of responses (Jedwab et al., 2020). By making use of the interactive features of SNS, audiences can immediately respond to celebrity messages both in an emotional and behavioral way (e.g., sharing, liking, or commenting on the post); this is the second change in the connection between celebrities and their audiences (Cheng et al., 2017; Enke & Borchers 2019; Kowalczyk & Pounders, 2016). Research has indicated that followers make use of these features and regularly show positive expressions and encouragements (Enke & Borchers 2019; Kowalczyk & Pounders, 2016). This further facilitates the development of strong and intimate relationships, resulting in even stronger emotional responses (Hartmann et al., 2008; Marwick, 2015). However, these studies did not look at the specific (stressful or stress-free) context in which the audience responded to the celebrity messages.

This study aimed to examine how audiences respond both emotionally (positive and negative feelings) and behaviorally (commenting) to celebrity posts on SNS during a stressful period. More specifically, this was investigated in the COVID-19 context, as the pandemic caused chronic stress among many people (Douglas et al., 2020) and inspired several celebrities to share personal stories and advice on SNS (Larabee, 2020; Manganello et al., 2020). To better understand the underlying processes, we conducted a field study that explored the role of one contextual (cues to luxury, e.g., luxury brands, expensive possessions, influence) and two individual (upward social comparison orientation [SCO] and attitudes toward the celebrity) factors in explaining audiences' emotional and behavioral responses to real celebrity COVID-19 posts.

Literature Overview

The Role of Cues of Luxury in Celebrity SNS Posts

How audiences respond in stressful times to messages from other social groups seems to depend on the content and, more specifically, the extent to which the content accentuates social differences (Cummins, 2020; Kim, 2020). According to the analysis of Duit (2018), celebrity posts contain many underlying cues to luxury, glamour, and ostentation. Content analyses of celebrity posts on SNS indicated that celebrities mostly use these platforms to share personal and intimate insights, such as back-stage shots, insights into their free-time activities, and glimpses of their luxury houses and lifestyles (Hay & Muller, 2012; Marwick & Boyd, 2011; Marwick, 2015). Social media influencers (SMI), in particular, regularly post about extraordinary gadgets and holidays, profiling themselves as the "ambassadors of luxury" (Leban et al., 2020). Many users follow with fascination, and even virtually participate in, celebrities' luxurious lives (Hay & Muller, 2012). However, when experiencing chronic stress levels, such as during a pandemic, expressions of luxury, fashion, and glamour are not what people are dreaming of; they just want to be safe, healthy, and get their bills paid (Cummins, 2020). The "typical" celebrity posts might then be experienced as being too much "look at me" (Da Costa, 2020). Popular literature has argued that instead of being supportive and informative, these posts might function as exposers and intensifiers for the differences between the haves and have-nots (Larabee, 2020), thereby stimulating anger, frustration, and even hostility among their audiences (Cummins, 2020). This can be observed in the specific context of COVID-19. Trends of scapegoating have been noticed (Jedwab et al., 2020), and exemplary figures and celebrities have been blamed for sharing misinformation and unrealistic representations, which may be accentuating social inequality (Kim, 2020; Larabee, 2020; Manganello et al., 2020). Some recent sources have even talked about the start of a new era regarding the meaning and position of celebrities in our society, characterized by disconnection and the realization that "stars are not like us" (Holoway, 2020). This might be translated into negative commenting. Preliminary analyses on Twitter and Instagram during lockdown pointed to expressions of celebrity bashing, with the celebrities being blamed for exposing and intensifying social inequality (Cummins, 2020; Kim, 2020).

The first objective of this study was to test whether audiences show similar negative feelings toward celebrity messages containing references to social differences (Cummins, 2020; Jedwab et al., 2020) and whether these are translated into commenting behavior, as suggested by preliminarily results and the popular press (Cummins, 2020; Kim, 2020). On the basis of this literature, we expect that online celebrity posts containing many cues of luxury are stimulating more negative emotional (frustration, angriness, and hostility; H1a) and behavioral (negative commenting; H1b) responses in the current stressful period of COVID-19.

The Role of Social Comparison Orientation

It should be noted that not everyone will respond to content in the same way. The first individual factor that has been linked with audiences' responses to media content is SCO (i.e., the extent to which one is inclined to compare oneself with other people and base one's responses on this comparison; Gibbons & Buunk, 1999). People can engage in upward social comparisons (i.e., comparing with someone who is better off) or downward social comparisons (i.e., comparing with someone in a worse situation than you are; Collins, 1996). Upward social comparison is especially relevant for this study because celebrities are typically better off than their audience members. Such upward social comparisons can have different outcomes. Some research indicates that upward comparisons can motivate and inspire people to challenge themselves to accomplish higher achievements (Brickman & Bulman, 1977; Buunk & Gibbons, 2007; Meier & Schäfer, 2018; Nabi & Keblusek, 2014; Taylor et al., 1990), whereas other studies show that people can feel lower self-esteem, hopelessness, depression, frustration, jealousy, and hostility after engaging in upward social comparison (Brickman & Bulman, 1977; Chou & Edge, 2012; Chrisler et al., 2013; Gibbons & Buunk, 1999; Testa & Major, 1990).

Some key factors that determine whether people experience positive or negative effects of upward social comparisons are the extent to which the audience feels similar to the role model (Chang, 2011; Marx & Ko, 2012) and the degree to which they believe they are able to obtain the same level of success as the role model (Lockwood & Kunda, 1997; Luong et al., 2020). According to the latter studies, people might react negatively to luxury cues presented by celebrity role models because they consider the situation and the possessions of the celebrity as being unattainable and completely different from their own (Chang, 2011; Lockwood & Kunda, 1997; Luong et al., 2020). Such negative reactions to luxury cues are especially likely during chronic stressful situations, because stress might complicate or even change the emotional processing of information given by others (Thornton & Arrowood, 1966). Global stressful periods stimulate people to make more comparisons, to see how others are doing during the difficult period, and to be inspired to find a way to cope with the stress (Buunk, 1994; Gibbons & Buunk, 1999; Taylor et al., 1990). However, comparing with others who are better off during a crisis can easily make people feel bad and insecure about their own life and position in society (Taylor et al., 1990). This is especially true when people make comparisons with unknown high-status referees, because they often make misjudgments and idealized perceptions about these referees' lives (Chan & Zhang, 2007; Chou & Edge, 2012), which results in large discrepancies between their ideals about how they want their lives to be and how their lives actually are (Ogden & Venkat, 2001).

Importantly, such negative emotional reactions can drive negative behavioral motivations (Nabi & Keblusek, 2014) and even future behavior (Thau et al., 2007). Research, for example, has reported a relationship between tendencies to make social comparisons and the perpetration of online aggression (Young et al., 2017). The authors explained these effects by referring to the fact that having a strong SCO results in a stronger awareness of and investment in social status. Online aggression is then one way to reinforce or improve social status and norms (Young et al., 2017). Nabi and Keblusek (2014) went one step further and argued for and confirmed the idea of an indirect model in which it is not always SCO itself that regulates behavior, but rather the emotions that are associated with the result of the comparison. On the basis of this idea, we predict that a higher upward SCO is related to more negative emotional (angriness, frustration, hostility; H2a) and behavioral (negative commenting; H2b) responses to celebrity posts during stressful periods, in both a direct and indirect (H3) way.

Attitudes Toward the Celebrity

A second element that steers how one reacts to celebrity messages is one's attitudes toward the celebrities. Advertising research, for instance, has demonstrated a positive effect of likeability on attitudes and behavioral responses to advertising messages (Erdogan, 1999). Comparing the effects of likeability with those of attractiveness and expertise, Belch and Belch (2013) concluded that likeability is the most important predictor of the effectiveness of a message. According to Friedman and colleagues (1978), the power of likeability lies in the fact that it is the most important attribute for developing trust in the celebrity. This is also reflected in the literature on audiences' reactions to celebrity scandals: People who were a big fan of the celebrity involved in the scandal showed resistance to changing their attitudes, blamed them less, and expressed more sympathy by sending them supportive messages in comparison with people who did not like the celebrity (Fong & Wyer, 2012). The opposite was found for disliked celebrities. In an experimental study exposing adolescents to negative messages about liked versus disliked celebrities, having more negative attitudes toward a celebrity was associated with having a more accepting mood toward the "bashing" of that celebrity (Ouvrein et al., 2018). Similarly, research in the context of anti-fandom found that dislike of a celebrity is related to feelings of antipathy and wishes for bad outcomes for the celebrity (Hartmann et al., 2008), which might then also indirectly steer negative behavior toward them (Cheng et al., 2017).

Research has not yet linked disliking attitudes toward celebrities with negative online behavioral responses

toward them. However, on the basis of the literature on online aggression, we know that disliking someone is among the most mentioned motives for cyberbullying (Zhou et al., 2013). Given that people have quite approving attitudes toward online celebrity bashing, especially when they dislike the celebrity, and believe it is safer than cyberbullying (Ouvrein et al., 2018), disliking attitudes toward celebrities might easily be expressed in the form of negative online comments.

For the last objective of this study, we wanted to know whether the positive/negative attitudes toward the celebrity in the message also stimulate emotional and behavioral expressions in times of chronic stress. More specifically, we expect that positive/negative attitudes towards the celebrity will be related to more positive/negative emotional (H4a) and behavioral (positive/negative comments: H4b) responses to celebrity posts during stressful periods, both directly and indirectly (H5).

Method

Sample

All participants were exposed to three different online celebrity COVID-19 posts for the following two reasons: (1) This type of exposure is the best representation of how participants are actually confronted with the range of different celebrity COVID-19 messages. Closely matching real exposure (i.e., different messages at the same time) and conducting research during the period of lockdown (May and June 2020) will offer the best insights into responses within this specific stressful period. (2) A within-subject design allows individual differences and predispositions to be controlled for. Participants who did not answer the questions on all three cases were excluded. After deletion, the sample consisted of 385 (n = 385) individuals with an average age of 42.24 (SD = 14.46; range 18–83 years). Slightly more than half were female (59.5%), and the large majority had Belgian nationality. The study protocol was approved by the Ethics Committee of the University of Antwerp.

Procedure and Stimulus Material

A field study with three randomly selected celebrity COVID-19 posts on SNS was used to test the hypotheses. We decided to work with real celebrity COVID-19 posts for several reasons. First, given the fact that COVID-19 is the first pandemic in which celebrities have spontaneously shared experiences and advice on their personal SNS profiles (Manganello et al., 2020), we felt that the lack of existing research on types of celebrity (COVID-19) messages hindered the development of well-thought and structured fictive and representative messages. Moreover, the language that has been used to describe this unique experience is so diverse (new words have even been invented) that limiting the posts to two or three constructed prototypical sentences with maximized variance between them felt like an oversimplified representation of reality (Hamilton & Huth, 2018; Reeves et al., 2016).

All messages were real Instagram posts and were presented with both the original picture and text. We focused on visuals, as these are better able to represent underlying power structures and economic inequality. This is a result of the fact that evolutionarily speaking, our verbal processing system is less developed than our visual system. Moreover, we can process multiple messages at the same time and better remember them compared to text (cf., picture superiority effect [PwC], 2017). The original capture was added, as research has indicated that people are more inclined to believe Instagram statements when they are combined with a picture (Newman et al., 2020). Moreover, the combination of both text and picture gives participants a meaningful context, which motivates them to process and understand the message (Hamilton & Huth, 2018). We decided to work with Instagram, as this platform is among the most popular channels for following celebrities (Kowalczyk & Pounders, 2016). On the basis of an exploratory analysis (details in the Appendix), the authors selected one post that scored high on luxury cues (post of SMI Céline Van Ouytsel posing in front of a luxurious boat referring to the fact that her trip was cancelled due to COVID-19 = Post 1), one that scored moderately (post of Eline De Munck giving digital kisses while wearing a new pair of glasses from her own well-known luxury collection = Post 2), and one that scored low on these cues (post of Lady Gaga sitting at home on her sofa with her dogs = Post 3; Figure 1).

Measurements

To check the differences in how cues of luxury were perceived, participants indicated the extent to which they believed the post represented luxury on a scale from −5 (= *not luxurious at all*) to +5 (= *very luxurious*).

Emotional responses were measured three times immediately after exposure to each post, using a scale with three negative (anger, frustration, hostility) and two positive emotions (amusement, inspiration) on a 5-point Likert scale. The emotions were selected based on the combined literature on luxury, SCO, and attitudes toward celebrities (Cummins, 2020; Ouvrein et al., 2020; Taylor et al., 1990). For all feelings, higher scores represent stronger expressions.

Behavioral responses were measured three times after the emotions. Participants could optionally write down a comment. We asked them to imagine they had the chance to

Figure 1. Selected posts.

Table 1. Coding of the comments

Label	Coding	Score	Example
Severe bashing	Hurtful words and expressions, curse words	−2	"You look pathetic and stupid, your post is of no use for us." "Clearly she is a stupid blond girl."
Mild bashing	Negative/ pessimistic expressions without strong attacks	−1	"Go do something relevant with your life." "You seem to do everything for likes and attention." "Try living like the 99.99% of humanity."
Neutral	Neutral expressions	0	"I would not react to this, she can do whatever she wants." "Nice advertisement for the glasses."
Complimenting	Appreciation/thanking for the advice	1	"We are all in this together; she has a nice house and garden, but missing the people you love is hard for everyone." "Thumbs up!" "The message is OK, but the way it is presented not so much." "Thank you for the first part of the message; however, hanging with your dogs in a luxury house is not comparable with what most of us have."
Strongly complimenting	Strong expressions of enthusiasm, strong compliments	2	"This celebrity has done a lot for the COVID-19 research, she deserves praise." "Keep on inspiring us and lots of kudos."

comment on the real Instagram post. We believe that not forcing them to comment takes into account individual differences between people's intentions to comment on online celebrity messages. Moreover, making commenting optional enables one to catch spontaneous reactions. Nonresponses were coded as missing. To interpret the tone of the comments, we followed the quantitative coding procedure of De Backer and Fisher (2012). Each comment received a score between −2 (= severe bashing) and +2 (= strongly thanking/complimenting; Table 1). We determined intercoder reliability following the method of Lombard et al. (2010). The second coder coded all comments following detailed instructions on how certain words, underlying feelings, and emojis were scored (average Krippendorff's $\alpha = .81$).

To measure the attitudes toward the celebrities, participants indicated how much they liked (personality, regardless of the celebrity's singing/acting performances) the celebrities in the examples before exposure, using a 10-point scale (1 = *extremely disliking*; 10 = *extremely liking*; 11 = *don't know him/her*). Not knowing was treated as missing data.

Upward SCO was captured using a similar approach to that of Chae (2018), who measured envy toward SMI. Participants indicated on a 7-point Likert scale (1 = *never*; 7 = *several times per day*) how often they compared themselves with international celebrities, national celebrities, and SMI, as observed on SNS in the past month. This formulation allows us to measure not only the quantity, but also the quality of the comparisons (i.e., exposure does not necessarily mean comparison; Chae, 2018). The total score was calculated as the mean score of the comparison across the different persons (Cronbach's $\alpha = .90$).

To control for participants' distress, the Kessler 6 (K6) Psychological Distress Scale of Kessler et al. (2010) was added. Participants indicated on a 5-point Likert scale (1 = *never*; 5 = *all the time*) how often in the past month they experienced the different components of psychological distress. The total score was calculated by the mean score of the six items (Cronbach's $\alpha = .90$).

Data Analysis

Repeated measures ANOVA, followed by Bonferroni post hoc tests, were used to analyze and compare the expressions between the different posts. For investigating the proposed model and hypotheses (Figure 2), path modeling was

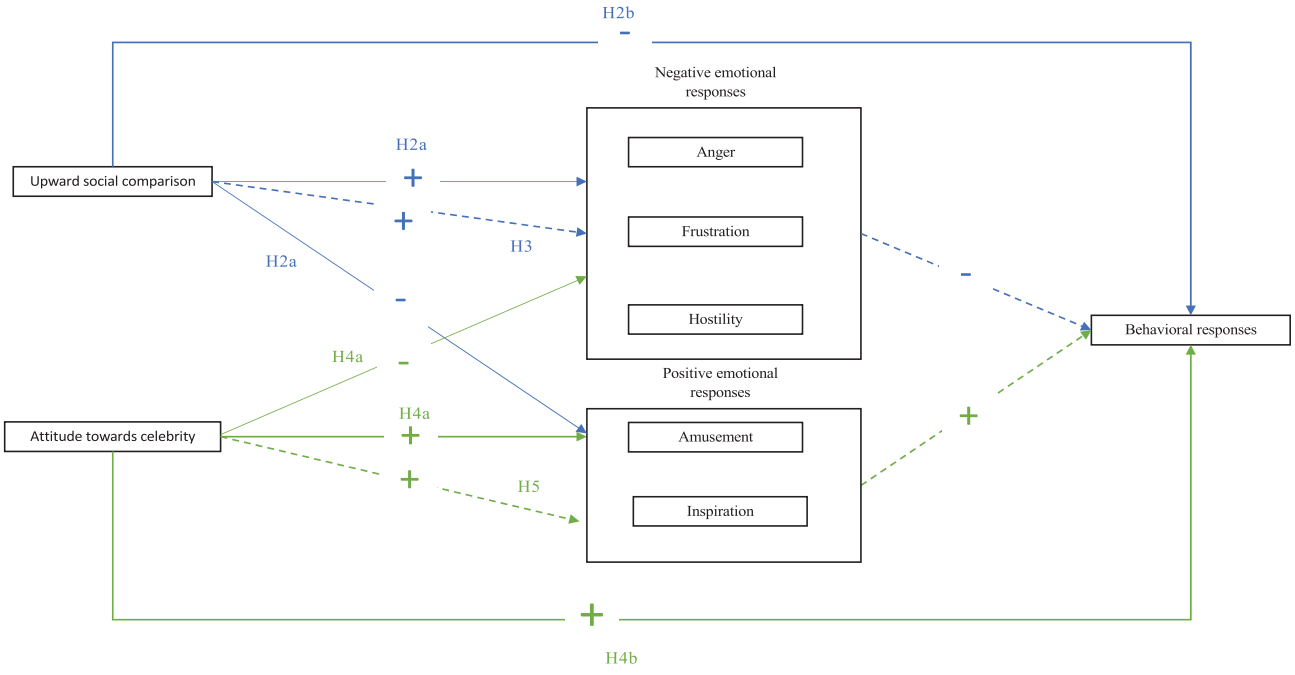

Figure 2. Proposed model. For all emotions: higher scores mean experiencing that emotion to a higher extent; for behavioral responses: higher scores mean more positive commenting; the dotted lines represent effects with emotional responses as mediator.

applied using Mplus with maximum likelihood estimation. Given the different types of messages used as stimuli, we did not average across the messages, but segmented the results based on the type of message (Reeves et al., 2016). In this way, we follow the example of Dillard and Peck (2000), which is considered one of the few (good) examples of a study testing emotional responses to eight different messages using a within-subjects design (Reeves et al., 2016). A separate model was thus developed for the three cases, and the unique effects for each of the posts were analyzed. We controlled for gender, age, distress, and desensitization (i.e., whether they had seen the post before). Around 1 out of 10 (Post 1: 5.4%; Post 2: 10.5%; Post 3: 7.6%) had seen the selected posts, or very similar posts, before. Bootstrapping tests (10,000 resamples) for indirect effects were used.

Results

Manipulation Check and Descriptive Results

An overview of descriptive statistics, correlations, and mean differences can be found in Tables 2 and A1. Repeated-measures ANOVA indicated significant differences in the perceived cues of luxury between the three posts, Greenhouse–Geisser: $F(2, 464) = 24.42$; $p < .001$; $\eta_p^2 = .09$, with Post 1 scoring the highest ($M = 1.37$; $SD = 2.60$), followed by Post 2 ($M = 1.02$; $SD = 2.38$), which was in turn followed by Post 3 ($M = .33$; $SD = 2.49$). As some of these results were close to the middle of the scale, we tested whether the reported values significantly differed from the middle, and we found this to be the case, Post 1: $t(334) = 52.31$, $p < .001$; Post 2: $t(339) = 60.86$, $p < .001$; Post 3: $t(335) = 62.07$, $p < .001$.

The total mean score for upward SCO was $M = 1.34$; $SD = .86$. Looking at the different people participants compared themselves with, Greenhouse–Geisser: $F(2, 740) = 5.23$, $p = .006$, $\eta_p^2 = .01$, comparisons with international celebrities ($M = 1.40$; $SD = 1.0$) resulted in the highest score, followed by SMI ($M = 1.31$; $SD = .94$) and national celebrities ($M = 1.30$; $SD = .89$).

Descriptive results of the attitudes indicated that the celebrity in Post 3 was liked the most, followed by the celebrities in Posts 2 and 1, respectively, Greenhouse–Geisser: $F(2, 254) = 15.91$; $p < .001$, $\eta_p^2 = .11$. Only the celebrity in Post 1 was not so well known (139 participants did not know her, compared to 47 for Post 2 and six for Post 3).

Results on SNS use indicate that our participants regularly follow the news through SNS ($M = 4.83$; $SD = 2.71$; range from 1 = *never* to 8 = *several times per day*). Concerning celebrity-related SNS use in particular, it was found that our participants visited celebrity accounts around one time per month ($M = 2.42$; $SD = 1.96$; range from 1 = *never* to 8 = *several times per day*).

Table 2. Descriptive statistics and correlations

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.	24.	25.	26.	27.	28.
1. Gender																												
2. Age	−.193***																											
3. Upward social comparison	.130*	−.204***																										
4. Distress	−.006	−.170***	.046																									
4. C1 Attitude	.109	−.176*	.108	.113																								
6. C1 Desensitization	−.026	.174***	−.206***	−.010	−.123																							
7. C1 Anger	−.110*	−.123*	.128*	.070	−.124	.001																						
8. C1 Frustration	.022	−.259***	.191***	.025	.010	−.067	.602***																					
9. C1 Hostility	−.024	−.182***	.240***	.080	−.010	.019	.508***	.589***																				
10. C1 Amusement	.027	.003	−.080	.029	−.241**	−.044	.044	.006	−.114*																			
11. C1 Inspiration	−.105	.035	−.097	.034	−.263**	.038	.114*	.136*	.030	.246***																		
12. C1 Reaction	.261***	−.205*	.108	−.008	.391**	.050	−.355***	−.242**	−.145	−.163*	−.300***																	
13. C2 Attitude	.137*	−.110*	.153**	−.045																								
14. C2 Desensitization	−.092	.197***	−.016	.066									−.78															
15. C2 Anger	−.211***	.070	−.026	.033									−.108	.023														
16. C2 Frustration	−.101	.000	.068	.023									−.090	−.045	.706***													
17. C2 Hostility	−.130*	.057	.010	−.029									−.067	−.013	.555***	.638***												
18. C2 Amusement	−.020	−.033	−.147**	−.038									−.208***	−.047	−.063	−.052	−.197***											
19. C2 Inspiration	−.190***	.121*	−.196**	−.052									−.346***	.094	.156**	.124*	.124*	.352***										
20. C2 Reaction	.192*	−.081	.086	−.186*									.433***	−.84	−.306***	−.337***	−.138	−.196*	−.227**									
21. C3 Attitude	.227***	−.314***	.166***	−.010																								
22. C3 Desensitization	−.015	.087	.050	−.003																	−.123*							
23. C3 Anger	−.106*	.047	.066	.015																	−.188***	.029						
24. C3 Frustration	.016	−.118*	.148**	.000																	−.074	−.037	.639***					
25. C3 Hostility	−.027	−.057	.120*	−.033																	−.027	.020	.495***	.563***				
26. C3 Amusement	.008	−.064	−.073	−.022																	−.202***	−.062	−.140**	−.078	−.124*			
27. C3 Inspiration	−.083	.154**	−.123*	.027																	−.379***	.128*	.204***	.077	.109	.229***		
28. C3 Reaction	.040	−.187*	.110	.063																	.448***	−.110	−.372***	−.264***	−.207	−.202*	−.537***	
Mean		42.34	1.34	1.92	4.12	1.96	1.86	1.84	1.44	4.34	4.67	−0.43	4.83	1.94	1.43	1.51	1.27	4.10	4.48	−0.22	5.93	1.95	1.42	1.46	1.28	4.31	4.10	0.08
SD		14.46	0.86	0.90	2.79	0.27	1.37	1.33	0.96	1.12	0.85	0.84	2.72	0.38	1.04	1.06	0.82	1.28	1.03	0.80	2.90	0.32	0.97	1.00	0.78	1.11	1.30	0.85
Range		18–83	1–7	1–6	1–11	Binary	1–5	1–5	1–5	1–5	1–5	−2 – +2	1–11	Binary	1–5	1–5	1–5	1–5	1–5	−2 – +2	1–11	Binary	1–5	1–5	1–5	1–5	1–5	−2 – +2

Note. Inspiration and amusement are reverse-coded; reactions have been recoded from −2 to 2, to 0–4, in order to ease the interpretation. C1 = celebrity 1; C2 = celebrity 2; C3 = celebrity 3. ***$p < .001$; **$p < .01$; *$p < .05$.

Repeated-Measures ANOVA on Emotional and Behavioral Responses

The emotional expressions were generally low. Nevertheless, repeated-measures ANOVAs pointed to differences between the cases. The feelings of anger, Greenhouse–Geisser: $F(2, 597) = 33.38$, $p < .001$, $\eta_p^2 = .10$, frustration, $F(2, 638) = 18.73$, $p < .001$, $\eta_p^2 = .05$, and hostility, Greenhouse–Geisser: $F(2, 618) = 12.47$, $p < .001$, $\eta_p^2 = .04$, were the highest for Post 1 (i.e., the highest score for the cues of luxury), with this post differing significantly from the other two. The amount of inspiration differed as well, Greenhouse–Geisser: $F(2, 526) = 26.81$; $p < .001$, $\eta_p^2 = .09$, and was the highest for Post 3 (i.e., the lowest score for cues of luxury), followed by Posts 2 and 1, which both differed significantly. Lastly, the feelings of amusement were very low and differed, $F(2, 638) = 8.43$; $p < .001$, $\eta_p^2 = .03$) between Posts 1 and 2, and also between Posts 2 and 3, with a slightly higher score for the latter. In conclusion, more negative feelings (anger, frustration, hostility) were reported toward posts containing more elements of luxury, whereas more positive expressions (amusement and inspiration) were found toward the post containing few cues to luxury, which confirms H1a.

Switching to behavioral responses (H1b), it should be noted that commenting was voluntary. Overall, 286 participants left at least one comment. Among these participants, a total of 466 comments were left across the three posts (Post 1: 155; Post 2: 152; Post 3: 159). Many of these comments made references to the luxury cues, saying, for instance, something about the big house, the expensive glasses, or the luxurious boat. The tone of participants' reactions was rather negative, with only the mean for the comments on Post 3 being slightly above 0. Repeated measures ANOVA pointed to significant differences, Greenhouse–Geisser: $F(2, 195) = 14.27$, $p < .001$, $\eta_p^2 = .12$, with Post 1 containing the most negative reactions, followed by Posts 2 and 3, respectively, which confirms the idea that more cues to luxury are related to more negative behavioral responses (H1b).

Path Models

The standardized parameter estimates and the fit of the models are presented in Figures 3, 4, and 5. The explained variance of our main dependent variable behavioral responses was between .22 (Model 2) and .39 (Model 3), and between .01 and .13 for the emotional responses.

For H1, we expected more negative emotional (H2a) and behavioral (H2b) responses when scoring higher on upward SCO. The results differ between the posts. In Model 1 (post with the highest score for cues of luxury), a higher score on upward SCO was associated with more feelings of frustration ($\beta = .13$; $p = .05$) and hostility ($\beta = .21$; $p = .009$) toward the post. On a behavioral level, SCO had no direct effect on the tone of the reactions in this model. In Model 2 (post with a moderate score for cues of luxury), upward SCO significantly predicted feelings of inspiration ($\beta = .14$; $p = .020$) and amusement ($\beta = .14$; $p = .024$) in relation to this post. The results of Model 3 (post with the lowest score for cues of luxury) demonstrated that upward SCO is positively associated with feeling frustrated ($\beta = .15$; $p = .031$). There was also no direct relationship with commenting, which left us with no support for H2b. The results across the three models partially confirm H2a in the sense that when the post contains many references to luxury, SCO is associated with more negative feelings.

H3 expected a mediation of SCO on behavioral responses via emotional responses. Several of the models indicated that the emotional expressions were related to the commenting. In Model 1, the tone of the comments was associated with feelings of anger and inspiration, with the former relationship being negative ($\beta = -.22$; $p = .005$) and the latter positive ($\beta = .21$; $p = .011$). Similarly, the tone of the comments in Model 3 was positively associated with the amount of inspiration ($\beta = .37$; $p < .001$). However, none of the three models reported a full indirect effect from SCO, thus rejecting H3.

H4 focused on the role of attitudes toward the celebrity in explaining emotional (H4a) and behavioral (H4b) responses, and H5 expected an indirect effect between these responses. In Model 1, none of the outcome variables were related to attitudes toward the celebrity. In Models 2 and 3, a more positive attitude was associated with more amusement (Model 2: $\beta = .20$; $p < .001$; Model 3: $\beta = .24$; $p < .001$) and inspiration (Model 2: $\beta = .22$; $p < .001$; Model 3: $\beta = .34$; $p < .001$) and fewer negative feelings (Model 3: feeling angry ($\beta = -.19$; $p = .003$) and feelings of frustration ($\beta = -.14$; $p = .021$)). Moreover, attitude ($\beta = .19$; $p = .017$) had a direct and indirect effect on commenting in Model 3, via inspiration ($\beta = .13$; $p < .001$), confirming H5 only in this model.

The influence of the control variables differed between the models. In Model 1, it appeared that men and younger participants in particular felt angry, frustrated, and hostile after seeing this post ($\beta_{gender,\ angry} = -.10$; $p = .036$; $\beta_{age,\ angry} = -.12$; $p = .028$; $\beta_{age,\ frustrated} = -.23$; $p < .001$; $\beta_{age,\ hostility} = -.14$; $p = .005$). Furthermore, younger participants ($\beta = -.25$; $p = .003$) and participants who had observed the post before ($\beta = .11$; $p = .033$) commented more positively. In Model 2, however, gender determined most of the emotional responses, with men being more angry ($\beta = -.21$; $p < .001$), frustrated ($\beta = -.12$; $p = .027$), and hostile ($\beta = -.13$; $p = .010$), and women being more inspired ($\beta = .14$; $p = .005$). In Model 3, older participants showed more amusement ($\beta = .13$; $p = .018$) and less frustration ($\beta = -.12$; $p = .042$). Physical distress was not related to any of the outcome variables.

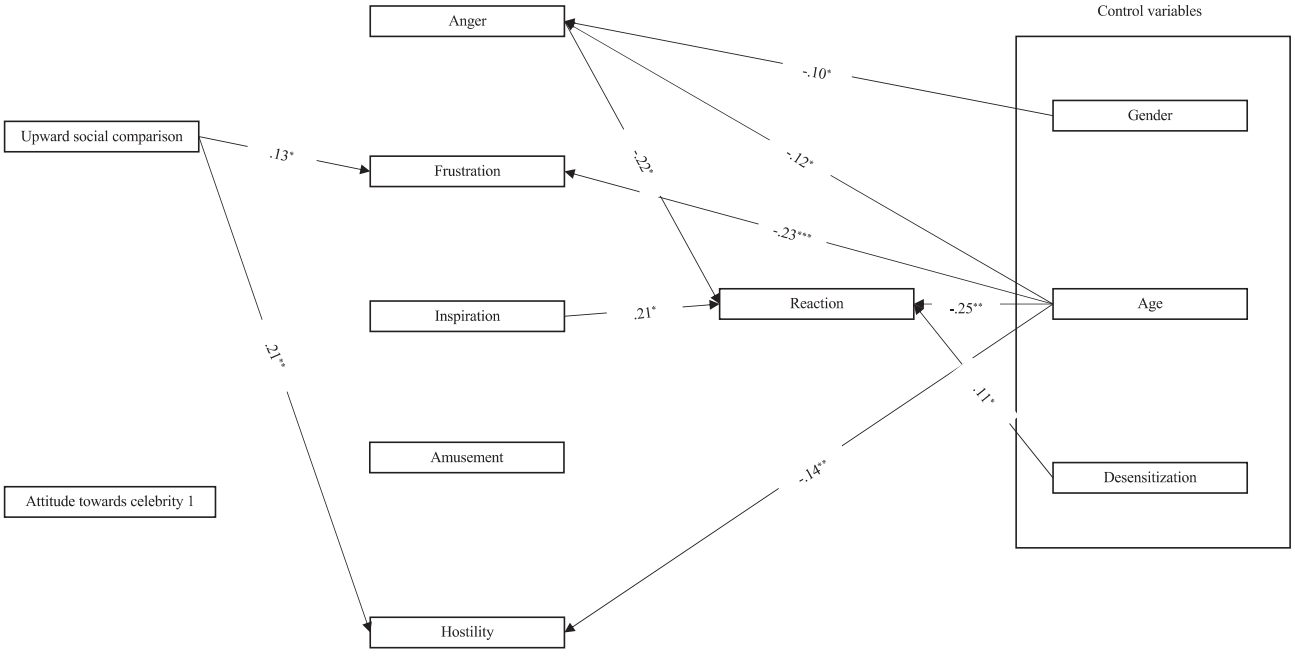

Figure 3. Path model for Celebrity 1. RMSEA = .018 (90%BI 0–.068); CFI = .998; TLI = .986; $\chi^2(51) = 473.731$; $p < .001$; SRMR = .025. ***$p < .001$; **$p < .01$; *$p < .05$. Values reflect standardized coefficients. For clarity, the error terms and the correlations between the emotions are not shown.

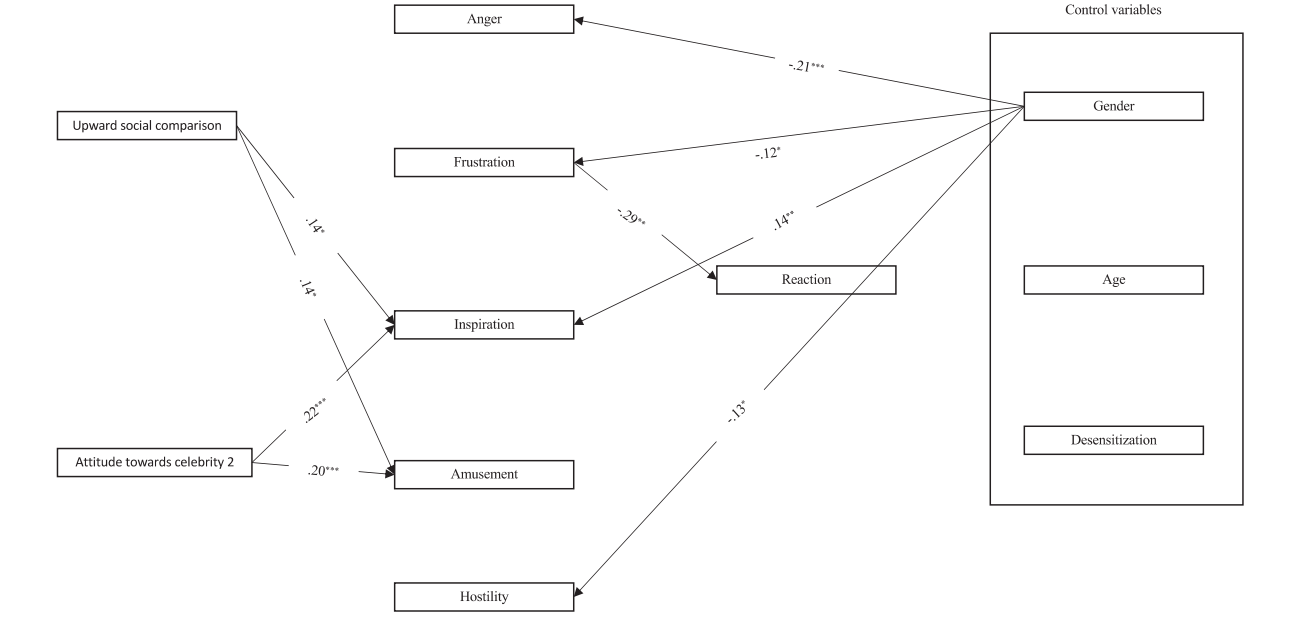

Figure 4. Path model for Celebrity 2. RMSEA = .0432 (90%BI 0–.116); CFI = .999; TLI = .969; $\chi^2(51) = 643.62$; $p < .001$; SRMR = .012. ***$p < .001$; **$p < .01$; *$p < .05$. Values reflect standardized coefficients. For clarity, the error terms and the correlations between the emotions are not shown.

Discussion

Although many people seem to be fascinated by the wealth and luxury of celebrities and follow their SNS posts in order to be inspired (Hay & Muller, 2012), this attitude might come under pressure when these people experience chronic stress (Johnson & Knobloch-Westerwick, 2014; Seo & Hyun, 2018). Moreover, by making use of the features of SNS, users can immediately show positive, but also negative, responses to celebrity posts (Enke & Borchers 2019;

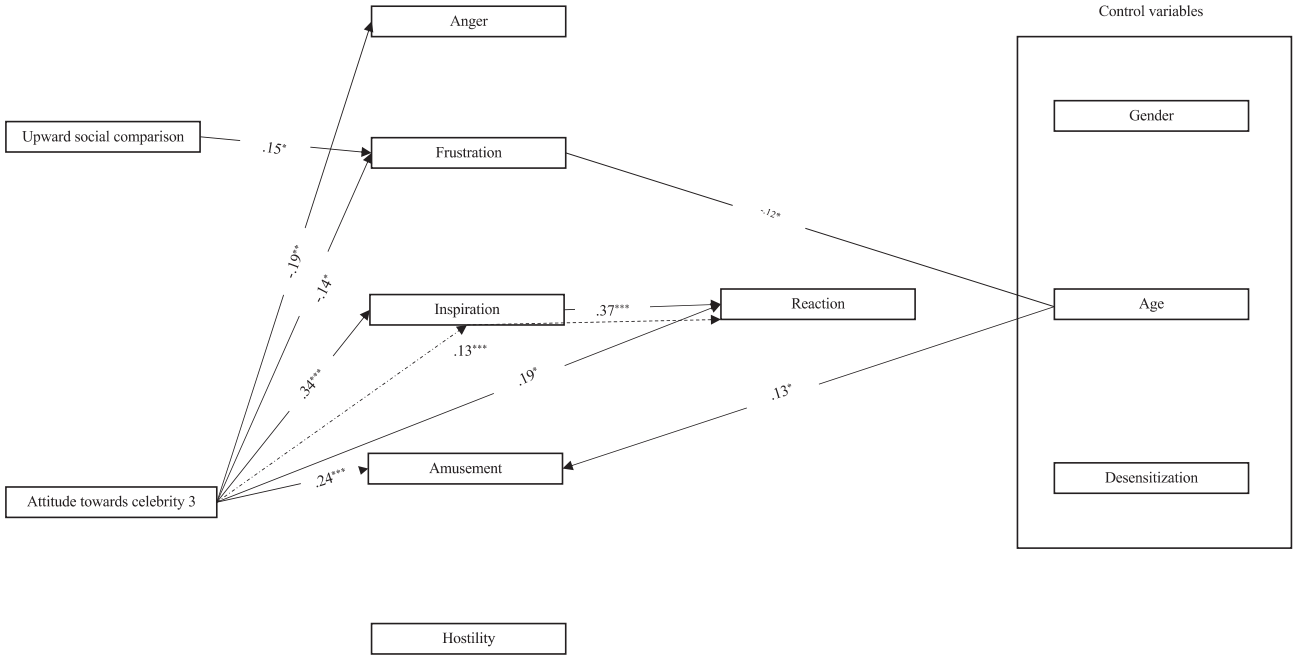

Figure 5. Path model for Celebrity 3. RMSEA = .035 (90%BI 0–.094); CFI = .997; TLI = .959; $\chi^2(51) = 565.883$; $p < .001$; SRMR = .019. ***$p < .001$; **$p < .01$; *$p < .05$. Values reflect standardized coefficients. For clarity, the error terms and the correlations between the emotions are not shown.

Kowalczyk & Pounders, 2016). This study explored audiences' immediate emotional and behavioral responses to celebrity posts in the stressful period of COVID-19.

The results of the first part indicated that our participants did not show strong emotional responses, as the mean scores for both positive (inspiration and amusement) and negative emotions (anger, frustration, and hostility) were low. Nevertheless, on a behavioral level, participants' reactions often had a negative or celebrity-bashing tone, indicating that the audience did not appreciate these messages, as was also suggested by popular celebrity sources. These effects differed depending on the post. It was found that the celebrity post that contained most references to luxury generated more negative feelings (anger, frustration, and hostility) and comments, confirming H1a and H1b. On the contrary, the post that contained the fewest references to luxury scored the highest on inspiration. Feelings of amusement were generally low, which might have to do with the stress experienced by the audience members. Previous research has indicated that chronic stress related to pandemics might stimulate polarization between the rich and the "ordinary" population (Jedwab et al., 2020). These findings add that this might be the case between celebrities and the ordinary population as well, and this is observable in the comments on celebrity posts. Although we investigated this in the context of a pandemic, the same processes might be at work in other situations of large-scale chronic stress, because the underlying mechanisms remain the same (Leventhal, 1970). Moreover, given their roles as influencers, celebrities will probably keep sharing posts about important social issues and thus open opportunities for interactions on these issues with their audience. Future research in other stressful contexts (e.g., related to environmental stress or health issues) might be helpful for further testing our ideas. Moreover, this research can add to the knowledge on role of the specific characteristics of the stressor and contextual differences between stressful situations.

As was suggested by the literature (e.g., Gibbons & Buunk, 1999; Taylor et al., 1990), not everyone reacted negatively to luxury: one's upward SCO plays a role in how one reacts. Its specific role becomes clear when comparing both between and within the three models. It seemed that when luxury was central in the post (Post 1), upward SCO was related to increased feelings of frustration and hostility, partially confirming H1a. This might confirm the idea that people who use these cues for upward social comparisons during stress feel bad about their lives due to the comparisons (Chan & Zhang, 2007; Chou & Edge, 2012; Taylor et al., 1990). However, when the post only contained some elements of luxury (Post 2), upward SCO resulted in inspiration and amusement, partially contradicting H2a. The literature already acknowledged the potential positive effects of upward SCO on motivation and inspiration, even when experiencing stress (Buunk, 1994; Buunk & Gibbons, 2007), due to the encouraging character of these comparisons. This study adds to the literature on SCO and stresses that the number of references to

luxury that stimulate people's upward SCO in a stressful period is crucial to be able to benefit from positive effects. If there is too much luxury in a post, the post might backfire. This follows previous findings that have suggested that role models who are too successful/perfect might lose their effectiveness because people perceive them as being dissimilar (Lockwood & Kunda, 1997; Morin et al., 2015). It is possible that people see these celebrities as too dissimilar when there is too much luxury in the post and therefore comparisons are not relevant (Lockwood & Kunda, 1997). Future research is needed to define the exact boundary between a post being effective and its backfiring. The indirect effect of upward SCO on behavioral responses via emotions (H3) could not be confirmed, which can be explained by the fact that the emotional responses were weak.

Lastly, attitudes toward the celebrity further specified participants' responses. In the two models with the most positive attitudes toward the celebrity, this variable predicted amusement and inspiration, confirming H3a. These results align with the literature arguing that the likeability of the sender of the message is a powerful factor, even eliminating potential negative effects of scandals (Belch & Belch, 2013), or in this case the negative consequences of upward SCO. Linking this to the situation of chronic stress, it is possible that people are most open to talking to and getting advice and information from people they like and are familiar with (Taylor, 2011). The direct effect of attitudes on behavioral responses (H4b) could only be confirmed in Model 3, indicating that it is only when people have clear positive attitudes that more positive behavior is stimulated. Also, the indirect effects (H5) were limited to the effect via inspiration in Model 3. Future research might benefit from testing these effects with celebrities toward whom the audience has strong positive/negative attitudes.

The role of our control variables differed depending on the post. For Model 1, age was the most important control variable. This might have to do with the fact that this was a post of an SMI, a type of celebrity that mostly attracts younger audiences (Ismail, 2018). Younger participants expressed more anger, frustration, and hostility toward this post, but commented more positively and encouragingly. This might be explained by the fact that they are aware of the potential of SMI that might not be fully used in this post due to an overly strong focus on luxury that creates frustration. However, in their comments, they encourage the SMI to use her potential more efficiently. Desensitization only influenced commenting in Model 1. Participants who had seen the post before responded more positively, which accords with research suggesting that celebrity bashing is often an initial, impulsive reaction (Ouvrein et al., 2020). This might also explain why the behavioral responses were more outspoken as either negative or positive. For the behavioral measurement, participants were provided with the familiar context of Instagram and had to write down the first things that came to mind when they were able to react, and so this measurement might reflect more impulsivity compared to the emotional measurement where, in a very artificial context, they had to indicate on scales how they felt. Future research could explore the exact role of emotions and impulsivity by making use of physiological measures instead. Moreover, measuring emotions before and after exposure might help to determine how these emotions evolve.

Limitations

This study has some limitations. First, due to the unique situation and the lack of existing research on (spontaneous) celebrity messages, we decided to work with a field study with real celebrity posts. The downside is that we were not able to control all elements (e.g., specific language, pictures, and the involved celebrity) in the messages, as we would do for a controlled experiment. This field study and its results should therefore be seen as initial exploratory insights that can lay the basis for further research. Such future research might benefit from working with controlled messages that only differ on one element. Our study might provide information on which elements are interesting to manipulate. Considering that the means were close in this study, it might be interesting to manipulate the cues to luxury instead of working with real messages to see whether the effects increase. Testing the same message among different celebrities might also be interesting. SMIs, for instance, are considered the "new" celebrities, who are closer to the audience (Ismail, 2018). In this way, they have an interesting profile for investigating whether their messages can help to close social gaps. Moreover, future research might consider a combination of between- and within-subjects design and test the models within different contexts in order to analyze their generalizability. Although our results, together with the existing literature on SCO (Buunk, 1994; Seo & Hyun, 2018) and disturbed emotional responses during stress (Jedwab et al., 2020; Leventhal, 1970), seem to suggest that negative audience responses are a typical expression of cues of social inequality when experiencing chronic stress, the generalizability of our results is limited. It would therefore be interesting to replicate this study in non-pandemic/stress-free times, as this would further extend the insights into differences between responses under stress and responses under normal circumstances. Second, upward SCO was measured by asking how often participants compared themselves with different referees, following the measurement of the study of Chae (2018). Although the Cronbach's α value for our scale was good, future research might benefit from using

validated social comparison scales. Moreover, several studies have indicated that both upward SCO and celebrity fandom (e.g., Green et al., 2014; Seo & Hyun, 2018) are closely related to materialism. This might thus also be an interesting variable to include as a moderator in future studies.

Conclusion

Despite these limitations, this study contributes to the existing knowledge on an audience's immediate responses to celebrity messages during a stressful period. In this way, we build further on existing knowledge of how increased chronic stress levels easily result in tensions and polarization among a population (Jedwab et al., 2020; van Dorn et al., 2020). Whereas this used to be observable in protests and civil wars across history (Jedwab et al., 2020), our study indicates that similar processes might stimulate online tensions with celebrities, which are expressed by making use of the comments section on SNS. Second, this study has implications for celebrities themselves who share spontaneous posts on SNS, as well as companies and authorities working with celebrity endorsers in stressful contexts. The results of the study show that it is advisable for celebrity messages to contain some references to luxury, enough to inspire and motivate, but not so many as to cause frustration and hostility. Furthermore, not everyone will respond in a similar way to these cues, depending on their upward SCO. These comparisons were more common among women and younger participants. Women and young people are considered at particular risk for psychosocial responses to COVID-19 (Douglas et al., 2020), something that must be considered. Moreover, not all celebrities are proper candidates for spreading messages during crises. It is important to consider the attitudes toward the celebrity among the targeted population.

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Appendix

Selection Process of the Stimuli

The authors collected all celebrity COVID-19 posts they could find in which the celebrity reflected on how he/she experiences the lockdown. They therefore relied on (blinded) news articles and social media conversations about posts. All posts needed to be shared within the last 3 weeks. We ended up with 15 suitable posts from 14 different celebrities. All selected posts were then the subject of an exploratory analysis on the extent to which the picture and text contained elements that emphasized the social inequality between the celebrity and "ordinary" people. We therefore relied on the luxury dimensions – i.e., conspicuousness (e.g., references to luxury possessions), uniqueness (e.g., references to priority treatment for being tested), quality (e.g., references to faster contact with authorities/doctors), extended-self (e.g., references to strong influence/power) and hedonism (e.g., references to being relaxed despite the current situation) – as used in Duit's (2018) study on luxury representations in celebrity posts. All posts were scored on these dimensions on a 5-point scale (1 = *not present at all,* 5 = *very present*). Moreover, we also took the sex of the celebrity into account, as we wanted all celebrities with the same sex. On the basis of that analysis, the first author selected one post that scored high (post of social media influencer Cécilen Van Ouytsel posing in front of a luxurious boat referring to the fact that her trip was cancelled due to COVID-19; Post 1), one that scored moderate (post of Eline De Munck giving digital kisses while wearing a new pair of glasses from her own well-known luxury collection; Post 2), and one that scored low on luxury cues (post of Lady Gaga sitting home in her sofa with her dog; Post 3; see Figure 1). After the selection, the other authors evaluated the chosen posts against the aforementioned criteria as a double-check (see Table A1 for an overview). According to classification systems on social media influencers on Instagram, all three celebrities can be considered macro-celebrities (Ismail, 2018) who are famous in popular culture. The latter decision was made because research indicated that admiration for celebrities from popular culture is more materialism-oriented (which aligns with our goals) compared to politicians, artists, or doctors who are admired for their contributions to society (Sheridan et al., 2007).

Table A1. Overview of average scores on luxury dimensions

Post	Average score across the five luxury dimensions Coder 1	Average score across the five luxury dimensions Across 3 coders
Post 1	4.60	4.10
Post 2	3.60	3.33
Post 3	2.40	2.20

Note. min score = 1; max score = 5.

