Show your best self(ie)

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Show your best self(ie): An exploratory study on selfie-related motivations and behavior in emerging adulthood

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ABSTRACT

Although self-presentation has been studied for decades, social networking sites (SNS) such as Facebook have produced novel opportunities for visual online self-presentation. Posting selfies is currently a popular mode of consciously constructing visual online self-presentations, yet most prior research is limited to selfie-posting alone. This study aimed to profile selfie-makers' motivations and behavior, and examine the extent to which underlying mechanisms preceding selfie-posting are interconnected. Results of a survey (N = 224; 79.9% females; M_{age} = 21.66, SD_{age} = 2.08) regarding selfie-behavior on SNS (e.g., Facebook and Instagram) characterized selfie-makers in emerging adulthood as mainly concerned with the social aspects of selfies. Entertainment and moment-retention were identified as main motivations for selfie-making. Findings supported the proposed *Selfie-Stadium Model,* representing various steps of selfie-taking and underlying motives as well as selection and editing before actual posting. This study on profiling selfie-makers and their self-presentation taps into a fairly new media use research domain.

1. Introduction

Social Networking Sites (SNS), such as Facebook and Instagram, provide a profound channel for self-expression and self-presentation: Sources report that a million selfies are taken daily (Sûk, 2014), over 17 million selfies are posted on SNS each week (Winter, 2014), and Android users send 93 million selfies every day (Brandt, 2014). Although these numbers are hard to verify, they indicate the abundant popularity of posting selfies. Selfies have become such a global phenomenon on SNS that Oxford Dictionaries even announced 'selfie' as Word of the Year in 2013, defining it as 'a photograph that one has taken of oneself, typically one taken with a smartphone or webcam and uploaded to a social media website' (Oxford Dictionaries). Despite the popularity of SNS among young people (Tiggemann and Slater, 2013) and the omnipresence of selfies on such SNS, research thus far is seemingly limited to the posting of selfies and has only just begun to explore the underlying motivations and characteristics of selfie-makers (e.g., gender differences and personality traits; Katz and Crocker, 2015; Sorokowski et al., 2015; Souza et al., 2015; Tifentale and Manovich, 2015). Very few studies have specified selfie-behavior in terms of investment and manipulation (e.g., Chae 2017; Dhir et al., 2016; McLean, Paxton, Wertheim, and Masters, 2015), while the appearance-related behaviors underlying selfie-posting may be especially important

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as influencing one's body image (McLean et al., 2015). Especially selfie-viewing can influence self-esteem and life satisfaction (Wang, Yang, and Haigh, 2017). It is important to not only investigate selfie-posting but also behaviors leading up to selfie-posting. Consciously constructing an online visual self-presentation is not only comprised by posting a selfie, but is rather explained by underlying behaviors related to constructing a selfie. No study has yet investigated the direct relations between underlying selfie-related behaviors (i.e., motives, pre-occupation, selection, editing, and posting), and how selfie-makers can be profiled in terms of underlying characteristics. This study aims to fill the gap in the literature in two ways. First, it assesses the various steps that selfie-makers can pass through before selfies are posted online instead of solely focusing on the act of posting. Second, this study addresses characteristics of selfie-makers that will contribute to our understanding of why and who post selfies. Therefore, this study aims to (a) profile characteristics of selfie-makers in an emerging adult sample in the Netherlands, and (b) examine the extent to which underlying selfie-related behaviors preceding actual posting are interconnected.

1.1. Self-presentation

In the current online media landscape, selfie-behavior makes up a large part of how individuals visually present themselves on SNS. Here, SNS like Facebook and Instagram serve as platforms for selfies that are generally designated for larger audiences. This section discusses this relatively new phenomenon of selfie-behavior in light of communication theorizing. To start, posting selfies online is a form of online self-presentation. Early research on self-presentation by Goffman (1959) suggested that social behaviors can be identified as differing in front stage and back stage behaviors. With front stage, he meant that individuals behave in ways to meet the expectations of others depending on the social situation they are in (cf. performing on stage; Goffman, 1959). In doing so, individuals may display themselves in a way to come off as positively as possible (Myers, Abell, Kolstad, and Sani, 2010). With back stage, Goffman referred to places less public where front behaviors are prepared such as, in his example, the kitchen of a restaurant. Likely, such 'front stage presentation' of the self also applies to selfie-behavior, where individuals may present themselves in a specific way to an online audience by means of posting selfies. The current study also aims to address the assumed back stage behaviors in preparing a selfie.

The above theorizing indicates that the identities as claimed by individuals are not fixed: The self is rather flexible and can take different identities in different situations (García-Gómez, 2013; Goffman, 1959). Identities are claimed in interaction with others and are constructed by "meanings attached to the self by one's self and others'" (Michener, DeLamater, and Myers, 2004, p. 85). Specific situations allow individuals to activate certain identities, which nowadays means that individuals can activate different identities not only in face-to-face interactions, for example with family, friends and colleagues, but also online. With the rise of social media, personal photography has increasingly become a strategy for constructing an online identity (van Dijck, 2008). Studies into the "technoself" (which is defined as a "changing state of human identity in society resulting from the adoption of new technologies"; Luppicini, 2013, p. 2) emphasize the intertwinement of individuals and technology by highlighting that identities are constructed via adoption of advancing technologies. The technical advancements that align with selfie-behavior redefine how individuals create identities online and how these relate to the identities we claim offline.

In offline interactions, individuals' construed identities are somewhat constrained because they cannot claim identities that are not consistent with their physical appearance (e.g., body shape). However, this is different for the online social environment where a new mode of identity production has emerged (McKenna, Green, and Gleason, 2002). The online environment enables to separate bodies from selves (Baym, 2010). This opens new possibilities for exploring different identities, for example by creating an idealized self-image. Although individuals may also tend to display idealized versions of themselves offline, the online environment increasingly allows creating an idealized identity that may differ from one's offline identity, especially with digital enhancing techniques (Mendelson and Papacharissi, 2010; Turkle, 1995). According to the *Hyperpersonal Model* (Walther, 1996), the online world has various affordances allowing individuals to selectively present themselves. For example, the online world permits strategic selection of information before this information is presented to others. Here, individuals have unlimited abilities and time to edit the information they want to present, which facilitates the presentation of one's ideal-self. The disembodied self, however, pertains particularly to the anonymous environment (Zhao, Grasmuck, and Martin, 2008). The anonymous environment has few restraints with regard to presenting oneself online: individuals can present themselves as they want to be seen, and the use of pseudonyms allows them to establish their ideal-self or present multiple identities.

The nonymous environment is where offline and online connections merge (e.g., meeting family members, friends, and colleagues online) and therefore might hold constraints regarding what individuals present about themselves (Zhao et al., 2008). Especially with regard to physical appearance, the nonymous environment can easily refute or confirm one's presentations. However, both the anonymous and nonymous online environment can create the option to selectively self-present a desired self to the audience. SNS allow individuals to optimize their self-presentation by selective self-presentation about themselves (Gonzales and Hancock, 2011). This can be established on SNS through selective coverage of personal information and selective exposure of (adapted) pictures, where individuals have the tendency to 'stretch the truth a bit' (Zhao et al., 2008). For example, people generally tend to display pictures that cover-up the undesirable physical characteristics of their bodies, such as being overweight (Gibbs, Ellison, and Heino, 2006). Thus, the pictures posted on SNS are strategically chosen by individuals, in a way that best represents them (Mendelson and Papacharissi, 2010). Herein, selfie-behavior opens up a range of new windows for activating specific identities. With time and technological affordances so readily available, this allows individuals to edit their appearances and idealize their self-presentations extensively, thereby carefully constructing online identities. Such a process may create discrepancies between the online self and the offline self, in more or less subtle ways (cf. Yee and Bailenson, 2007). The present study proposes that selfie-behavior actually pertains to various specific behaviors that enable identity construction, that is, through selectively choosing, preparing and editing

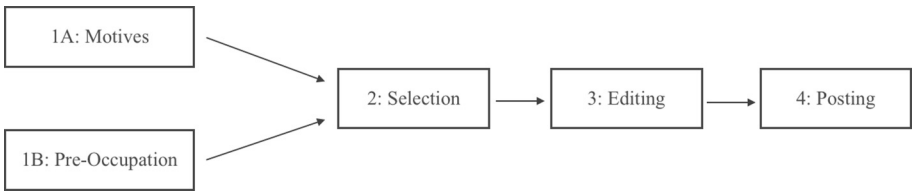

Fig. 1. The Selfie-Stadium Model (see text below for detailed description of each step).

selfies before these are posted online in order to present a more idealized version of the self.

Notably, adolescents and emerging adults are surrounded by numerous peers on SNS, which may feed the idea of an 'imaginary audience' (i.e., the belief that they are constantly watched and evaluated by their audience; Konijn, Veldhuis, Plaisier, Spekman, and den Hamer, 2015). This idea of an imaginary audience relates to impression management, where individuals monitor how the audience might evaluate them and which impressions they want to create (Cingel and Krcmar, 2014). This broad audience on SNS also means that the impressions that individuals create online can easily be forwarded to others, can be found repeatedly, can easily obtain much more views than an offline picture, and can be very hard to delete. Therefore, it may also have more lasting effects than offline pictures. Hence, the constructed online self-presentation is important for strategically creating an identity.

Taken together, self-presentation can be described as a way of creating a desired impression to others, which may be strategically created by selectively providing information. In the current study, we assume that the selfies posted on SNS constitute a form of selective visual self-presentation and are strategically constructed to provide a desired impression to others.

1.2. Steps in selfie-related behavior

To identify selfie-related behaviors, our study relied on thoroughly examined theoretical concepts from different but related research realms in photography and SNS use. We have applied insights from these fields and thereby extended the previous literature to the domain of selfie-behavior. Herein, we argue that selfie-behavior not only consists of posting, but follows various steps of related selfie-behavior that eventually lead to posting. In doing so, we addressed the assumed 'back stage' behaviors of creating online visual self-presentations. Before actual online self-presentation via selfies takes place, the following steps can occur. First, individuals might have specific motives for taking selfies and are to a certain extent pre-occupied with selfies. Second, after taking several selfies, selfie-makers strategically select the one they would like to post online, and (third) also have the option to edit the chosen selfie to make it look as good as possible. Fourth, individuals will post the selfie(s) on SNS. Our proposed *Selfie-Stadium Model* (see Fig. 1) incorporates these behaviors and is elaborated per stadium below.

1.2.1. Step 1A: Motives

As a first step in the process, we propose that specific motives underlie selfie-making. Before self-presentations can be created and also posted online, individuals first have to make selfies, where various motives may underlie reasons for making these aforementioned selfies. Recent ethnographic research, as well as qualitative and quantitative studies, have shown a variety of reasons for making selfies, such as for self-expression (Katz and Crocker, 2015), creating meaningful relationships (Tiidenberg, 2015), supporting charity initiatives (#nomakeupselfie; Deller and Tilton, 2015), and even to share emotions by taking and sharing selfies at funerals (Meese et al., 2015). Since taking and sharing selfies on SNS seem to have a social function, the current study also applies literature on social functions of personal photographs in general and Facebook motives for explaining why individuals take and share selfies on SNS. Extant research has identified motives for the social function of personal pictures in general (Van House, 2007; Van House et al., 2005; Van House et al., 2004). For example, people use pictures for thoughtful self-presentation, and are aware of the fact that sharing pictures shapes their image in the eyes of their audience (i.e., impression management; Van House et al., 2005). Another motive for sharing pictures is self-expression, where individuals can vent their opinions and view of the world (Van House et al., 2005). Further, sharing pictures not only reflects existing relationships, but also supports the maintenance of relationships or the cultivation of new ones (Van House et al., 2004). More specifically, sharing pictures can evoke social interaction with friends by discussing the pictures and staying up-to-date with each other's lives (Van House, 2007; Van House et al., 2005; cf. Papacharissi and Mendelson, 2011). Relatedly, social pressure and status also play a role here (Clemens, Atkin, and Krishnan, 2015). Other motives concern memory and narratives. Pictures can serve as a reminder of experiences, which can be shared with others (Van House et al., 2005; also cf. Clemens et al., 2015). Here, pictures are extremely powerful in evoking memories, because they capture important moments in life (Van House et al., 2004). Each of these motives for taking personal pictures in general may also explain why individuals take and share selfies on SNS.

More specifically, Papacharissi and Mendelson (2011) have identified various motives concerning the social utility of Facebook. They discovered that habitual passing of time and relaxing entertainment serve as the main motives for Facebook use among students. In addition, expressive information sharing (i.e., pertaining to the need to share (personal) information about oneself), cool and new (e.g., it is the thing to do), companionship (i.e., the ability of a medium to stimulate a sense of 'not being alone'), escape (i.e., to get away from other things in life), social interactions, and meeting new people were also defined as salient motives for Facebook use. Papacharissi and Mendelson's (2011) work is based on assumptions from the *Uses and Gratifications Theory* (Katz, Blumler, and Gurevitch, 1974), stating that individuals use and select media in order to fulfill specific needs. Interactive media such as the internet

can be regarded as goal-directed (Rubin, 1994), where users make thoughtful choices in their media use (Harrell, 2000; Lampe et al., 2010). Based on the above, the present study investigates various underlying motives of selfie-behavior.

1.2.2. Step 1B: Pre-occupation

Along with motives, we present pre-occupation as the degree to which someone is involved in selfie-behavior on SNS. That is, if selfie-makers are frequently involved with selfies on SNS – such as looking at selfies from friends, tagging, sharing, and commenting on selfies of others – it is likely that this will direct their perceptions of desired behavior (e.g., to make and post more selfies), therefore affecting the subsequent steps proposed in the Selfie-Stadium Model. Through interactive communication with important others through SNS, individuals can hold intentions to engage in certain behaviors (Kim, 2011). Derived from photo-activity measures by Meier and Gray (2014), pre-occupation can be expressed through, amongst others, the willingness to look at selfies from other people and to comment on selfies of others.

1.2.3. Step 2: Selection

A subsequent step in the selfie-process is selecting the selfies individuals find most suitable to be posted online. After making (several) selfies, individuals can consciously select selfies that show their identity and facilitate impression management. Given impression management drives, people are very aware of the pictures they select (Ellison, Heino, and Gibbs, 2006). Consequently, they present themselves through pictures that are selected to make them look as good as possible (Young, 2009) or that 'stretch the truth a bit' (Zhao et al., 2008). Research shows that looking good in a picture is one of the major reasons for selecting particular SNS profile pictures (Siibak, 2009). Katz and Crocker (2015) showed that looking good in selfies was very important to more than half of their respondents, and concluded that these findings support the notion that individuals present themselves with careful thought and deliberation. The present study specifically examined which criteria are important for selfie-selection in relation to the other behaviors.

1.2.4. Step 3: Editing

Editing selfies before posting them on SNS seems to be another step in the process. SNS are largely focused on self-presentation and are widely used to express one's physical appearance (Fox and Rooney, 2015; Kapidzic, 2013). Moreover, good-looking pictures on SNS will be more successful in terms of receiving more attention and reactions (e.g., comments and likes: Salomon, 2013). With the emergence of application tools to edit pictures and the rise of new SNS like Instagram that contain built-in tools to instantly beautify pictures, it has become very easy to edit (and thus idealize) pictures until the user renders them worthy for posting. Editing is proposed as the last step that selfie-makers pass before posting a selfie online.

1.3. Overview of the present study and research questions

In order to profile selfie-makers in terms of their motivations and behavior, and to test the interconnectedness of selfie-related behaviors (from our proposed Selfie-Stadium Model), we compiled a survey for individuals in emerging adulthood (i.e., 18–25 years old; cf. Arnett, 2000; Nelson, Story, Larson, Neumark-Sztainer, and Lytlec, 2008). We focused on this developmental stage because it is characterized by development of self-identity and exploring behaviors to express this identity, becoming less dependent on parents, and taking opinions from peers into account (Nelson et al., 2008). In combination with the nature of SNS, where peers are omnipresent, this developmental stage closely connects to the general literature on self-presentation. Specifically, selfie-posting is a highly popular way of visually presenting oneself among this age group (Katz and Crocker, 2015), and emerging adults are highly active on SNS (e.g., Slater and Tiggemann, 2015), which renders them a relevant group for investigating selfie-behavior.

Based on the behavioral constructs elaborated above, and the proposed Selfie Stadium Model, the following research questions were formulated:

RQ1. How can selfie-makers in emerging adulthood be characterized in terms of: (a) gender, (b) time spent on internet and SNS, (c) major underlying motives for making selfies, (d) related activities indicating pre-occupation, (e) type of selfies that are predominantly taken, (f) type of selfies that are mainly selected, (g) most frequently-used techniques to edit selfies, and (h) posting behavior?

*RQ2. (a) To what extent are the various selfie-related behaviors (*i.e.*, motives, pre-occupation, selection, editing, and posting) interrelated, and (b) do the various selfie-related behaviors predict subsequent selfie-related behavior steps as proposed in the Selfie-Stadium Model?*

2. Method

2.1. Participants and design

Participants were 224 selfie-makers (M_{age} = 21.66, SD_{age} = 2.08; 79.9% were female) and 26 non-selfie-makers (excluded for study purposes) from the Netherlands. Educational ability levels varied from higher-education (69.7%), to middle-education (23.7%), and lower-education (6.7%).

2.2. Procedure

Participants were recruited through a survey link distributed via Facebook (i.e., timeline, personal messages, several group pages,

and on a group page of a higher educational institution), leaflets on campus, and direct recruitment in the public areas of higher educational institutions. Upon opening the survey, participants were informed about the subject of the survey (i.e., selfie-behavior) and compensation (i.e., a chance to win one of four gift certificates for a popular online store), and that it would take about 20 minutes to complete. Then, they completed an electronic informed consent sheet.

The questionnaire started with demographic questions followed by measures of the amount of daily internet and SNS use, (online) self-disclosure, and selfie-behaviors. Participants who indicated not having a social media account were directed to the end of the survey. Because this study is about posting selfies on SNS, this was one of the inclusion criteria for participating in the study. Participants with a social media account that indicated not taking selfies were asked for their motivations herein, and then directed to the end of the survey. In selfie-making participants, pre-occupation, selection, editing, posting behaviors, and underlying motives for selfie-making were assessed. Upon completion, participants were thanked and debriefed.

2.3. Measures

2.3.1. Demographic variables

Participants were asked to indicate their *gender* and *age*. *Educational ability level* was classified in lower, middle, or higher educational ability level (i.e., none or primary education, VMBO/MAVO, MBO, HAVO/VWO, HBO, WO).

2.3.2. Internet and SNS use

Participants were asked whether they had *daily internet access* (e.g., at home, school or work; *yes, no*) and their *amount of average daily internet use* (cf. the Facebook Questionnaire; Meier and Gray, 2014); answering options were *never/almost never, < 1 h/day, 1–2 h/day, 2–3 h/day, 3–4 h/day* or *more than four hours a day,* based on the national mean of daily internet use for ages 18–24 years (TNS Nipo, 2015). *Specific SNS use* was measured by participants' ownership of social media accounts (*yes/no*), and how much time they daily spent on Facebook, Twitter, Instagram, Pinterest, and Tumblr (*never/almost never, less than one hour a day, 1–2 h/day, 2–3 h/day, 3–4 h/day, more than four hours a day,* or *not applicable)*.

2.3.3. Selfie-measures

At the time this study was conducted, no validated scales existed to assess selfie-behaviors. Therefore, we composed our own measures of selfie-behaviors by adjusting measures from the field of Facebook use and the social use of photography to specifically fit selfie-behaviors (details below). Importantly, the items used for measuring *pre-occupation*, *editing behavior*, *selection behavior*, and *posting behavior* were treated as separate indicators to answer RQ1, whereas the items were combined into scale indices to answer RQ2, and reported per scale below.

Motives for making selfies was assessed with 33 items reflecting motives for selfie-behavior in the following predefined domains (*1 = totally disagree* to *5 = totally agree)*: Identity (Clemens et al., 2015), Peer Pressure/Status (Clemens et al., 2015; Glanz, Rimer, and Viswanath, 2008), Social Function of Sharing Pictures (Van House, 2007), Habitual Passing of Time, Relaxing and Entertainment, Expressive Information Sharing, Social Interaction, and Meeting New People (Papacharissi and Mendelson, 2011).

A principal component analysis (using Varimax rotation) extracted nine distinct dimensions of underlying motives for making selfies: *Social Pressure and Identity*, *Expressive Information Sharing*, *Relaxation*, *Habitual Passing of Time*, *Entertainment*, *Social Interaction*, *Imaginary Audience*, *Social Use*, and *Retention of Moments*. See Table 1 for the specific items, factor loadings, and reliability measures (Cronbach's α).

Pre-occupation with selfies was measured with 6 items based on the Photo Subscale of Meier and Gray (2014); *1 = totally disagree* to *5 = totally agree* (e.g., "I look at selfies from friends" and "I comment on my friends' selfies"). The scale was sufficiently reliable for grouped comparisons ($\alpha = 0.64$) with higher scores indicating a greater engagement in activities indicative of pre-occupation with selfies.

Selfie-selection behavior was assessed with 15-items based on the Photo-Selection Scale (Siibak, 2009) measuring why participants (strategically) selected selfies before posting them on SNS (*1 = never* to *5 = very often;* e.g., "Because I look good in the selfie"). In scale-format ($\alpha = 0.87$), higher scores indicate more consciously considering specific reasons for selfie-selection before online posting.

Selfie-editing behavior was measured with three items from Fox and Rooney (2015). Participants indicated how often (1 = *never* to 5 = *very often*) they apply techniques for "improving" their appearance in selfies before posting them on SNS (i.e., *using filters*, *cropping and cutting*, and *applying Photoshop or other software applications for photo-editing*). Higher scores indicate greater use of photo-editing techniques ($\alpha = 0.63$). Additionally, we asked participants to indicate *how much time* they spend editing selfies each day (i.e., *none, 0–10 min/day, 10–30 min/day, 30–60 min a day, more than one hour)*.

Selfie-posting behavior was first assessed by posting frequency (Fox and Rooney, 2015), asking participants *how many selfies* they had taken and posted on SNS in the past week (compared to how many other (non-selfie) pictures participants had taken and posted on SNS). Second, *thoughtful regulation of posting selfies* was assessed by asking participants for the extent to which they planned posting for specific reasons (e.g., "Sometimes I postpone posting my selfie, so more people can like my selfie"; *1 = totally disagree, 5 = totally agree*). Higher scores indicate higher levels of planned selfie-posting ($\alpha = 0.95$). Lastly, participants were asked to indicate the *best time for posting selfies* online (*08:00–12:00, 12:00–18:00, 18:00–24:00, 24:00–08:00*, or *there is no best time to post selfies*).

2.3.4. Selfie-making behavior

Participants were asked for the *types of selfies* they made (cf. Meier and Gray, 2014; e.g., "A selfie of me and a celebrity"), their

Table 1
Specific Items, Factor Loadings, and Reliability Measures of Motives.

Selfie-motive domain	Items	Factor loadings (Using Varimax Rotation)								*M*	*SD*	α
Retention of moments	I make selfies to memorize a moment	0.462								3.97	1.13	–
Entertainment	Making selfies is enjoyable		0.846							3.51	0.95	0.87
	Making selfies is entertaining		0.766									
	I enjoy making selfies		0.735									
Expressive information sharing	I provide personal information about myself by using selfies			0.864						2.97	1.00	0.90
	I tell others something about myself by using selfies			0.853								
	I provide information by using selfies			0.811								
	I present information by using selfies			0.777								
	I share information that might be interesting for others by using selfies			0.693								
Social interaction	I make selfies to communicate with remote friends				0.837					2.90	1.15	0.76
	I make selfies to keep in touch with friends and family				0.820							
Social use	I make selfies as a form of self-expression - to show my creativity					0.699				2.75	0.93	0.70
	I make selfies to show who I am and what I do					0.647						
	I make selfies to present myself as I want others to see me					0.513						
Habitual passing of time	I make selfies to kill time when I am bored						0.911			2.60	1.10	0.87
	I make selfies, when I have nothing better to do						0.902					
	I make selfies to have something to do						0.827					
	Making selfies is a habit						0.498					
Relaxation	Making selfies provides a pleasant feeling of rest							0.893		1.94	0.95	0.96
	Making selfies enables me to relax							0.890				
	Making selfies is soothing							0.887				
Imaginary audience	I post selfies with a specific audience in mind								0.784	1.82	1.04	
	I adjust my selfies for a specific audience								0.750			
Social pressure and identity	I feel social pressure to post selfies									0.813	1.62	0.62	0.87
	It is expected of me that I upload selfies									0.775			
	I make selfies because I think I should do this									0.754			
	I make selfies in order to show a different identity									0.742			
	I make selfies to try out new identities									0.741			
	I make selfies because it's cool									0.681			
	I make selfies so I can feel important									0.660			
	I make selfies because everybody does it									0.550			
	I think that a lot of people on social media look at my selfies									0.430			
	I post selfies to meet new people									0.412			

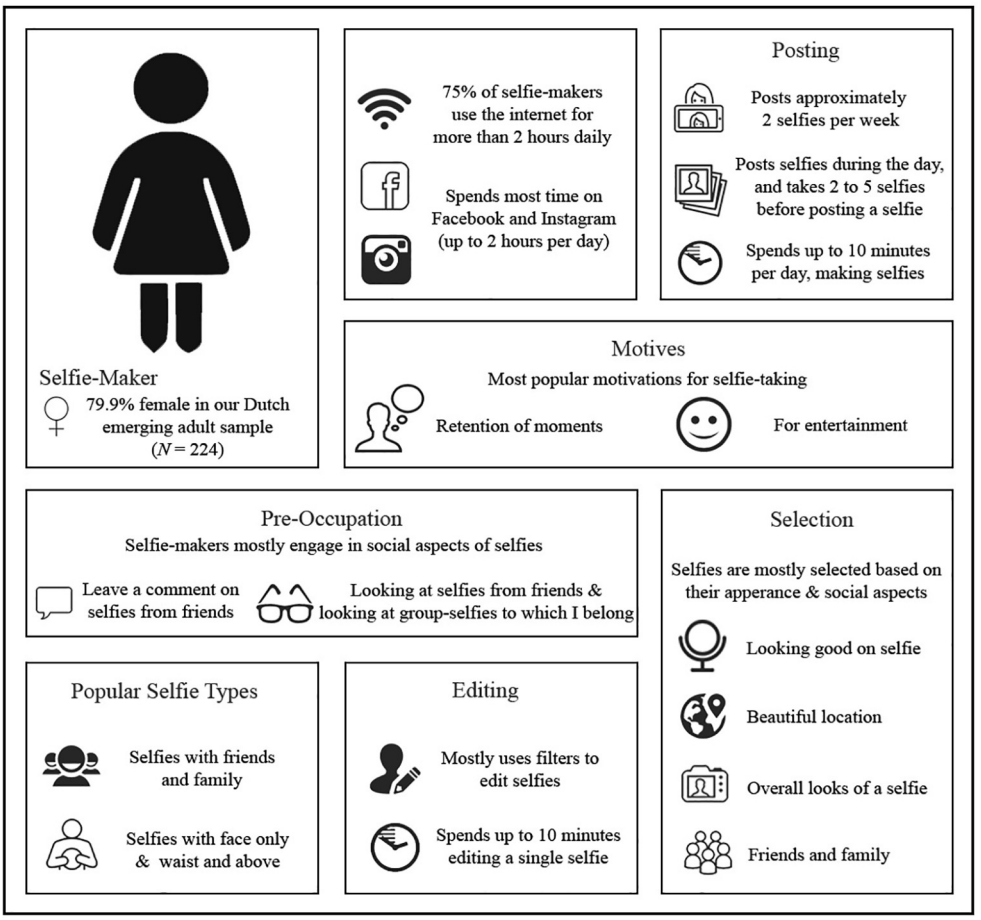

Fig. 2. Profile of Selfie-Makers' Motivations and Behavior (N = 224).

time spent on selfie-taking each day (*none, 0–10 min/day, 10–30 min/day, 30–60 min a day, more than one hour*), and *how many selfies* they took before they decided to post one of them on SNS (*one selfie, 2–5 selfies, 5–10 selfies, 10–20 selfies, > 20 selfies*).

3. Results

3.1. Selfie-Maker profile

RQ1 pertains to selfie-makers' motivations and behavior in our emerging adult sample (see Fig. 2). As in previous research (Sorokowska et al., 2016), our sample shows a majority of female selfie-makers (79.9%; RQ1a). Regarding RQ1b, 75% of the participants used the internet more than two hours daily, and most often used Facebook and Instagram (see Table 2 for details). As for motives for making selfies (RQ1c), participants mostly indicated Retention of Moments, and Entertainment as major motives for

Table 2
Internet Use and SNS Use of Selfie-Makers.

		Daily SNS use					
Categories	Daily internet use	Categories	Facebook	Instagram	Twitter	Pinterest	Tumblr
(almost) never	0.4%	(almost) never	1.8%	19.2%	55.4%	55.4%	59.8%
< 1 h a day	2.7%	< ½ h a day	11.2%	21.0%	9.8%	10.3%	4.0%
1–2 h a day	21.9%	½–1 h a day	37.9%	21.0%	3.1%	4.5%	0.4%
2–3 h a day	24.6%	1–2 h a day	24.6%	16.1%	2.2%	2.2%	0.9%
3–4 h a day	23.2%	2–3 h a day	12.9%	4.5%	1.3%	0.4%	0.9%
> 4 h a day	27.2%	> 3 h a day	11.2%	2.7%	0.4%	0.0%	0.0%
		Not applicable*	0.4%	15.6%	27.7%	27.2%	33.9%

Note. *Applies when participants do not own that specific social media account.

Table 3
Means (M) and Standard Deviations (SD) for Pre-Occupation.

	M	*SD*	Percentage (%)*
I look at group-selfies from friends where I'm in	4.17	0.94	88.8
I look at selfies from friends	4.06	0.80	87.1
I comment on selfies from friends	3.32	1.22	60.7
I tag myself in group-selfies from friends	2.34	1.36	29.5
I untag myself in group-selfies from friends	2.25	1.30	24.6
I often share selfies	2.08	1.13	14.8

Note. *Percentage of selfie-makers who indicated to (totally) agree with these statements.

selfie-making. In contrast, Social Pressure and Identity, Imaginary Audience, and Relaxation served as minor motives for selfie-making (see Table 1 for details on all motives). Selfie-makers in emerging adulthood seem to generally make selfies because it is an enjoyable action, and they want to commemorate certain moments in their lives. However, they do not find it particularly relaxing to make selfies and do not necessarily make selfies for reasons of feeling obliged to serve their peers. Main motives for not taking selfies among those who *do not* make selfies at all ($N = 26$) were that they do not like pictures of themselves (32.6%), and they experience an overkill of selfies on SNS (23.9%; illustrated by quotes like, "*Everybody makes selfies and posts them on social media, it is driving me nuts!*").

For pre-occupation (RQ1d; Table 3), findings showed that selfie-makers were mostly involved with the social aspects of selfies on SNS, such as "Looking at group-selfies from friends to which I belong" and "Looking at selfies of friends". It seems that passive forms of engagement are the most popular, while commenting on selfies from friends was also common. Tagging and sharing were the least popular activities among selfie-makers.

Regarding selfie-types (RQ1e; Table 4), selfie-makers mostly make selfies with their friends ("only face visible"). Moreover, on an individual level, "only face visible" and "waist and above visible" were popular selfies. Selfies with unknown people and selfies with celebrities were considered the least popular selfies. Furthermore, the majority of selfie-makers indicated taking two to five selfies before posting one on SNS, and reported spending up to 10 minutes per day on making selfies.

Concerning underlying reasons for selecting specific selfies (RQ1f; Table 5), the majority of selfie-makers selected selfies (very) often based on the overall looks of that particular selfie. Furthermore, selfie-makers (very) often selected selfies based on their own good looks, because of the beautiful location, and because of friends or family being in the selfie. Selfies were least often selected for showing the selfie-makers' preferred brands. Results suggest that selfies are predominantly selected based on overall looks, and not particularly for making statements about one's lifestyle (e.g., fashion style).

Assessing editing behavior (RQ1g; Table 6) selfie-makers indicated that using filters is most popular, followed by cropping parts out of selfies. Photoshop or other software applications were used to a lesser extent. This indicates that accessible editing techniques are most popular for editing selfies, rather than more sophisticated software applications as Photoshop. Most selfie-makers spend up to 10 minutes on editing a single selfie (65.2%), while 25.4% indicated to never edit their selfies.

Analyzing posting behavior (RQ1h; Table 7) results showed that selfie-makers post one to two selfies per week, compared to 2.5 other pictures posted online per week. In our sample, 51.4% posted at least one selfie on SNS in the past week. Hence, of all pictures

Table 4
Percentages for Making Selfies (Types, Amount, Time).

		Percentage (%)
Types of selfies taken	A selfie of me and friends (only faces visible)	83.0
	A selfie of me (only face visible)	78.6
	A selfie of me and friends (waist and above visible)	64.7
	A selfie of me and my family	57.6
	A selfie of me (waist and above visible)	55.4
	A selfie of me and animals	32.6
	A selfie of me and friends (whole body visible via selfie stick/mirror)	25.3
	A selfie of me (whole body visible)	24.9
	A selfie of me and unknown people.	8.2
	A selfie of me and a celebrity	8.0
Amount of selfies taken	Just 1 selfie	18.3
	2–5	54.5
	5–10	13.8
	10–20	10.7
	20 +	2.7
Time spent taking selfies	None	38.4
	0–10 min	57.1
	10–30 min	4.5
	30–60 min	0
	More than one hour	0

Table 5
Reasons for Selecting Selfies.

	M	*SD*	Percentage (%)*
Selfie in general looks good	3.41	1.03	57.1
I look good in the selfie	3.34	1.16	53.5
Selfie is taken in a beautiful location	3.33	1.08	51.8
Friends and family are in the selfie	3.33	1.05	50.0
Selfies commemorates an important moment in my life	2.97	1.19	38.9
Interesting activity is shown in the selfie	2.78	1.17	32.6
Selfie is taken in a famous place	2.67	1.20	32.6
Important objects are in the selfie	2.43	1.22	21.4
Selfie describes my lifestyle	2.24	1.14	16.9
Selfie reflects my personality	2.18	1.13	14.7
I look sexy in the selfie	2.14	1.22	18.7
Selfie is well-edited	1.90	1.00	8.5
My clothing style is trendy	1.90	1.07	11.6
To express what kind of clothing-style I like	1.86	1.05	11.1
Selfie displays my brand preferences	1.43	0.79	4.0

Note. *Percentage of selfie-makers who indicated to (very) often select selfies for this specific reason.

Table 6
Use of Editing Techniques and Editing Time.

	M	*SD*	Percentage (%)
Editing Techniques			
Using photographic filters	2.79	1.24	33.0*
Cropping or cutting parts of yourself out of pictures	2.51	1.14	22.8*
Using Photoshop or other picture editing software or applications.	1.53	0.94	6.7*
Editing Time			
None			25.4
0–10 min			65.2
10–30 min			9.4
30–60 min			0
More than one hour			0

Note. *Percentage of selfie-makers who indicated to use these editing techniques (very) often.

Table 7
Posting Behavior of Selfie-Makers.

	M	*SD*	Percentage (%)
Amount of selfies posted			
How many pictures have you taken of yourself and posted on SNSs in the past week (e.g., Facebook)?	1.62	3.27	
How many other pictures have you taken and posted on SNSs in the past week (e.g., Facebook)?	2.50	4.12	
Preferred posting time			
08:00–12:00 (in the morning)			3.6
12:00–18:00 (in the afternoon)			15.2
18:00–24:00 (in the evening)			37.5
24:00–08:00 (at night)			1.3
No best time to post selfies, you can post selfies during the whole day			42.4
Planned selfie-posting			
Sometimes I postpone my selfie, so more people can like my selfie	2.02	1.32	25.0*
Sometimes I postpone my selfie, so more people can see my selfie	2.00	1.35	25.9*
Before I post a selfie, I think about the best time to post my selfie	1.95	1.30	22.3*
Sometimes I postpone my selfie, so more people can comment on my selfie	1.76	1.14	14.3*

Note. *Percentage of selfie-makers who indicated to (totally) agree with these statements.

posted in one week, almost 39% concerned selfies. Moreover, 42.4% of the participants indicated online selfie-posting throughout the day without a preferred time for posting, while 37.5% preferred the evening hours (18:00–24:00). Selfie-makers consciously planned their posting time so more people could see and like their selfies.

3.2. Relationships between selfie-related behaviors

RQ2 addressed how the selfie-related behaviors are interrelated (RQ2a), and whether the steps predicted subsequent behavioral

Table 8
Correlation Table of the Various Behaviors in the Selfie-Stadium Model (N = 224).

	Motives									Pre-Occupation	Selection	Editing		Posting	
	Social Pressure and Identity	Expressive Information Sharing	Relaxing	Habitual Pass Time	Entertainment	Social Interaction	Imaginary audience	Social Use	Retention of Moments			Use of Software Applications	Time Spend Editing	Amount of Selfies Posted	Posting Time
Motives															
Social Pressure and Identity	-	.344**	.402**	.325**	.226**	.234**	.555**	.492**	.126	367**	.499**	.248**	.244**	.097	.404**
Expressive Information Sharing		-	.333**	.146*	.378**	.331**	.261**	.480**	.277**	.322**	.363**	.109	.024	.059	.131**
Relaxing			-	.300**	.403**	.130	.214**	.427**	.105	.243**	.250**	.122	.183**	.034	.248**
Habitual Passing of Time				-	.403**	.089	.178**	.373**	.016	.229**	.327**	.238**	.279**	.260**	.282**
Entertainment					-	.248**	.162**	.395**	.220**	.341**	.206**	.212**	.229**	.243**	.173**
Social Interaction						-	.229**	.199**	.314**	.183*	.212**	.031	-.074	.060	.168*
Imaginary audience							-	.356**	.083	.314**	.306**	.320**	.269**	.160*	.465**
Social Use								-	.195**	.476**	.557**	.344**	.215**	.144*	.282**
Retention of Moments									-	.193**	.199**	.025	-.028	-.054	.086
Pre-Occupation										-	.405**	.362**	.287**	.198**	.377**
Selection											-	.246**	.086	.104	.295**
Editing															
Use of Software Applications												-	.476**	.177*	.399**
Time Spend Editing													-	.105	.323**
Posting															
Amount of Selfies Posted														-	.183**
Posting Time															-

Note. **Correlation is significant at the 0.01 level (2-tailed); *Correlation is significant at the 0.05 level (2-tailed).

Table 9
Regression Analysis of the Steps in the Selfie-Stadium Model (N = 224).

	B	*SE B*	β	R^2
Step 1A: Motives on selection				
Social pressure and identity	0.53	0.06	0.50	0.25**
Expressive information sharing	0.24	0.04	0.36	0.13**
Relaxation	0.17	0.05	0.25	0.06**
Habitual passing of time	0.20	0.04	0.33	0.11**
Entertainment	0.14	0.05	0.21	0.15*
Social interaction	0.12	0.04	0.21	0.05*
Imaginary audience	0.19	0.04	0.31	0.09**
Social use	0.39	0.04	0.56	0.31**
Retention of moments	0.12	0.04	0.20	0.04*
Step 1B: Pre-occupation on selection				
Pre-occupation	0.39	0.06	0.41	0.16**
Step 2: Selection on editing				
Selection on use of editing techniques	0.32	0.08	0.25	0.06**
Selection on time spent editing	0.08	0.06	0.09	0.01
Step 3: Editing on posting				
Use of editing techniques on amount of selfies posted	0.69	0.26	0.18	0.03*
Use of editing techniques on selfie-posting	0.56	0.08	0.40	0.16**
Time spent editing on amount of selfies posted	0.61	0.39	0.11	0.01
Time spent editing on planned selfie-posting	0.67	0.13	0.32	0.11**

Note. $^{**}p < 0.001$; $^{*}p < 0.01$.

steps as proposed in the Selfie-Stadium Model (RQ2b). Pearson's correlation tests (bivariate) showed that the proposed selfie-related behaviors are significantly correlated with one another (RQ2a; Table 8). In view of the Selfie-Stadium Model, each step is positively correlated to the following step. More specifically, testing RQ2b, multiple linear regression analyses generally supported that a specific step of selfie-related behavior is related to the subsequent step. The results are summarized in Table 9. Conform the first step of the Selfie-Stadium Model, higher scores on the motives for selfie-making were significantly related to greater consideration of specific reasons for selection.

Similarly, higher levels of pre-occupation were significantly associated with higher levels of selection. Then, selection was significantly associated with greater use of editing techniques, but not with spending more time on editing selfies. Furthermore, applying editing techniques to a greater extent was significantly related to both the amount of actual selfies posted as well as more thoroughly planned and regulated posting. The amount of time spent on editing was significantly associated with more thoughtful regulation and planning of posting to draw more attention to the selfies, but not with the number of selfies posted on SNS. Thus, spending time and effort on editing selfies related to more thoroughly planned posting.

4. Discussion

In light of the popular phenomenon of visual online self-presentation through selfies, the present study aimed to profile the motivations and behavior of selfie-makers in a sample of emerging adults, and to test our proposed Selfie-Stadium Model by examining how various related behaviors underlying actual online selfie-posting are interconnected. To date, the body of research on what drives selfie-makers is growing, but many questions about what characterizes selfie-makers and what underlies their behavior still remain. Moreover, no measurement instruments are readily available to study the supposed steps in behavior leading up to posting selfies. Therefore, the current study was exploratory and examines emerging adults as an important target group that uses SNS as major outlets for exposing selfies to a larger public. Findings clarified the profile of the typical selfie-maker and provided insights into motivations and behaviors underlying taking and sharing selfies, and supported the Selfie Stadium Model as proposed in our study.

With regard to the profile of the typical selfie-maker within our sample, selfie-makers could be characterized as female, using the internet for more than two hours daily, and mostly use Facebook and Instagram. Main motives for making selfies are entertainment and to capture a moment. Also, selfie-makers were mostly involved with social aspects of selfies (e.g., looking at selfies from friends and commenting on those). Selfies tend to be predominantly selected for their overall appearance and social aspects. Furthermore, selfie-makers mainly use filters for editing, and spend up to 10 minutes editing selfies per day. Finally, they post on average two selfies per week, spend up to 10 minutes per day on making selfies, and take two to five selfies before posting one online (visually presented in Fig. 2).

The findings of the current study further support the Selfie-Stadium Model, which postulates that selfie-makers pass through various steps of behaviors before a selfie is posted online. As expected, the proposed steps are interconnected and each step is related to the following one. Confirming the proposed first step in de Selfie-Stadium Model, each of the motive domains (i.e., Social Pressure and Identity, Expressive Information Sharing, Relaxation, Habitual Passing of Time, Entertainment, Social Interaction, Imaginary Audience, Social Use, and Retention of Moments) was related to stronger levels of selfie-selection. This aligns with research proposing

that sharing pictures serves a social function (Van House, 2007) as well as with research on the motives for Facebook use (i.e., based on the *Uses and Gratifications Theory*; Clemens et al., 2015; Glanz et al., 2008; Papacharissi and Mendelson, 2011).

Results further indicated that the more selfie-makers are pre-occupied with selfies, the more they strategically select before posting selfies online. This finding supports that individuals are aware of which specific pictures they select for online self-presentation (cf. Ellison et al., 2006). In addition, results showed that being engaged in thoughtful selection goes hand in hand with editing selfies, which supports the proposed next step in the Selfie-Stadium Model. This finding could be viewed in light of *Cultivation Theory* (Gerbner, Gross, and Morgan, 2002), *Mere Exposure* (Zajonc, 1968) and *Exemplification Theory* (Zillmann, 2002), which all somehow propose that people adjust their perceptions of social reality in accordance with those media portrayals. In addition, individuals may internalize the norms and standards that are (implicitly) conveyed by those messages. For example, exposure to beauty-ideal imagery fosters beauty-ideal internalization (Grabe, Ward, and Hyde, 2008), which may be manifested in the present study by the fact that participants select selfies predominantly based on how they look, and edit their selfies to "improve" their appearance.

While results support our notion that conscious selection of selfies was associated with adding more editing techniques via software applications to enhance the selfie (e.g., more filters), it is not related to more time spent on editing. Though, editing seems especially relevant in our sample, because good-looking pictures will be more successful with peers on SNS, expressed in receiving more likes and comments (Salomon, 2013). Findings pertaining to the last step of the Selfie-Stadium Model (i.e., editing to posting) showed that higher levels of editing are related to more consciously planned posting and in posting more selfies on SNS. Moreover, the more time is spent on editing a selfie, the more selfie-makers consciously plan to post their selfies (in order to attract more attention to their selfies).

One strength of this study is the emphasis on selfie-related behaviors that precede selfie-posting (e.g., selecting, editing) and the implications for future research in the realm of selfie-behavior and selfie-induced effects. Not only did the study result in a clear profile of the selfie-makers in a sample of emerging adults, it also supported our proposed Selfie-Stadium Model, indicating that various steps of selfie-related media use are interrelated. While the steps are interrelated, the steps are not necessarily causal in the order as presented because the study is limited to a cross-sectional design. To test the proposed process of specific behaviors in the Selfie-Stadium Model, we applied measures from previous research in the domains of photography and general SNS use. This required the construction of new scales for measuring selfie-behavior. Given that the current study is one of the very first in the realm of selfie-research to distinguish separate behaviors preceding posting selfies, the Selfie-Stadium Model is positioned as a linear model here. Identity construction may mainly take place throughout the various steps before actual online posting of selfies takes place. To indicate the recursiveness of selfie-behavior (i.e., the ongoing circle of selfie-behaviors) and the feedback loops that may exist between and within variables, the Selfie-Stadium Model lends itself for an extended, dynamic version. For replication purposes, validation and extension of the Selfie-Stadium Model, longitudinal research is indicative to further test the model in how it develops over time and experimental research could establish the proposed causal links between the selfie-related steps.

Besides these strengths, some limitations should also be noted. First, our measurements could not tackle individual differences in the number of selfies taken per specific amount of time. Such a distinction would allow for comparisons between those who show higher vs. lower levels of selfie-making. In addition, our sample was predominantly female and highly-educated, so it is unclear if our results also apply to males or individuals of other educational levels or to different cultures. Therefore, it could be very interesting to compare the steps in the proposed Selfie-Stadium Model between educational ability levels, cultures as well as gender in future research. Where the current study is based on self-reports, triangulation of findings by using various approaches could improve the outcomes of the current study in future research. Further, it is important to note that in the current study, we focused on selfies generally designated for SNS with larger publics. Results of the current study typically pertain to the mostly used SNS by our sample, Facebook and Instagram. Previous research in the realm of body image also underpins the importance of including individual susceptibility factors to better address media effects (e.g., Ferguson, 2013; Roberts and Good, 2010; Veldhuis, Konijn, and Seidell, 2014a). For future research, it would be interesting to test the flow of the Selfie-Stadium Model when accounted for diverse audiences targeted with the selfie (e.g., a selfie used as profile picture on a Facebook page, a selfie for a love interest, a Snapchat to a best friend, or selfies on less generally used SNS as Tumblr). Then, in the present work we have theorized that the motives and behaviors captured in the Selfie Stadium Model are strategic and conscious on behalf of the individual. However, it is also possible that selfie-behavior is driven by more automatic, unconscious processes that participants are themselves not aware of (cf. reasoning in Mendelson and Papacharissi, 2010). This possibility should be explored in future research, using a methodology that is more suited for assessing such unconscious processes.

An interesting and promising research direction lies within combining selfie-behavior with body image perceptions among adolescents and emerging adults. Such an approach seems valuable, given that they experience a normative discontent with their bodies as a consequence of being focused on meeting ideal body-standards presented by the media and reinforced by their peers (Grabe et al., 2008; Tantleff-Dunn et al., 2011; Veldhuis, Konijn, and Seidell, 2014b). Previous research has underlined the combined impact of both media and peer influences in directing body perceptions in adolescents and emerging adults, causing both body dissatisfaction and body appreciation (Veldhuis et al., 2014b). In the case of selfies, young people create their own media content by means of images *and* peer comments, and subsequently reinforce appearance standards. Recent research has proposed a relation between selfies and body image. For example, McLean et al. (2015) demonstrated that adolescent girls who regularly share selfies on SNS also experienced more negative body affect (i.e., over-evaluation of shape and weight, body dissatisfaction) and increased levels of dietary restraint and internalization of the thin-ideal. In contrast, taking sexy selfies has been found to serve as a practice of accepting one's body that can increase life-satisfaction and contribute to positive body affect (Tiidenberg, 2014; Tiidenberg and Cruz, 2015). Future research designs should allow for further investigating these negative and positive associations in terms of causal

relationships: It is important to consider whether body concerns arise as a consequence of engagement in selfie-behavior, or whether online self-presentation through selfies is used to regulate emotions and feelings about one's appearance and to boost one's self-esteem (cf. reasoning in gaming addiction; Spekman, Konijn, Roelofsma, and Griffiths, 2013).

To further profile selfie-makers and to direct the impact of selfie-behavior, future research should investigate differences between non-selfie makers and those who engage in selfie-behavior (to a greater or lesser degree). Additionally, future research could build on our proposed Selfie-Stadium Model, for example, by taking into account behaviors following online self-presentation (e.g., deleting selfies after being posted) or the impact of comments and reactions to posted selfies (cf. Veldhuis et al., 2014b). Furthermore, future research could focus on exploring important predictors of selfie-behaviors. Fox and Rooney (2015) recently revealed that traits such as narcissism and psychopathy are positively related to the number of selfies posted (also see Weiser, 2015). However, individual differences in, for example, self-esteem as well as peer influences also indicate fruitful directions for future research (cf. argumentation in Konijn, Veldhuis, and Plaisier, 2013; Veldhuis, et al., 2014a; Veldhuis et al., 2014b). To explain the importance of peer influence, self-disclosure is important (especially during adolescence) for developing a one's identity, which is also highly dependent on the interaction with peers (Steinberg and Morris, 2001). For young people, peer opinions exceed the opinion of parents in importance, and they are aware of so-called group norms (i.e., their perception of their peers' beliefs and behaviors; Heiken, 2012; Mason and White, 2008). Adolescents therefore carefully consider the information they disclose (or not), relating to the identity they want to claim and how they want to be endorsed by peers, especially when they have a specific audience in mind. All these variables (i.e., personal traits, group norms, online self-disclosure, and imaginary audience) are important topics for investigation of selfie-related behavior and predicting its impact. Altogether, besides being theoretically relevant to further define the selfie-process, such new study approaches also hold important practical implications for interventions in the field of media-induced body concerns in adolescents and young adults (see also Veldhuis, Konijn, and Knobloch-Westerwick, 2017). That is, study results could give a clear view of who is susceptible to selfie-related media use and its impact, and which steps of selfie-related behavior contribute to this susceptibility.

To conclude, this study tapped into a novel domain within mass communication research and made a next step in investigating underlying selfie-related behaviors. The study profiled the typical selfie-maker among emerging adolescents and characterized motivations and behavior of the selfie-makers. The empirical support for the Selfie-Stadium Model confirmed that selfie-related behavior is more complex than just selfie-posting and should not be seen as a uniform behavior, but rather that selfie-makers pass through various steps of selfie-related behaviors. This appears to begin with selfie-making motives and, through picture taking, selection, and editing, is (temporarily) finalized with actual posting of a selfie on SNS. This study provides important implications and lays the foundation for further research on the making, sharing, and implications of selfies on SNS.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.tele.2018.03.010.

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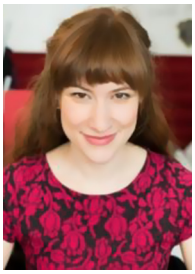

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