# Povećanje uključenosti potrošača na društvenim mrežama: pratiteljima utjecajnih osoba ‘sviđa se’ vidjeti lice u objavi

**Torbarina, Matia; Jelenc, Lara; Brkljačić, Ivana**

*Source / Izvornik:* **Market-Tržište, 2020, 32, 67 - 81**

**Journal article, Published version**
**Rad u časopisu, Objavljena verzija rada (izdavačev PDF)**

https://doi.org/10.22598/mt/2020.32.spec-issue.67

*Permanent link / Trajna poveznica:* https://urn.nsk.hr/urn:nbn:hr:192:820862

# INCREASING CONSUMER ENGAGEMENT ON SOCIAL NETWORKS: SOCIAL MEDIA INFLUENCER'S FOLLOWERS 'LIKE' TO SEE A FACE IN A POST

# POVEĆANJE UKLJUČENOSTI POTROŠAČA NA DRUŠTVENIM MREŽAMA: PRATITELJIMA UTJECAJNIH OSOBA 'SVIĐA SE' VIDJETI LICE U OBJAVI

Market-Tržište
Vol. 32, Special Issue, 2020, pp. 67-81
UDK 658.89:004.738.5:316.772.3
DOI http://dx.doi.org/10.22598/mt/2020.32.spec-issue.67
Preliminary communication

**Matia Torbarina[a], Lara Jelenc[b], Ivana Brkljačić[c]**

[a] University of Rijeka, Faculty of Economics and Business, Ivana Filipovića 4, 51000, Rijeka, CROATIA, e-mail: matia.torbarina@efri.hr

[b] University of Rijeka, Faculty of Economics and Business, Ivana Filipovića 4, 51000, Rijeka, CROATIA, e-mail: lara.jelenc@efri.hr

[c] University of Rijeka, Faculty of Economics and Business, Ivana Filipovića 4, 51000, Rijeka, CROATIA, e-mail: ivanabrkljacic2705@gmail.com

## Abstract

**Purpose** – The purpose of the study was to test whether Instagram influencers can affect followers' engagement using a simple modification to an Instagram post content.

**Design/Methodology/Approach** – The study focused on the posts sampled from Croatian Instagram SMIs with more than ten thousand followers. Ten posts from each SMI were analysed for both low engagement, i.e. the number of likes, and high engagement, i.e. the number of comments, along with information on whether a face and other features of an SMI features were shown in a post.

**Findings and implications** – Human face in a post increases engagement, but only the lower type (i.e. the number of likes a post receives), even when the effect of the number of followers is statistically controlled for. A higher type of engagement (i.e. the number of comments) is not affected by the presence of a face in a post.

**Limitations** – A lack of formal operationalization of SMIs leads to a more conservative sample of only those SMIs with more than ten thousand followers. The content

## Sažetak

**Svrha** - Svrha istraživanja bila je ispitati mogu li utjecajne osobe na Instagramu utjecati na uključenost pratitelja pomoću jednostavnog dodatka objavi.

**Metodološki pristup** - Istraživanje je provedeno na objavama hrvatskih utjecajnih osoba na Instagramu s više od deset tisuća pratitelja. Deset objava svake od utjecajnih osoba analizirano je prikupljanjem podataka o nižoj uključenosti, to jest broju oznaka 'sviđa mi se', i višoj, to jest broju komentara ispod objave, zajedno s informacijom o tome prikazuje li objava ljudsko lice i nekoliko brojčanih opisa utjecajne osobe.

**Rezultati i implikacije** - Ljudsko lice na objavi utjecalo je na nižu razinu uključenosti pratitelja, veći broj oznaka 'sviđa mi se' uočen je na objavama koje pokazuju lice kontrolirajući efekt broja pratitelja na uključenost. Viša razina uključenosti pratitelja ne razlikuje se s obzirom na prikazivanje lica u objavi.

**Ograničenja** - Nepostojanje jednoznačne definicije pojma utjecajna osoba utjecalo je na odabir konzervativnog uzorka utjecajnih osoba s više od deset tisuća pratitelja. Osim toga, nije bilo mogućnosti kontrolirati sadržaj ob-

of the posts preceding the analysed post, which could have influenced the followers' behaviour, could not be measured due to the study design.

**Originality** – Although previous research has shown that a face in an Instagram post leads to more likes and comments among friends, the relationship between SMIs and their followers lacks the exact reciprocity of like-for-like. Given that the followers' gains are not straightforward in this kind of relationship, the finding that a face shown in a post can affect engagement is worth scientific attention.

**Keywords** - social media influencer, Instagram, face, engagement

java koje su prethodile analiziranim objavama, a mogle su utjecati na ponašanje pratitelja.

**Doprinos** - Iako su prethodna istraživanja pokazala da je lice na objavi na Instagramu povezano s većim brojem oznaka 'sviđa mi se' i većim brojem komentara u kontekstu prijateljskih odnosa, utjecajne osobe i pratitelji nemaju takvu vrstu direktnog reciprociteta u međusobnom davanju oznaka 'sviđa mi se' i uzajamnog komentiranja objava. S obzirom da dobitci pratitelja nisu jednoznačni, nalaz da unutar takvog odnosa jednostavna preinaka objave može povećati uključenost pratitelja vrijedna je znanstvene pozornosti.

**Ključne riječi** - utjecajna osoba, Instagram, lice, uključenost

# 1. INTRODUCTION

According to the evolutionary theory (Buss, 2014), and as proved by history, individuals who were quicker to notice another human face had a higher probability of surviving and thus an increased probability of passing down genes to their offspring. This process made humans experts in face perception (Tsao & Livingstone, 2008; Young & Burton, 2018). Marketers' awareness, even if implicit, of such effect of the human face can be observed in the fact that more than 50% of print advertisements show at least one face (Xiao & Ding, 2014). Due to the nature of the offline environment, one cannot assume the effectiveness of any kind of activity in real time following the advertisement. The new digital channels of communication allow for this notion to be systematically tested and, since this is a highly evolved adaptation, attention capturing effect of the human face should be presented in this context.

Previous research has shown that faces can both attract (Bindemann et al., 2005; Gliga et al., 2009; Hunt et al., 2007) and direct (Corneille et al., 2009; Langton & Bruce, 1999) visual attention, and that they can convey different kinds of messages (Adil et al., 2018; Bayliss et al., 2010). Capturing visual attention is a necessary, yet insufficient condition for affecting consumers' emotions, attitudes and behaviour. However, the effect of a human face on consumers' engagement in the context of social media marketing has not been given much attention. By exploring the proposed effect, the present study should contribute to the ongoing research on consumers' online engagement and the applicability and effectiveness of using evolutionary adaptations in the new, digital context.

# 2. LITERATURE REVIEW

## 2.1. Social media influencers

A decade ago, more than half of biggest US firms were using at least one social media channel in their business (Ganim Barnes et al., 2008). Today, social media has become an important communication tool for several aspects of marketing, such as brand marketing (Aggrawal et al., 2017) and brand promotions (Arora et al., 2019). Adapting to this new environment has brought about two important changes for marketers. First, the amount of content and the speed with which it is consumed is astonishing. Instagram users upload over 100 million photos and videos each day, which has totalled to more than 50 billion photos since the beginning of 2020 (Omnicore, 2020). The second change concerns the demographics of the target population. On average newspaper ads are viewed by 55-year-old readers (Intermedia, 2017) and the majority of TV ads primarily targets viewers older than 34, since they constitute the majority of TV viewership (Public Opinion Strategies, 2019). On the other hand, the majority of Instagram users are younger than 34 (Emarketer, 2019). This is not to say that marketers ignore users older than 30. However, when banks and financial institutions attempted to use social media for marketing (Vejačka, 2017), they targeted older customers, and that did not pay off, as older generations were not that interested in such social media marketing activities. Younger generations are much easier to interact with through social media, since they also use it as the primary tool to stay informed about new products, services and the experience of others. These behaviours are mediating their purchase intentions (Hari Adi et al., 2017), regardless of the buying purpose (be it hedonic or utilitarian).

The way in which social networks operate allows their users to get information about the experience of using a particular product not only from their friends and family, but from a much wider circle of consumers. Thus, a new marketing channel emerged, made of users promoting products and services through their social media network – social media influencers (SMI). They are most often described in terms of the number of followers and the effect they have on their followers (Uzunoğlu & Misci Kip, 2014). According to the latest reports (Omni-

core, 2020), there are more than half a million active SMIs on Instagram alone. The importance of Instagram as a communication channel is highlighted by plans of more than two-thirds of US marketers to spend the biggest portion of their influencer budget on Instagram's SMIs (Emarketer, 2019). SMIs are perceived as dynamic third party endorsers who enjoy providing advice, who are verbal, smart, ambitious, productive and poised (Freberg et al., 2011). Consumers strongly believe that SMIs know their followers, feel an obligation to interact with them, and break down traditional audience/performer dichotomy (Marwick, 2016). Paradoxically, the practice of using social media space for personal and marketing purposes is not followed by the intensity or depth of research in trying to explain its mechanism as an effective and efficient marketing communication channel (Godey et al., 2016; MacDowall & de Souza, 2018; Pittman & Reich, 2016).

For this reason, there is still no agreement on the operationalization of SMIs in literature. The definitions of SMIs have been conceptual and range from describing them as potential brand ambassadors whose task is to convey brand messages to consumers (Lim et al., 2017), as people close to consumers who they regard as their friends, although they do not know each other (Meyers, 2017), and finally as Instagram users paid for their Instagram activity, regardless of the number of followers they have (Woods, 2016).

One of the most noticeable differences between SMIs and regular Instagram users is that the number of SMIs' followers is measured in tens of thousands (Araujo et al., 2017) and not in hundreds, as is the case with ordinary Instagram users, whose followers contribute to approximately 20 likes and less than one comment per post (Bakhshi et al., 2014). The number of followers can be taken as one of the indicators of consumers' involvement, which is defined as the perceived relevance of the object (or a person) based on inherent values, needs and interests (Zaichkowsky, 1985). Involvement is regarded as the prerequisite of consumer engagement (Harrigan et al., 2018; Wang et al., 2020) and the key determinant of SMIs' success (Freberg et al., 2011).

## 2.2. Engagement

More than two-thirds of marketers state that their social media priority is to generate more engagement among their consumers, while the second priority is understanding which content is effective (Pulizzi & Handley, 2015). Engagement is becoming a focal point of the scientific community (Dessart et al., 2015) and its importance is stressed by its effects, i.e. self-brand connection and brand usage (Harrigan et al., 2018). It is broadly defined as behaviours ranging from behaviourally and cognitively simple ones (such as liking a post by double-tapping it) to more complex ones of commenting and/or sharing a post (Valentini et al., 2018). Most definitions agree that engagement is manifested through both cognitive and behavioural component (Bowden, 2009; D. Hollebeek & Chen, 2014; Silva et al., 2019; van Doorn et al., 2010).

The validity of these definitions of engagement has been observed in descriptive studies of SMIs determinants. Regardless of the SMIs sample, the average ratio of the number of likes to comments has been observed to revolve around 40:1 in favour of likes (Jaakonmäki et al., 2017; Jang et al., 2015). Although both commenting and liking a post represents a form of engagement, liking a post is less demanding for consumers and represents a lower type of engagement, while the other one requires a conscious effort of thinking about the message and typing it into the comments section, and therefore represents a higher type of engagement. Differences in the number of likes and comments a post receives can be explained, at least partially, by the effort required from followers. Engagement, viewed as the followers' reaction to a post, directly reflects the relative importance of SMIs on the market (likes) and the level of discussion about them (comments) (Bakhshi et al., 2014).

Although this has not been explicitly stated, neither form of engagement would be possible if the first step of consumer behaviour models had not been satisfied, and that is capturing consumers' visual attention (Littlejohn & Foss, 2009). Attention is an umbrella term for all kinds of cognitive processes (Anderson, 2015), but is often used synonymously with becoming aware of or visually noticing a stimulus (Wright et al., 2018). One cannot think about a stimulus before being aware of its existence. Given the fact that followers follow SMIs, one can infer that they trust and like them (Freberg et al., 2011), and followers can therefore be expected to react positively to what influencers have to post. However, an average Instagram user follows 150 other users (Statista, 2015), and it is becoming increasingly hard to capture followers' attention. The fact that a user follows a SMI is not enough to engage them, as the user has to first become aware of the SMI's post among hundreds of others in the feed. It follows that the more followers an SMI has, the higher the probability of at least some of them getting noticed and attracting a reaction to a post, which has made the number of followers one of the key determinants of engagement (Bakhshi et al., 2014).

In trying to enhance their followers' engagement, SMIs use different approaches in attracting their followers' attention, such as posting questions, product instructions, motivational phrases, promotional coupons, invitations and sweepstakes (Silva et al., 2019). One of the ways in which the attention of followers can be grabbed, and which is similar to techniques used in the offline era, is the use of a human face in a post. Therefore, the popularity of selfie-photos (selfies) is taken as SMIs' implicit awareness of the effect a face can have on capturing their followers' attention (Souza et al., 2015).

## 2.3. Faces

Advertising experts regularly show human faces in print advertisements as well (Xiao & Ding, 2014). The study of digital advertising conducted by Dynamic Logic (2014; as cited in Belch & Belch, 2018) showed that faces in ads can lead to a significant increase in the evaluation of key ad metrics. The fact that not all ads or all SMIs show faces in their posts may indicate that there is a lack of scientific support of the outcomes thereof. Although it has been repeatedly shown that a face attracts attention (Bindemann et al., 2005; Hunt et al., 2007), there is still disagreement on how far a face effect can go.

Face perception is a complex skill innate to humans (Langton et al., 2008) and it consists of two tasks with opposing demands. A cognitively more demanding task of face identification, i.e. extracting unique characteristics of each face (Tsao & Livingstone, 2008), is not relevant for the present study. Instead, authors focus on a simpler aspect of face detection or attending to a simple T-shaped stimulus consisting of eyes, nose and mouth, which is shared by all faces, regardless of age or gender (Tsao & Livingstone, 2008).

Different researchers came up with different answers to whether a face can affect viewers' emotions and attitudes (Adil et al., 2018; Bayliss et al., 2010; Tipples & Pecchinenda, 2019). Others have shown that faces can affect followers' behaviour in the context of reciprocal Instagram friendships (Bakhshi et al., 2014) and that it can even have a different effect on followers based on head orientation, so left cheek poses result in a higher number of likes (Lindell, 2019). Selfie posts, which are the pinnacle of a face in a post, lead to more engagement, both for the lower and higher type of engagement (Souza et al., 2015).

In trying to answer the question of whether the human face affects followers' engagement, the present research will build upon similar work done in the context of everyday interactions of regular Instagram users (Bakhshi et al., 2014). Previous studies indicate that posts showing a face are both liked and commented more than posts without faces. Outcomes of selfie posts show a similar pattern (Souza et al., 2015). The difference between the two contexts is significant. The for-

mer context is characterized by the prospect of reciprocity. Followers' gains in their interaction with an SMI are smaller than in the interaction with an acquaintance, since the probability of SMI reciprocating is low. While ordinary Instagram users receive most likes from their friends and family who "must" like them and are motivated to (positively) react to users' posts (Jang et al., 2015), the SMI-follower relationship is not as clear-cut. The fact that they are not personally involved should lower the effect of the human face in a post. Observing the effect even in this context would represent an important finding that a simple change in the post content can lead to an increase in one of the most important outcomes of social media marketing.

# 3. METHODOLOGY

## 3.1. Hypotheses

A lack of operationalization of SMIs in available literature motivated the authors to provide a numerical description of an average Croatian SMI, along with the relationships between SMI's characteristics. As observed by previous researches (Bakhshi et al., 2014; Jaakonmäki et al., 2017; Jang et al., 2015), the number of followers an SMI has is the single most important predictor of the number of likes and comments a post will receive. Assuming that most followers have positive emotions toward the SMI, more followers should lead to higher engagement on their posts. The idea that most followers genuinely like the SMI they follow should present itself in the form of a perfect positive correlation coefficient ($r = 1$) between both the forms of engagement with the post and the total number of follower the SMI has. The higher the deviance from this value, the more important other characteristics of the SMI are in predicting both types of consumers' engagement.

*H1: The number of followers an SMI has will have a stronger impact on both lower and higher type of engagement than other features of the SMI. The predicted effect will be strong and positive.*

The second hypothesis is based on previous research which has shown that the number of both likes and comments is related to the presence of a face in a post (Bakhshi et al., 2014). Authors assume that the same mechanism underlies followers' reactions in both examples, so the effect should be observed in the SMI-follower interaction. Due to the automatism with which the face attracts one's attention and the fact that followers have positive attitudes toward the SMI they follow (Freberg et al., 2011; Meyers, 2017), every post that attracts followers' attention is expected to be liked. The importance of face perception throughout evolutionary history is strong enough to affect engagement, even after statistically controlling for the SMIs' number of followers. That is because the ability to detect a face quickly is innate, it is not dependent on either age, sex or race, and does not vary significantly in the general population (Tsao & Livingstone, 2008). Unlike learning to avoid looking at places where consumers expect to see an ad (Benway, 1998; Burke et al., 2005), face perception is an automatic process that could circumvent these learned behaviours.

The difference in the number of likes and comments should equally be observed in the SMIs with both low and high number of followers. The fact that not every post leads to equal followers' engagement leaves space for other variables (such as showing a face in a post) to influence their engagement.

*H2: SMI's Instagram posts showing human face will lead to an increase in both types of followers' engagement, regardless of the number of followers.*

Finally, due to a lower demand put on followers, a face in a post should affect the lower type of engagement (number of likes) more strongly than the higher type of engagement (number of comments). Followers can either double-tap a post to express positive emotions toward it, or they can comment on it, which requires higher cognitive and behavioural effort from the follower. The difference between posts with a face and those without it is expected to be higher (in

relative terms) for the number of likes than for the number of comments on a post.

*H3: Face effect on followers' engagement, controlling for the SMI's number of followers, will be greater for the lower form of engagement than for the higher form of followers' engagement.*

### 3.2. Sample and measures

The present study was conducted on a sample of Croatian Instagram influencers. The lack of consensus on the operationalization of SMIs led to the adoption of a more conservative approach of focusing on users with a high number of followers as suggested by Lindell (2019) and Silva and others (2019).

Before the analysis, the authors had listed Croatian Instagram users with between ten thousand and one hundred thousand followers on Instagram, which totalled in 51 Croatian SMIs ($M_{age}$ = 31.38 years; $sd_{age}$ = 6.51 years) with the mean number of followers of $M_{followers}$ = 38735 followers; $sd_{followers}$ = 23649 followers). The unit of analysis was an Instagram post. A priori sample size calculations (Soper, 2020) indicated that in order to have 80% power to detect a small effect, analysis is to be done on the sample size of at least 478 units. This was done by collecting ten posts per SMI, which totalled to 510 Instagram posts. The first post for each influencer was sampled in mid-June 2019 and was followed by a previous post, until a total of 10 posts per influencer was reached. The period from which posts were analysed ranged from 2 to 41 days ($M_{days}$ = 13.45 days; $sd_{days}$ = 8.05 days). The collected data is available in the Open Science Framework repository on the following link, along with the database and the code necessary to reproduce reported analysis with a more detailed explanation of the procedure: https://osf.io/sehxm/ following (Houtkoop et al., 2018) suggestions on data sharing.

Followers' engagement was operationalized on two levels, following the conceptualization of Valentini and others (2018): lower engagement, i.e. the number of likes a post receives, and higher engagement, or the number of comments a post receives. Independent variables used in the study were the presence of a human face in a post, SMIs' number of followers, their Instagram activity measured as the total number of posts uploaded, and the uploading frequency. Face presence in a post was established by Face++ online software for face detection (Face++, 2013), following the procedure established by Bakhshi and others (2014) in which they had reported 97% agreement with human raters. After the software detected a face, two authors reviewed each post together and made only one exclusion. Although software had the option of estimating age and gender of the people in the post, this function was not used, since Lindell (2019) reports that the mean number of likes and comments for SMIs' posts did not differ in terms of the gender of the people in the post. In addition, Bakhshi and others (2014) observed effects of neither age nor gender of the person in a post. Finally, the total number of faces in a post was not relevant, as the hypothesis was that faces are automatically processed, regardless of their number (Sato & Kawahara, 2015).

## 4. RESULTS

All analyses were done within the R statistical environment (R Core Team, 2016). Visualizations were created using "ggplot2" package (Wickham, 2016). Following IQR rule (Tukey, 1977) for outlier detection, 47 posts with more than 106 comments and 27 posts with more than 7102 likes were excluded from the analysis.

### 4.1. Descriptive statistics

After summarizing the collected measures for each SMI, the authors present means and standard deviations along with their correlation coefficients in Table 1.

As expected, the number of followers shows the highest correlation with the mean number of likes received per post, while the correlation with the number of comments is not significant.

TABLE 1: Description and correlation of SMI's measures

| | M | sd | No. of followers | No. of likes | No. of posts | Age | No. of comments | % of posts showing face |
|---|---|---|---|---|---|---|---|---|
| No. of followers | 38734,98 | 23649,41 | - | | | | | |
| No. of likes | 2134,38 | 1842,18 | **0,71**** | | | | | |
| No. of posts | 1519,20 | 1230,84 | -0,09 | -0,28 | | | | |
| Age | 31,38 | 6,52 | 0,01 | -0,34 | **0,44*** | | | |
| No. of comments | 30,65 | 21,35 | 0,21 | **0,44*** | -0,33 | -0,24 | | |
| % of posts showing face | 61% | 33% | 0,30 | **0,39*** | -0,04 | -0,21 | -0,14 | |
| No. of days between posts | 1,35 | 0,81 | 0,04 | 0,13 | **0,52**** | -0,25 | 0,25 | -0,15 |

Source: authors' own processing of gathered data ((significance: p<.10*, p<.01**)

Unlike everyday Instagram users who, on average, follow approximately the same number of people as they are followed by (Bakhshi et al., 2014; Jang et al., 2015), the number of users an average SMI follows is 30 times smaller than the number of its followers. An average rate of SMIs' post uploads in the sample is two posts in three days. Finally, older SMIs upload more posts than younger ones.

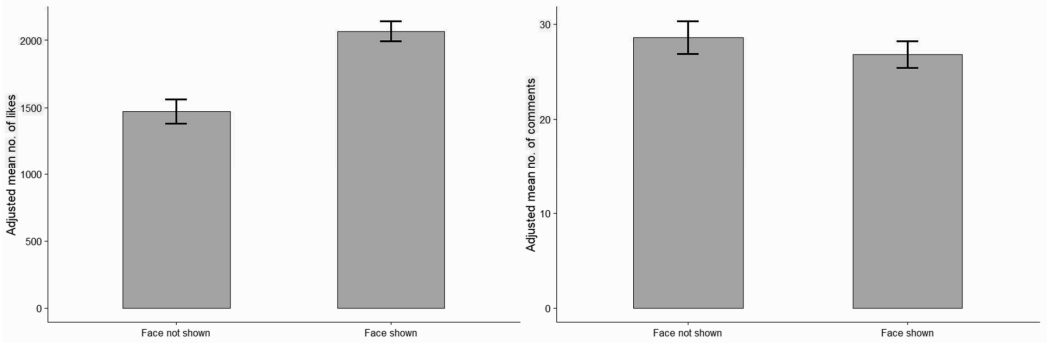
As for the features of posts, as presented in Table 1, the ratio between the average number of likes and the average number of comments is around 70:1 in favour of likes. More than 60% of all analysed posts show a human. The number of comments and likes is positively correlated, as they are both indicators of the same construct (engagement), but they share only 13% of variability, which is an argument for treating them as two different aspects of engagement. A preliminary finding indicates that a face in a post affects only likes, but not comments, when not controlling for SMI characteristics.

## 4.2. Hypothesis testing

Before looking deeper into the effect of a human face, t-tests were conducted to establish whether the effect is present. T-tests showed that faces affect the lower type of engagement ($t = 6.62$, $df = 477.66$; $p<0.01$; $d = .58$), but not the higher type ($t = 0.17$; $df = 355.45$; $p>0.05$; $d = - 0.02$). On average, posts showing a human face ($M = 2331.25$; $sd = 1905.74$) receive more likes than posts not showing a human face ($M = 1340.70$; $sd = 1378.38$).

The same effect was tested controlling for the number of followers by ANCOVA. As expected, the covariate was significantly related to the lower type of engagement on a post ($F_{1, 445} = 387.93$, $p < .001$, $r = .68$). There was also a significant effect of the face shown in a post on a low-

PICTURE 1: Mean number of likes and comments for posts showing/not showing face, adjusted for the effect of the number of followers




SOURCE: authors' own processing of gathered data (vertical lines represent 95% confidence interval)

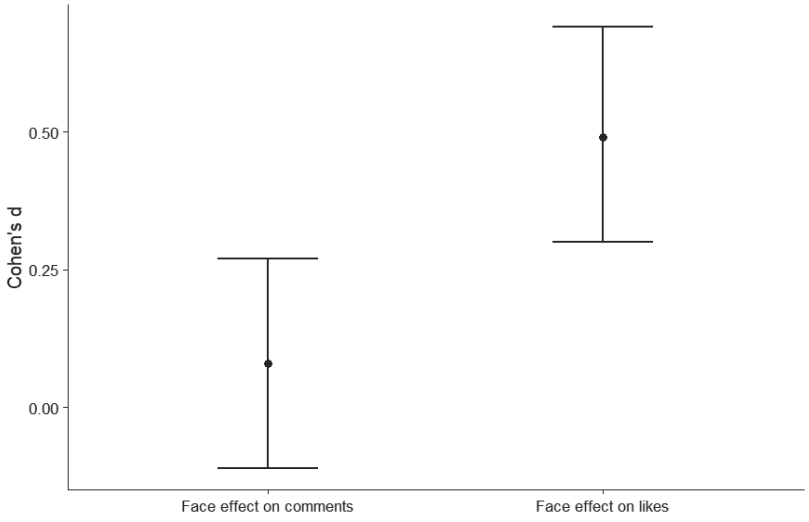
er type of engagement, after controlling for the number of followers ($F_{1, 445}$ = 25.79, p < .001, d = .49). Posts showing a human face lead to more lower type engagements (Adj. $M_{like}$ = 2067.250) than posts not showing it (Adj. $M_{like}$ = 1470.20).

Higher type of engagement was not affected by the presence of a face in a post ($F_{1, 445}$ = 0.65, p = .42, d = -.08), even after statistically controlling for the covariate which was significantly related to the higher type of engagement, ($F_{1, 445}$ = 12.06, p < .001, r = .17). The results of both analyses are shown in Picture 1.

Although results revealed that the human face does not affect higher types of engagement, authors analysed the difference between the effect sizes for low and high types of engagement. Results are presented in Picture 2.

To summarize, the first hypothesis that the number of followers is the strongest predictor of followers' engagement was partially confirmed. The number of followers is significantly related with the lower type of engagement, while it fails to reach significance for the higher type of engagement. The second hypothesis was par-

PICTURE 2: Comparison of face effect sizes for different types of engagement




SOURCE: authors' own processing of gathered data (vertical lines represent 95% confidence interval)

tially confirmed by showing that human face in Instagram post influences lower type of engagement, but not the higher type, controlling for the number of followers an SMI has. Finally, the third hypothesis was also confirmed by observing that the human face has greater impact on the lower type of followers' engagement than on the higher type.

# 5. DISCUSSION

## 5.1. Theoretical implications

The results are in line with research carried out in the field of cognitive and developmental psychology of human face effects on visual attention (Bindemann et al., 2005; Gliga et al., 2009; Langton & Bruce, 1999). Since following an SMI was taken as an indicator of involvement, which is an antecedent of engagement (Harrigan et al., 2018; Wang et al., 2020), SMI's posts that attracted attention were expected to be positively reinforced. Instagram users' newsfeed is overwhelmed with numerous posts from other Instagram users (Emarketer, 2019), and it is becoming increasingly difficult to attract consumers' attention. Present research extended the finding that human face in Instagram post attracts attention and thus leads to more engagement (Bakhshi et al., 2014; Souza et al., 2015). However, contrary to previous findings, the effect was observed only for the lower type of engagement, i.e. the number of likes a post receives, and not for the higher type, that is, the number of comments. An important distinction between the present research and the previous ones is the context in which it was set up. Although consumers perceive SMIs as friends, they do not experience this friendship in full. One of the most important factors that affect the quality of friendship is reciprocity (Clark & Ayers, 1993; Vaquera & Kao, 2008). For friendships to become close, reciprocity of liking is necessary (Heider, 1958; as cited in Clark & Ayers, 1993). Perhaps this balance theory of interpersonal attraction can account for the previous findings in the context of everyday Instagram users that are more engaged with posts of their friends and family in the hope of reciprocity. The relationship between SMIs and their followers is not as close as the bond between real friends, and the reciprocity here exists merely as a prospect of SMIs' advice leading to positive experiences. A possible explanation of why followers express only the lower type of engagement and not the higher type, may be attributed to loss aversion. In a variety of contexts, consumers prefer avoiding losses to acquiring equal gains (Kahneman & Tversky, 1992).

An act of liking a post does not require much effort, and is neither cognitively nor behaviourally demanding. On the other hand, leaving a comment requires some time, as well as cognitive energy needed for thinking about the content of the comment, and finally, a behavioural act of writing one's opinion. Assuming that followers are involved with SMIs by the mere act of following their account, they should be motivated to positively react to what SMIs have to say. That is why when the attention of followers is efficiently captured, they will express their approval by at least liking a post. Since SMIs' reciprocal behaviour can only potentially be meaningful for the follower, followers are not inclined to invest additional energy in interacting with the SMI. This creates a potential gap for future research to fill. Perhaps followers' motivation to buy a product advertised by the SMI mediates a higher type of engagement with a post.

Finally, the present research offers a glance at characteristics inherent to SMIs in general, the expected number of likes and comments considering their base of followers, and the amount of content they produce. Compared to everyday users (Bakhshi et al., 2014), it was observed that SMIs on average receive more likes and more comments, thus confirming previous results (Jaakonmäki et al., 2017; Jang et al., 2015). Additionally, Croatian SMIs are in their twenties and early thirties, they follow approximately 30 times fewer accounts than they are being followed by, and on average have one post a day. The rela-

tionship between the number of followers and the expected number of post engagements is around 20:1 for likes and 70:1 for comments. In other words, for every 20 followers, SMIs can expect one like per post and for every 70 followers they can expect one comment per post. This should serve as a baseline that should be further tested in the context of SMIs across different cultures.

## 5.2. Practical implications

The present research should benefit practitioners, primarily SMIs, but also marketing professionals deciding on which SMI to engage. Most companies are planning their SMI budgets for engaging Instagram influencers (Omnicore, 2020). Perhaps more informed decisions can be made using the findings from the present research. For example, the number of followers is not a sole predictor of the followers' engagement rate. This finding should mostly concern companies considering niche SMIs, or nano-influencers, whose follower base is between five hundred and five thousand followers (Omnicore, 2020). Instead of selecting SMIs based on the size of the follower base, marketers can calculate the frequency of posts showing human face compared to posts not showing human face, which can serve as a proxy through which they can infer SMIs' potential to engage their audience. Another important implication for marketing experts is that age is not significantly related to followers' engagement, a finding similar to that of Bakhshi et al. (2014) and Lindell (2019).

The majority of Instagram users (not only SMIs) report that their main goal is to receive more likes (Tifentale & Manovich, 2018; as cited in Lindell, 2019), as this indicates the level of their popularity (Jang et al., 2015; Souza et al., 2015). Finding that a simple change in the post content can lead to a significant increase in the number of likes received per post, regardless of the number of their followers, is indeed worth the attention. The fact that almost two-thirds of analysed posts showed a human face can be interpreted as SMIs' implicit awareness of the attention-grabbing effect of the human face. Findings of the present research can help them make it more explicit.

## 5.3. Limitations and recommendations for future research

The present research showed several limitations. The most important one is the inability statistically to control for the content that precedes the post that a follower reacts to. This limitation is always present in this kind of methodology, since the number of likes and comments each post gets is sampled retrospectively. However, given the diversity of SMIs sampled, this limitation is not crucial for inferring on observed effects, but offers an opportunity for future researchers interested in experimentally manipulating characteristics of the content that precedes the analysed post.

The second limitation is the inability to capture how lower and higher engagement behaviours are related within a single follower. Due to the study design, an inference could not have been made on the behaviour of individual follower, but rather the number of likes and comments have been analysed without this information, that could otherwise allow researchers to probe more precisely into the effect of a human face on followers' behaviour.

## Acknowledgment

This paper has been produced with the support from the University of Rijeka's Grant; "Dynamic abilities and strategic management" Grant Number: *uniri-drustv-18-216, 1376*.

## REFERENCES


1. Adil, S., Lacoste-Badie, S., & Droulers, O. (2018). Face Presence and Gaze Direction In Print Advertisements: How They Influence Consumer Responses—An Eye-Tracking Study. *Journal of Advertising Research*, *58*(4), 443-455.
2. Aggrawal, N., Ahluwalia, A., Khurana, P., & Arora, A. (2017). Brand analysis framework for online marketing: Ranking web pages and analyzing popularity of brands on social media. *Social Network Analysis and Mining*, *7*(1), 21.
3. Anderson, J. R. (2015). *Cognitive psychology and its implications* (Eighth edition). Worth Publishers.
4. Araujo, T., Neijens, P., & Vliegenthart, R. (2017). Getting the word out on Twitter: The role of influentials, information brokers and strong ties in building word-of-mouth for brands. *International Journal of Advertising*, *36*(3), 496-513.
5. Arora, A., Bansal, S., Kandpal, C., Aswani, R., & Dwivedi, Y. (2019). Measuring social media influencer index- insights from facebook, Twitter and Instagram. *Journal of Retailing and Consumer Services*, *49*, 86-101.
6. Bakhshi, S., Shamma, D. A., & Gilbert, E. (2014). Faces engage us: Photos with faces attract more likes and comments on Instagram. *Proceedings of the 32nd Annual ACM Conference on Human Factors in Computing Systems - CHI '14*, 965-974.
7. Bayliss, A. P., Schuch, S., & Tipper, S. P. (2010). Gaze cueing elicited by emotional faces is influenced by affective context. *Visual Cognition*, *18*(8), 1214-1232.
8. Belch, M. A., & Belch, G. E. (2018). *Advertising and promotion: An integrated marketing communications perspecti.* (11th ed.). New York, NY: McGraw Hill Education.
9. Benway, J. P. (1998). Banner Blindness: The irony of attention grabbing on the world wide web. *Proceedings of the Human Factors and Ergonomics Society 42nd Annual Meeting*, *42*, 463-467.
10. Bindemann, M., Burton, A. M., Hooge, I. T. C., Jenkins, R., & de Haan, E. H. F. (2005). Faces retain attention. *Psychonomic Bulletin & Review*, *12*(6), 1048-1053.
11. Bowden, J. L.-H. (2009). The Process of Customer Engagement: A Conceptual Framework. *Journal of Marketing Theory and Practice*, *17*(1), 63-74.
12. Burke, M., Hornof, A., Nilsen, E., & Gorman, N. (2005). High-cost banner blindness: Ads increase perceived workload, hinder visual search, and are forgotten. *ACM Transactions on Computer-Human Interaction (TOCHI)*, *12*(4), 423-445.
13. Clark, M. L., & Ayers, M. (1993). Friendship expectations and friendship evaluations: Reciprocity and Gender Effects. *Youth & Society*, *24*, 299-313.
14. Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed). L. Erlbaum Associates.
15. Corneille, O., Mauduit, S., Holland, Rob. W., & Strick, M. (2009). Liking products by the head of a dog: Perceived orientation of attention induces valence acquisition. *Journal of Experimental Social Psychology*, *45*(1), 234-237.
16. D. Hollebeek, L., & Chen, T. (2014). Exploring positively- versus negatively-valenced brand engagement: A conceptual model. *Journal of Product & Brand Management*, *23*(1), 62-74.
17. Dessart, L., Veloutsou, C., & Morgan-Thomas, A. (2015). Consumer engagement in online brand communities: A social media perspective. *Journal of Product & Brand Management*, *24*(1), 28-42.
18. eMarketer (2019). *Global Instagram Users 2019.* Retrieved on February 10th, 2020, from https://www.emarketer.com/content/global-instagram-users-2019
19. Face++ (2013). *Face detection.* Retrieved on December 15th, 2019, from https://www.faceplusplus.com/face-detection/

20. Freberg, K., Graham, K., McGaughey, K., & Freberg, L. A. (2011). Who are the social media influencers? A study of public perceptions of personality. *Public Relations Review*, *37*(1), 90-92.
21. Ganim Barnes, N., Mattson, E., & Marušić, M. (2008). Duštveni mediji: Istraživanje američkih poduzeća iz skupine The Inc. 500. *Market-Tržište*, *20*(1), 37-47.
22. Gliga, T., Elsabbagh, M., Andravizou, A., & Johnson, M. (2009). Faces Attract Infants' Attention in Complex Displays. *Infancy*, *14*(5), 550-562.
23. Godey, B., Manthiou, A., Pederzoli, D., Rokka, J., Aiello, G., Donvito, R., & Singh, R. (2016). Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *Journal of Business Research*, *69*(12), 5833-5841.
24. Hari Adi, P., Wihuda, F., & Adawiyah, W. R. (2017). The Role of Social Media Browsing Intention for Behavioral Outcomes of Young Consumers. *Market-Tržište*, *29*(1), 39-57.
25. Harrigan, P., Evers, U., Miles, M. P., & Daly, T. (2018). Customer engagement and the relationship between involvement, engagement, self-brand connection and brand usage intent. *Journal of Business Research*, *88*, 388-396.
26. Houtkoop, B. L., Chambers, C., Macleod, M., Bishop, D. V. M., Nichols, T. E., & Wagenmakers, E.-J. (2018). Data Sharing in Psychology: A Survey on Barriers and Preconditions. *Advances in Methods and Practices in Psychological Science*, *1*(1), 70-85.
27. Hunt, A. R., Cooper, R. M., Hungr, C., & Kingstone, A. (2007). The effect of emotional faces on eye movements and attention. *Visual Cognition*, *15*(5), 513-531.
28. Intermedia (2017). *UK newspapers reveal readership demographics*. https://www.inter-media.co.uk/uk-newspapers-reveal-readership-demographics/
29. Jaakonmäki, R., Müller, O., & vom Brocke, J. (2017). *The Impact of Content, Context, and Creator on User Engagement in Social Media Marketing*. Hawaii International Conference on System Sciences.
30. Jang, J. Y., Han, K., & Lee, D. (2015). No Reciprocity in "Liking" Photos: Analyzing Like Activities in Instagram. *Proceedings of the 26th ACM Conference on Hypertext & Social Media - HT '15*, 273-282.
31. Kahneman, D., & Tversky, A. (1992). Advances in prospect theory: Cumulative representation of uncertainty. *Journal of Risk and Uncertainty*. 5, 297-323.
32. Langton, S. R. H., & Bruce, V. (1999). Reflexive Visual Orienting in Response to the Social Attention of Others. *Visual Cognition*, *6*(5), 541-567.
33. Lim, X. J., Mohd Radzol, A. R. bt, Faculty of Economics and Management, Universiti Putra Malaysia Kuala Lumpur, Malaysia, Cheah, J.-H. (Jacky), Azman Hashim International Business School, Universiti Teknologi Malaysia Kuala Lumpur, Malaysia, & Wong, M. W. (2017). The Impact of Social Media Influencers on Purchase Intention and the Mediation Effect of Customer Attitude. *Asian Journal of Business Research*, *7*(2), 19-36.
34. Lindell, A. K. (2019). Left cheek poses garner more likes: The effect of pose orientation on Instagram engagement. *Laterality: Asymmetries of Body, Brain and Cognition*, *24*(5), 600-613.
35. Littlejohn, S. W., & Foss, K. A. (Eds.). (2009). *Encyclopedia of communication theory*. SAGE.
36. MacDowall, L. J., & de Souza, P. (2018). 'I'd Double Tap That!!': Street art, graffiti, and Instagram research. *Media, Culture & Society*, *40*(1), 3-22.
37. Marwick, A. E. (2016). You May Know Me from YouTube (Micro-)Celebrity in Social Media. In P. D. Marshall & S. Redmond (Eds.), *A Companion to Celebrity*. Wiley Blackwell.
38. Meyers, C. B. (2017). Social Media Influencers: A Lesson Plan for Teaching Digital Advertising Media Literacy. *Advertising & Society Quarterly*, *18*(2).
39. Omnicore (2020). *Instagram by the Numbers: Stats, Demographics & Fun Facts. https://www.omnicoreagency.com/instagram-statistics/*
40. Pittman, M., & Reich, B. (2016). Social media and loneliness: Why an Instagram picture may be worth more than a thousand Twitter words. *Computers in Human Behavior*, *62*, 155-167.

41. Public Opinion Strategies (2019). *Who's watching? A look at the demographics of cable news channel watchers*. https://pos.org/whos-watching-a-look-at-the-demographics-of-cable-news-channel-watchers/
42. Pulizzi, J., & Handley, A., (2015). *B2B Content Marketing: 2016 Benchmarks, Budgets and Trends — North America, 2015*. https://contentmarketinginstitute.com/wp-content/uploads/2015/09/2016_B2B_Report_Final.pdf.
43. R Core Team (2016). *R: A Language and Environment for Statistical Computing* [*Computer software manual*]. Vienna: R Core Team.
44. Sato, S., & Kawahara, J. I. (2015). Attentional capture by completely task-irrelevant faces. *Psychological Research*, *79*(4), 523-533.
45. Silva, M. J. de B., Farias, S. A. de, Grigg, M. K., & Barbosa, M. de L. de A. (2019). Online Engagement and the Role of Digital Influencers in Product Endorsement on Instagram. *Journal of Relationship Marketing*, 1-31.
46. Soper, D.S. (2020). A-priori Sample Size Calculator for Multiple Regression [Software]. Available from http://www.danielsoper.com/statcalc
47. Souza, F., Casas, D. de L., Flores, V., Youn, S., Cha, M., Quercia, D., & Almeida, V. (2015). Dawn of the Selfie Era: The Whos, Wheres, and Hows of Selfies on Instagram. *Paper presented at the Proceedings of the 2015 ACM on conference on social media*.
48. Statista (2015). *Average number of Instagram followers of teenage users in the United States as of March 2015*. Retrieved on March 5th, 2020, from https://www.statista.com/statistics/419326/us-teen-instagram-followers-number/
49. Tipples, J., & Pecchinenda, A. (2019). A closer look at the size of the gaze-liking effect: A preregistered replication. *Cognition and Emotion*, *33*(3), 623-629.
50. Tsao, D. Y., & Livingstone, M. S. (2008). Mechanisms of Face Perception. *Annual Review of Neuroscience*, *31*(1), 411-437.
51. Tukey, J. (1977). *Exploratory Data Analysis*. Addison-Wesley.
52. Uzunoğlu, E., & Misci Kip, S. (2014). Brand communication through digital influencers: Leveraging blogger engagement. *International Journal of Information Management*, *34*(5), 592-602.
53. Valentini, C., Romenti, S., Murtarelli, G., & Pizzetti, M. (2018). Digital visual engagement: Influencing purchase intentions on Instagram. *Journal of Communication Management*, *22*(4), 362-381.
54. van Doorn, J., Lemon, K. N., Mittal, V., Nass, S., Pick, D., Pirner, P., & Verhoef, P. C. (2010). Customer Engagement Behavior: Theoretical Foundations and Research Directions. *Journal of Service Research*, *13*(3), 253-266.
55. Vaquera, E., & Kao, G. (2008). Do you like me as much as I like you? Friendship reciprocity and its effects on school outcomes among adolescents. *Social Science Research*, *37*(1), 55-72.
56. Vejačka, M. (2017). Social Media Marketing in Comparison With Other Forms of Marketing in the Slovak Banking Sector. *Market-Tržište*, *29*(1), 23-38.
57. Wang, Y., Wang, J., Yao, T., Li, M., & Wang, X. (2020). How does social support promote consumers' engagement in the social commerce community? The mediating effect of consumer involvement. *Information Processing &* Management, *57*(5), 102272.
58. Wickham, H. (2016). *Elegant Graphics for Data Analysis Second Edition*. New York, NY: Springer-Verlag.
59. Woods, S. (2016). #Sponsored: The Emergence of Influencer Marketing. Chancellor's Honors Program Projects. https://trace.tennessee.edu/utk_chanhonoproj/1976
60. Wright, T. J., Roque, N. A., Boot, W. R., & Stothart, C. (2018). Attention capture, processing speed, and inattentional blindness. *Acta Psychologica*, *190*, 72-77.

61. Xiao, L., & Ding, M. (2014). Just the Faces: Exploring the Effects of Facial Features in Print Advertising. *Marketing Science*, *33*(3), 338-352.
62. Young, A. W., & Burton, A. M. (2018). Are We Face Experts? *Trends in Cognitive Sciences*, *22*(2), 100-110.
63. Zaichkowsky, J. L. (1985). Measuring the Involvement Construct. *Journal of Consumer Research*, *12*(3), 341-352.